Summary:
San Diego County Water Authority, California; CP; Note; Water/Sewer

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Credit Profile

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<th>Bond Description</th>
<th>Rating</th>
<th>Outlook</th>
<th>Status</th>
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<tbody>
<tr>
<td>US$170.0 mil wtr rev bnds ser 2022A due 05/01/2052</td>
<td>AAA/Stable</td>
<td>New</td>
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<tr>
<td>San Diego Cnty Wtr Auth</td>
<td>AA+/Stable</td>
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<td>San Diego Cnty Wtr Auth wtr COP (AGM)</td>
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<td>San Diego Cnty Wtr Auth wtr (MBIA) (MBIA of Illinois)</td>
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<tr>
<td>San Diego Cnty Wtr Auth CP</td>
<td>A-1+</td>
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Rating Action

S&P Global Ratings revised its outlook to stable from negative on its long-term ratings for San Diego County Water Authority Financing Agency, Calif.'s existing debt, issued for the San Diego County Water Authority (SDCWA). At the same time, S&P Global Ratings assigned its 'AAA' long-term rating to the agency's anticipated $170 million series 2022A water revenue bonds, issued for SDCWA. In addition, S&P Global Ratings affirmed its:

- 'AAA' long-term rating on SDCWA's existing senior-lien revenue bonds;
- 'AAA' long-term rating on SDCWA's existing certificates of participation (COPs);
- 'AA+' long-term rating on SDCWA's existing subordinate-lien bonds; and
- 'A-1+' short-term rating on SDCWA's existing commercial paper (CP) debt.

The long-term component of the rating is based on the authority's general creditworthiness. The authority has no direct purchase or other nontraditional financing obligations, and interest-rate risk is limited to its CP. We consider the revolving credit and term-loan agreements associated with the CP notes to be strong with limited termination events.

The outlook revision is based on the authority's adoption of its 2021 long-range financial plan (LRFP; with a 10-year planning horizon) that demonstrates stable financial results based on an alignment of its rising cost-of-service with revenue requirements. We believe that the LRFP reflects strong management of the authority's financial and capital needs balanced with long-term affordability for its member agencies.

In our view, the authority hit a low point in its financial performance in fiscal year 2020, with about 1.1x all-in coverage (total senior and subordinate debt and includes fixed charges like desalination installment payments while excluding
rate stabilization fund transfers) mostly driven by declining water sales. Water sales improved meaningfully in fiscal 2021 partially due to dry weather conditions that increased demand from the authority's member agencies. Based on the LRFP, the authority developed key drivers for rate guidance (including accounting for exposure to variability in water sales volume and cost of water), which we view as reasonable. This supports our view that the LRFP will establish a clear trajectory of stable financial performance as well as provide adequate direction to the authority's member agencies as they develop their own financing plans. In addition, the authority enhanced its drought response by emphasizing regional water supply diversification and reliability and reducing its exposure to variable State Water Project (SWP) allocations and imports from Metropolitan Water District of Southern California (MWD).

We also base our 'AAA' rating on the authority's revenue base, which is primarily locally derived. This, coupled with operating expense flexibility, limits its dependence on federal revenue and allows us to assign a long-term rating above that on the U.S.

The 2022A bonds are being issued by the agency to finance a portion of various capital improvements as part of the authority's capital improvement program (CIP). Under the master indenture, the authority can issue additional debt if annual debt service coverage (DSC) is at least 1.2x. Securing the series 2022A bonds is a senior-lien pledge of the authority's net revenues. Currently, the SDCWA's series 2021S-1 bonds ($146 million), and CP notes ($245 million) are the only other subordinate-lien obligations, junior to about $1.4 billion in prior-lien debt. The authority is a wholesale water provider and has no direct retail customers, but it sells water to 24 member agencies, including six cities, 17 special districts, and Pendleton Military Reservation. The largest city served is San Diego, which accounted for 43% of the service-area population (1.4 million) and 36% of gross water sales in 2021. The authority also supports $182 million in long-term debt that originally funded a pipeline to deliver water to it related to its contractual obligation with the Carlsbad seawater desalination project. The payments on that obligation are junior to all other authority financing obligations.

Credit overview
The authority has been successful in establishing water supply control and diversification. Management has also demonstrated an ability to navigate volatile hydrological cycles through adopting rate increases as needed and building prudent financial reserves and storage to mitigate variability. Based on the LRFP, SDCWA's financial forecast and outlook is reasonable, in our view, as the authority has now left the peak years of debt-financed capital expenditures and is transitioning to a focus on asset management and system optimization. This translates to a more modest capital spending, in our view, as the authority plans to shift its debt-financing target to 35% (from 70% set in 2015) of its 10-year CIP (approximately $982 million). We calculate projected pro forma all-in coverage (which is different from the indenture’s definition of bonded coverage and includes fixed charges in our calculations) to be over 1.3x and liquidity to be over 200 days’ cash on hand during the next five years. Projected liquidity levels are strong in our view and includes several designated reserves for various potential contingencies, which we believe provides a significant cushion against short-term disruptions.

We consider long-term credit risk to SDCWA to center on managing volatility in water sales volume stemming from weather patterns that drive changes in demand and the development of projected local supply by its member agencies. Water sales increased by 8.5% in fiscal 2021 due to dry weather conditions, reversing a declining trend in previous years. However, reduced water sales over time present a credit risk if purchased water costs and other pass-through
obligations rise significantly from current estimates in the LRFP. Maintaining robust projected all-in coverage and liquidity levels will be a delicate balance of imposing rate increases while not burdening affordability. We expect the authority will continue to rely on rate-relief measures including withdrawals from the rate stabilization fund (RSF) through 2025, given its rising cost of service and a desire to moderate rate increases for members.

The authority disclosed that two of its member agencies, Fallbrook Public Utility District and Rainbow Municipal Water District, have petitioned the Local Agency Formation Commission (LAFCO) for detachment from the authority because those members believe they can receive their water supply more affordably directly from MWD. The authority anticipates that there will be an extensive hearings process at LAFCO and the timing and outcome for resolution on this matter is uncertain at this time. The process to detach requires several administrative and electoral steps to reach a final decision. The authority intends to seek reimbursement for associated debt and costs attributable to the two agencies. In our view, the potential effects of the detachment include the possibilities of having to spread fixed costs over a slightly smaller base that could potentially increase the cost burden and pressure affordability for the overall member base. In addition, long-term political risk might exist, in our view, especially if an approved detachment sets a precedent if members can easily detach from the authority.

The stable outlook reflects our view that management will continue to adjust rates to fund its CIP based on estimates in the LRFP, while maintaining healthy all-in coverage metrics and liquidity. In addition, the outlook reflects our view that financial metrics will remain at levels consistent with the rating.

**Environmental, social, and governance**

Given its location in Southern California, we believe SDCWA faces elevated environmental risk due to the region's inherent water supply scarcity, sea level rise, wildfire, and seismic exposure. Its imported water supply (both the SWP and the Colorado River) remain susceptible to environmental scrutiny and risks related to climate change, rising temperatures, and shifting precipitation patterns. The authority has been effective in obtaining alternative higher reliability supply sources with improved storage capacity and management has a comprehensive resource plan, which has assisted in its ability to navigate different hydrological conditions. The water authority also faces climate risks associated with sea level rise and weather conditions that result in algae blooms, which would affect the desalination facility operations. However, SDCWA notes that recent upgrades at the desalination facility have potentially mitigated the risk of operational shutdowns in the future. Management has a climate change action plan in place that is frequently updated and partners with Scripps Institution of Oceanography in climate change analysis and mitigation efforts. With respect to seismic, wildfire, and cyber risks, management has robust emergency planning, including robust cyber policies.

In addition to environmental risk, rising water costs contribute to elevated social risk as member agencies have become increasingly sensitive to rising water costs. Management continues to work with the members to address affordability concerns, including using the RSF to mitigate large rate increases. Despite above-average environmental, social, and governance (ESG) risks, the management team is tenured and experienced with strong water supply leaders and it maintains robust infrastructure maintenance and operational policies which contribute to a strong governance position.
Stable Outlook

Downside scenario
We could lower the ratings or revise the outlook to negative if water sales decline materially from current management estimates in the LRFP--due to economic conditions or an increase in local supply development (not already included in the financial plan) or the loss of a member--without being mitigated by reduced water purchases, rate increases, or an increased fixed-charge rate structure to cover fixed obligations. In addition, the rating could be pressured if the authority depletes its RSF beyond the minimum target level established by the board or fails to implement rate adjustments to maintain financial metrics commensurate with a 'AAA' rating. The rating could also be pressured if the authority takes on a meaningful amount of additional leverage.

Credit Opinion

Enterprise Profile

Strong water supply diversification and reliability; managing water sales volatility and affordability will be key drivers for stability
The authority is a wholesale water provider for 24 member agencies throughout San Diego County. The level of dependence varies from 100% dependence to no utilization of authority supplies during above-normal rainfall cycles. Since 1990, SDCWA has provided an average of 85% of the water supply within its service area, ranging from a low of 75% to a high of 95%. Per capita water use declined 45% over that same period, the result of conservation, local supply development, economic conditions, member use restrictions, and supply allocations. In fiscal 2021, water sales increased by 8.5% relative to 2020, reflecting dry weather conditions. Management expects water sales will stabilize at close to 400,000 acre-feet during the next three years. Overall, SDCWA has committed itself and its member agencies to managing through different hydrological conditions and it has made the necessary rate increases to maintain consistent financial performance to support operational requirements. We view this as a credit strength, as discussed in the financial profile section. That said, continued declines in water sales will necessitate higher rate increases than projected in the LRFP and could burden affordability.

Uncertainty resulting from two member agencies’ applications to detach from the authority is a credit risk, in our view. Given the geographic location of the two members, they reportedly believe that they do not receive sufficient benefit from remaining with the authority. These two retail members accounted for about 7% of gross water sales in fiscal 2021. We understand LAFCO can deny or approve the detachment with conditions. LAFCO has appointed a consultant to review all submittals and it will report back on various water and financial issues related to potential detachment with a final report anticipated by spring 2022.

We believe the continued development of local supply could further reduce water demand for the authority. That said, diversification of supply is beneficial to the regional water supply picture and management does not expect local supply will negatively affect SDCWA's financial position. As major projects come online, such as the two regional recycled water projects in 2025, demand for the authority's supply could decline slightly but the authority will still be
required to supply water when projects are offline. Reliability planning will become an even greater strategic focus for the authority. We believe the current water supply management team demonstrates considerable acumen in strategic supply planning. Furthermore, member agencies are required to pay certain fixed charges irrespective of whether they order water from the water authority in a given year. We believe integrating a higher percentage of fixed charges to meet fixed obligations is critical to maintaining the rating.

The authority has been successful in its efforts to increase control over its supply and diversify the source of its supply. Most of the authority's supply is via California's participation in the Colorado River Compact and related subsequent agreements (65%). The authority made meaningful progress on the acquisition and control of the water supply portfolio through regional agreements and construction of the Carlsbad seawater desalination project. MWD water represents approximately 11% of the water authority's total supply, which we consider credit neutral, given recent initiatives in cooperation with MWD.

The authority's average wholesale rates will continue to be pressured by rising purchased water costs and other pass-through obligations. Management's forecast shows the range for projected rates by 2025 to be $2,000-$2,500 (including desalinated water) with annual moderate rate increases each year. The authority's most expensive source of supply, which provides about 10% of its water, is the Carlsbad desalination plant. The facility achieved commercial operations in late 2015. Any deliveries of less than the minimum would lead to a true-up credit benefitting SDCWA, relatively insulating the authority from significant operating risk (other than energy price risk). This source of supply will be more expensive than initially projected because Poseidon (the plant developer and operator) is constructing new intake and discharge facilities that it estimates will cost as much as $83 million by their 2023 completion. All costs of the intake system are a direct passthrough to the authority. SDCWA prudentively adopted contractual fixed charges to cover a significant portion of these costs directly from pass through payments, which we view favorably.

San Diego County has a diversified economy based on tourism, international trade, military, and high-tech manufacturing. Leading employers include the government, education, military, and health care sectors, all of which, in our opinion, are relatively more stable. Tourism, trade, and retail are also economic drivers and those sectors have exhibited outsized exposure to the current economic contraction. Median household effective buying income is significantly higher than the U.S., helping to blunt the effect of the rising cost of water to the ultimate retail customers of member agencies.

**Financial Profile**

**Stable projected financial metrics; maintaining target RSF levels and keeping up with rising water costs will be key drivers for stability**

The authority's financial position has been a credit strength supported by financial management practices that we characterize, generally, as strong that increase the likelihood of consistently robust results. We view favorably that management, through fiscal sustainability efforts, continues to increase the percent of fixed charges associated with rising contract and infrastructure costs. We understand that there will be continued efforts to improve the rate structure to provide enhanced stability and cost recovery. In addition, there are no issues with member delinquencies and the authority has the ability to attach delinquencies to the property tax lien of a ratepayer, which increases
likelihood of collections.

All-in DSC (for all senior and subordinate obligations) has been consistent (average of 1.3x and above bond indenture requirements), which we view as healthy for a wholesaler, including payments associated with the desalination plant which are technically below the line, but we include for coverage purposes. The authority also expects to benefit from the exchange and sale of its storage water assets in the Central Valley to MWD (considered as excess water to SDCWA). Based on management's forecast (for fiscal years 2022-2028), we calculate all-in DSC (total debt including fixed charges and excluding the RSF), ranges from 1.3x-1.5x. If water sales decline materially from baseline levels in the LRFP, with rate increases not keeping up with these declines, the rating could be pressured. Under a stress scenario where there is an additional 5% decline in 2021 followed by no-growth in water sales revenue, we calculate the authority's all-in DSC (includes fixed charges and excludes RSF transfers) would average about 1.2x in the forecasted period. Management reports that despite the planned use of the RSF, the fund will remain above the internal target through the forecast period, with approximately $94 million in 2025. Management updated the RSF policy in January 2021 to reflect a 15% drop in water sales. Maintaining the rate stabilization at the current level and continuing to implement reasonable rate increases are critical to maintaining the rating, in our view. With capital projects focused mainly on asset management, SDCWA reports that future CIP funding needs are flexible with no additional debt planned until fiscal 2029, when the authority might issue as much as $135 million.

The liquidity position has been sufficient to cushion volatility and provide manageable rate increases. The water authority has over $240 million in cash and codified reserves in fiscal 2021, which is a decline from previous levels that were over $300 million. After consistently adding to the RSF during periods of fiscal strength, the authority used the RSF in fiscal years 2019, 2020 and 2021 and expects to leverage those funds through 2025 without breaching the target level. Management also maintains an operating reserve equivalent to at least 45 days of operating expenses (with $5 million held for emergencies), and several funds designated for specific capital items. Based on management’s forecast, liquidity is expected to increase and remain at least 200 days through 2028. Liquidity is critical to SDCWA’s financial health, given variable hydrology conditions and the development of significant additional local supply.

Related Research

Through The ESG Lens 2.0: A Deeper Dive Into U.S. Public Finance Credit Factors, April 28, 2020

<table>
<thead>
<tr>
<th>Ratings Detail (As Of January 27, 2022)</th>
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<td><strong>Short Term Rating</strong></td>
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<td><strong>Long Term Rating</strong></td>
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<td>San Diego Cnty Wtr Auth Wtr (MBIA of Illinois)</td>
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Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.standardandpoors.com for further information. Complete ratings information is available to subscribers of RatingsDirect at www.capitaliq.com. All ratings affected by this rating action can be found on S&P Global Ratings’ public website at www.standardandpoors.com. Use the Ratings search box located in the left column.
San Diego County Water Authority, CA

Update to credit analysis

Summary
San Diego County Water Authority (Aa2 stable) benefits from its position as the primary wholesale water provider for a very large service area that incorporates 24 participating member agencies; increasingly diverse sources for water purchases; and adopted reserve and debt policies that address risks associated with variable water supplies given ongoing drought conditions in California (Aa2 stable). The Authority has planned for modest withdraws from the stabilization fund through fiscal 2025 to moderate rate increases and cash fund some capital spending. The Authority’s credit quality also factors in elevated leverage, uncertainty resulting from two member agencies’ applications to detach, and risks associated with the Carlsbad desalination plant, a P-3 venture for which the Authority is the sole user and financial obligor.

On January 27, 2022, Moody’s assigned a Aa2 rating to San Diego County Water Authority’s Water Revenue Bonds, Series 2022A.

Exhibit 1
Planned withdraws from the Rate Stabilization Fund will continue through 2025
Ending balance projected to remain above maximum target balance of $78.4 million

Source: San Diego County Water Authority audited financial statements
Credit strengths
» Position as the primary water wholesale provider to a very large and economically diverse service area
» Management team that has maintained stable operations and adhered to adopted policies
» Satisfactory unrestricted cash position with rate stabilization reserve that will help stabilize future rate increases
» Development of additional water sources

Credit challenges
» Expected future draws on rate stabilization reserve with modified rate increase for fiscal 2021 and 2022 in response to the coronavirus pandemic
» Essentially flat demand driven by conservation practices and the acquisition of alternate water sources by member agencies
» Maintaining support of member agencies in light of two applications on the part of smaller participants to detach
» Increasing water purchase and production costs that will drive additional rate increases

Rating outlook
The stable outlook reflects the likelihood that the Authority’s satisfactory operating performance will remain stable, supported by strong management practices despite challenges associated with ongoing drought conditions, rising costs, and required capital investments. The outlook also incorporates the likelihood that the Authority will retain the capacity to raise rates as necessary to meet debt service coverage and adopted reserve targets.

Factors that could lead to an upgrade
» Sustained trend of favorable debt service coverage
» Completion of the Carlsbad intake project and demonstration that additional capital improvements are not required for contracted deliveries
» Maintenance of improved reserve levels while supporting capital investments

Factors that could lead to a downgrade
» Significant declines in debt service coverage levels
» Draws on the rate stabilization account that significantly exceed projections or overall weakening in liquidity
» Detachment of member agencies that significantly reduces projected consumption levels

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.
## Key indicators

**Exhibit 2**

<table>
<thead>
<tr>
<th>San Diego County Water Authority, CA</th>
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<tbody>
<tr>
<td><strong>System Characteristics</strong></td>
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<tr>
<td>Asset Condition (Net Fixed Assets / Annual Depreciation)</td>
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<tr>
<td>System Size - O&amp;M (in $000s)</td>
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<td>Service Area Wealth: MFI % of US median</td>
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<td><strong>Legal Provisions</strong></td>
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<td>Rate Covenant (x)</td>
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<td>Debt Service Reserve Requirement</td>
<td>No DSRF (Baa and Below)</td>
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<td><strong>Management</strong></td>
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<tr>
<td>Rate Management</td>
<td>Aa</td>
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<td>Regulatory Compliance and Capital Planning</td>
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<td><strong>Financial Strength</strong></td>
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<td>2017</td>
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<td>Operating Revenue ($000)</td>
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<td>System Size - O&amp;M ($000)</td>
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<td>Net Revenues ($000)</td>
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<td>Net Funded Debt ($000)</td>
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<td>Annual Debt Service ($000)</td>
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<td>Annual Debt Service Coverage with Rate Stabilization Fund (x)</td>
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<td>Cash on Hand</td>
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<td>Debt to Operating Revenues (x)</td>
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Operations and Maintenance (O&M) is adjusted to reconcile actual changes in cash related to contributions for pensions and OPEB, consistent with our cross-sector Adjustments to Pension and OPEB Data Reported by GASB Issuers, including State and Local Governments Methodology. As a result, Annual Debt Service Coverage and Cash on Hand in the table both vary from metrics reported by SDCWA.

Source: Audited financial statements, governmental sources, Moody’s Investors Service

### Profile

As a wholesale water provider, the Authority provided around 75% of total water consumption in fiscal 2021 to 24 member agencies across 1,479 square miles of western San Diego County (Aaa stable) including its coastal areas, serving a growing population of over 3.3 million people. Member agencies include six cities, seventeen special districts and a federal military installation. The Authority's service area accounts for roughly 97% of San Diego County's population, and the City of San Diego, CA Water Enterprise (senior water revenue bonds rated Aa2) is its largest member with a population of approximately 1.4 million representing close to half the Authority's total customers. Otay and Helix Water Districts represent the Authority's 2nd and 3rd most populous member agencies, respectively.

### Detailed credit considerations

**Service area and system characteristics: strong service area with above average income levels support rate increases given essentially flat demand**

The stable service area, encompassing California's second most populous county, is supported by population growth and a healthy, diverse economy. Residential income levels approximate those of the state and an exceed those of the U.S.

Healthy income levels enable the Authority to implement regular rate increases. Over the past decade, annual increases in treated water rates have averaged 4.5%, with a 3.3% increase for untreated water and 3.6% increase for treated water approved for fiscal 2022. The Authority projects that future rate increases will be sufficient to address rising water costs.

Following three consecutive declines in water sales to a low of 354,007 acre-feet (AF) in fiscal 2020, water sales improved to 384,167 AF in fiscal 2021. The Authority is projecting continued growth, with water sales increasing to 396,000 AF in fiscal 2022 and to
408,000 AF by fiscal 2024. If drought conditions continue, however, this forecast could be at risk, especially if mandatory water-use restrictions are implemented.

Based on assumed consumption of 12 centum cubic feet (CCF), the average monthly water bill for retail customers relying on the Authority's water supplies is $90 per month. While this remains relatively affordable, the Authority projects that water supply costs over a ten-year projection period are likely to outpace inflation and may exceed wage growth, a negative credit pressure.

Of note, Fallbrook Public Utilities District and Rainbow Metropolitan Water District have applied to detach from the Authority and annex into Eastern Municipal Water District (Aa2 stable) in Riverside County (Aa3 stable). Together these two agencies accounted for a moderate 6.5% of the Authority’s total water use in fiscal 2021. However, the applications point to additional risks facing future consumption, and demonstrate the prudence of conservative consumption forecasts.

**Diversified water sources with differing costs help to insulate Authority from drought**

The Authority obtains water from imported supplies and local sources, including desalinated water and groundwater. Conserved Colorado River water from the Quantification Settlement Agreement (QSA) accounted for 54.6% of supplies in fiscal 2021. While Colorado River supplies are under severe stress that resulted in cuts to supplies in Arizona and Nevada, the Authority benefits from the senior water right position of its Imperial Irrigation District transfers, which are senior to even Metropolitan Water District of Southern California (MWD Aa1 senior water revenue) rights.

While historically MWD provided almost all of the Authority’s water, in fiscal 2021 MWD provided 54,232 AF; less than half of water purchases in fiscal 2019 and equal to just 10.8% of supplies; the lowest amount on record. This figure is projected to decline further to just 10,000 AF (2%) by 2035.

The Authority added desalinated water from the Carlsbad Desalination Plant to its supplies in 2015 with the goal of deriving 10% of its supply from this source. The plant exceeded its minimum annual production of 48,000 AF for the first time in fiscal 2021, with the Authority purchasing a total of 53,530 AF. Desalinated water will remain the Authority’s most expensive source of treated water.

**Debt service coverage and liquidity: coverage and liquidity will remain satisfactory despite additional draws on rate stabilization fund**

The Authority projects increasing water sales will maintain stable debt service coverage levels in excess of 1.5 times on senior and subordinate debt inclusive of annual draws on the rate stabilization fund of $5 million annually through fiscal 2025. Increased water sale revenue, however, could be at risk should the state impose universal mandatory water use restrictions as a result of current drought conditions.

In fiscal 2021, net revenues of $171.9 million approximates estimated maximum annual debt service (MADS) of $176.8 million in fiscal 2034. Under Moody's adjustments, DSC of all obligations equaled 1.2 times. Inclusive of a $18.5 million withdraw from the rate stabilization fund, this coverage figure improves to 1.4 times including sub subordinate pipeline bonds debt service.

By policy, the Authority targets a debt service coverage level of 1.5 times for senior lien obligations, less than the debt service coverage median for Aa2 water utilities nationally that exceeds 2 times.

**Liquidity**

Readily available, unrestricted reserves increased in fiscal 2021, totaling close to $238 million (153 days) at the end of the fiscal year. Unrestricted cash and investments include balances in the rate stabilization, operating, and equipment replacement funds.

Of these, the Rate Stabilization Fund, with an ending balance of $104.2 million in fiscal 2021 is the most significant. While strong, days’ liquidity is roughly one-half of a median figure of over 400 days for Aa-rated water utilities nationally. Ten-year projections reflect a balance of $263.9 million at the end of fiscal 2022, including pay-as-you-go capital, or over 150 days’ cash. While the Authority typically exceeds these projections, greater utilization of the rate stabilization reserve or total available cash at under 100 days would materially pressure credit quality.

The Authority’s operating fund has a low but meaningful target of 45 days of average annual operating expenditures.
Debt and legal covenants: higher debt ratios reflect diversification of water purchase supplies and completion of major capital projects

The Series 2022A bonds will fund components of the Authority’s capital improvement program including line replacement and relining and other capital improvements. The bonds will also fund all or a portion of a number of projects associated with water storage such as the rehabilitation of the Lake Hodges Dam and improvements to the Hauck Mesa storage reservoir.

The Authority’s debt ratios will likely remain elevated, with an expected update of its Water Facilities Master Plan in 2023 laying out longer-term borrowing needs. The Authority’s debt portfolio includes over $1.4 billion in senior lien obligations and $391.5 million in subordinate lien debt, of which $245 million consists of the Authority’s commercial paper program. At 52.4% at the end of fiscal 2021, the Authority’s debt ratio exceeds that of similarly rated credits both within California and nationwide, and at 2.8 times, debt to operating revenues also exceeds medians. Amortization of the Authority’s long-term obligations is slightly below average, with an approximate 10-year amortization rate of 45% of principal.

In addition to debt obligations, the Authority has purchase obligations under its Water Purchase Agreement (WPA) that include the amount of the debt service associated with the construction of the Carlsbad desalination plant. Debt service on the Series 2012 Plant Bonds is paid from O&M charges in accordance with the Water Purchase Agreement. Debt service associated with the 2019 Pipeline bonds is paid from installment payments received by the Water Authority Financing Agency and paid by the Water Authority on a subordinate basis to the Authority’s outstanding subordinate lien obligations.

At their peak in 2045, fixed costs associated with the plant and pipeline bonds are projected to approach $66 million, or roughly 9% of fiscal 2021 gross revenues. In addition to outstanding obligations, an estimated $118 million in additional funding will be required for a modified intake system for the desalination plant.

Legal security

The Series 2022A bonds are on parity with the Authority’s senior lien revenue bonds and will be paid by installment payments secured by a senior lien pledge of the net revenues of the water system, and a rate covenant of 1.2 times. While the Series 2022A bonds will not have a debt service reserve fund, Moody’s does not view this as a significant credit weakness given the Authority’s targeted reserve levels for liquidity purposes.

Subordinate lien bonds have subordinate lien on net revenues of the water system. Subordinate lien bonds have a rate covenant of 1.0x.

Debt structure

The Authority’s debt service is generally level with out-year declines that provide capacity for future borrowing. While outstanding senior lien bonds are not strictly identical legal structures given differing reserve requirements, these distinctions are not significant enough in themselves to merit rating distinctions.

Debt-related derivatives

The Authority has not entered into any derivative agreements. Conservatively, the Authority’s recently adopted debt policy does not allow for the use of swap or derivative instruments.

Pensions and OPEB

SDCWA contributes to the California Public Employees’ Retirement System (CalPERS). Positively, the Authority has been proactive in its CalPERS pension management, and is making substantial additional discretionary payments to minimize future expense increases. The board also adopted a pension policy in October 2018, which provides a policy framework designed to achieve a targeted pension funded ratio.

As of the water system’s fiscal 2021 financial reporting, it reported a net unfunded pension liability of $72.5 million, reflecting a reported discount rates of 7.15%. Under Moody’s standard adjustments, the discount rate applied for fiscal 2021 equaled 2.7%, resulting in an adjusted net pension liability of $291.1 million. The water system’s contributions to the retirement system in fiscal 2021 equaled $8.3 million or a minimal 1.3% of operating revenues.

The Authority has also established a single-employer defined benefit retiree health care plan. Positively, the plan remains over funded, in large part reflecting a $4.595 million contribution made from proceeds of a legal settlement. Due to the volatile nature of GASB
accrual-based expenses for pension and OPEB liabilities, which can heavily reflect recognition of actuarial experience as opposed to actual financial performance, we calculate key financial performance measures such as debt service coverage using cash contributions for pensions and OPEB.

**ESG considerations**

**Environmental**

Environmental considerations represent a key credit factor for SDCWA, which serves as a wholesale water provider to a southern region of California that imports 70% of its water supply from outside of San Diego County. The service area is subject to drought as are the Authority's two water sources: the State Water Project and the Colorado River. The Authority's concerted efforts to encourage conservation and to diversify purchased water supplies are a direct and continuing response to these long-term challenges.

In addition to securing additional water sources, the Authority is also focused on expanding water storage. The Authority owns total storage capacity of approximately 271,963 AF of which current storage levels equal 140,604 AF, or roughly 35% of projected fiscal 2022 water sales.

**Social**

Social considerations such as population and income levels are discussed in the Service Area section above. As a water wholesaler, the Authority does not directly serve retail customers. However, Authority officials are focused on maintaining an affordable water rate structure. Officials estimate that current household water bills within its service area are around $90 per month, remaining an affordable level of MFI and minimum hourly wages.

**Governance**

In addition to diversifying its sources of purchased water, the Authority continues to plan for unavoidable increases in water prices and non-discretionary costs such as pension contributions. The Authority regularly updates its long-range planning tools including a recent update to its Cost of Service Study, the September 2021 publication of its Long-Range Financing Plan and the planned update to its Water Facilities Master Plan in 2023.

SDCWA has implemented a rate structure that utilizes a combination of fixed and variable charges. Both Water Standby Availability and Treatment and System Capacity Charges are specifically directed toward cash and debt financing of capital projects.

Fixed charges include the Storage, Customer Service, Supply Reliability and Infrastructure Access Charges. The Supply Reliability Charge, established in 2016, is designed to recover a portion of the costs associated with desalinated and IID transfer water supplies. In fiscal 2021, fixed charges accounted for close to 11% of total operating revenues.

While both debt service coverage and liquidity levels are expected to remain relatively narrow for the rating level, the Authority's current ratings reflects our expectation that management will adhere to adopted policies and draws on the rate stabilization fund will not significantly exceed projections.
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Fitch Rates San Diego County Water Auth, CA Water Revs 'AA+'; Outlook Stable

Thu 27 Jan, 2022 - 4:39 PM ET

Fitch Ratings - San Francisco - 27 Jan 2022: Fitch Ratings has assigned a ‘AA+’ to the following obligations issued by the San Diego County Water Authority Financing Agency, CA (the agency) on behalf of the San Diego County Water Authority (SDCWA):

--$170 million water revenue bonds, series 2022A.

SDCWA expects to price the bonds on or around Feb. 8 via negotiation. Bond proceeds will be used to finance various capital improvement projects, including relining and pipe replacement, infrastructure rehabilitation, Lake Hodges Dam rehabilitation and replacement, facilities improvement and equipment replacement, Mission Trails Flow regulatory structure, and Hauck Mesa storage reservoir.

In addition, Fitch has affirmed the following obligations of the authority:

--$862.2 million outstanding senior lien water revenue certificates of participation (COPs) and revenue bonds, ‘AA+’;

--$526.1 million senior lien water revenue bonds, series 2010B (taxable) issued by the agency on behalf of the authority at ‘AA+’;

--$146.5 million subordinate lien water revenue refunding bonds, series 2021S-1 at ‘AA+’.

Additionally, Fitch has affirmed the ‘AA+’ Issuer Default Rating (IDR) for the SDCWA.

The Rating Outlook is Stable.

ANALYTICAL CONCLUSION

The ‘AA+’ IDR and long-term issue ratings reflect the SDCWA’s ‘aa’ financial profile assessment in the framework of strong revenue defensibility and low operating risk, both assessed at ‘aa’. The SDCWA benefits from very strong purchaser credit quality, the ability to fully reallocate costs, and independent rate raising ability. The large and diverse
service area includes nearly all of San Diego County (the county, IDR AAA/Stable). In addition, operating costs are very 
low, and the life cycle ratio is moderate, reflecting sustained capital investment.

Leverage, measured by net adjusted debt to funds available for debt service (FADS), is relatively high at over 9.0x 
primarily because of significant historical capital investment to diversify water supplies. SDCWA is through the peak 
of its capital program and has revised its target capital funding ratio to 35% debt and 65% cash from the previous 
target of 70% debt and 30% cash as per the authority’s recently completed Long-Range Financing Plan (LRFP). As 
such, Fitch expects leverage to trend downward over the next several years. Nevertheless, preservation of the exiting 
ratings will be highly dependent on leverage declining below 8.0x beginning in fiscal 2024, with further improvement 
thereafter. Potential large long-term projects could add a significant amount of debt and/or ongoing operating costs; 
however, the costs and timelines are uncertain and thus not factored in the assessment.

The lack of notching between the senior and subordinate lien bonds reflects Fitch’s view that the distinctions in the 
leverage between the two liens is not material enough to warrant a rating distinction. The senior lien obligations 
represent approximately 71% of total debt, the subordinate lien about 20%, and the supersubordinate lien about 9%.

CREDIT PROFILE

SDCWA provides wholesale water service to an estimated population of 3.3 million residents over 1,461 square miles 
in the western portion of the county. It sells water to 24 member agencies that provide retail service to the region. The 
largest member, the City of San Diego (senior lien water revenue bonds rated AA/Stable), represents about 42% of the 
total population of the SDCWA's service area and about 39% of its total operating revenues. Water sales have varied 
significantly over the years due to mandatory state-wide conservation related to the five-year state-wide drought that 
ended in 2017 and the resulting 'new normal' levels of water consumption, as well as variable weather conditions.

A majority of SDCWA’s water supply is imported, including 39% from the Colorado River via imports from the Imperial 
Irrigation District (IID), 16% via the All American & Coachella Canal linings, and 11% from the Metropolitan Water 
District of Southern California (MWD, IDR AA+/Stable) in 2020. In addition, 11% was generated by the Carlsbad 
desalination plant. Local supplies include recycled water, groundwater and local surface water.

In an effort to reduce its reliance on imported water from MWD, SDCWA has pursued water supply investment and 
diversification projects over the last 25 years. Following the drought in California in the late 1980s, SDCWA's board 
of directors laid out a plan to improve water supply diversification and reduce risk related to a sole supplier (at the time 
MWD accounted for 95% of SDCWA's water supply). As a result, SDCWA now has water supply sources that include 
purchases of Colorado River water via IID resulting from a Quantification Settlement Agreement (QSA) for up to 75 
years and via the All-American and Coachella canal lining projects for 110 years.

Supply sources also include recycled water and conservation programs, increased local storage capacity and 
desalination. Significant investments in supply diversification have allowed SDCWA to continue to meet water 
demands in its service area but have also resulted in increases in water rates and leverage. SDCWA projects that 
MWD water as a proportion of its total supply will decrease to 2% by 2035 given a projected increase in potable reuse 
and desalinated water, as well as the IID transfers.

The authority’s 2020 Urban Water Management Plan (UWMP), approved by the authority’s board of directors in May 
2021, outlines water demands and sources for the following 25 years. The UWMP indicates that total water demand 
in its service area reached a record level in 2007 and has since declined about 38% due to continuing conservation 
efforts and water usage efficiencies and customer behavior response to the cost of water. The authority projects an 
increase in overall demand of 36% from 2020 levels by 2045 including savings from future water conservation.
Coronavirus Considerations

The district’s most recently available performance data does not indicate any material impairment from the pandemic.

Fitch has withdrawn its ratings on the bonds as listed above due to prerfunding activity.

KEY RATING DRIVERS

Revenue Defensibility ‘aa’

Unconditional Cost Reallocation; Very Strong Purchaser Credit Quality

SDCWA’s purchaser credit quality is very strong, with its largest member (the City of San Diego’s water system) representing about 39% of operating revenues. The board is able to fully reallocate costs and maintains independent rate raising ability.

Operating Risks ‘aa’

Low Cost Burden; Manageable Capital Needs

The overall cost of water production is very low but increasing. Rising water purchase costs are somewhat mitigated by both the overall diversification in water supplies as well as the ability to reduce water purchases in conjunction with demand reductions. The system has completed the peak of its large supply diversification efforts, and its life cycle ratio is moderate and reflective of the ongoing investments. The CIP is manageable and funded primarily with paygo as the authority recently significantly reduced its targeted ratio for debt funding of capital.

Financial Profile ‘aa’

Leverage to Gradually Decline

Leverage in the 9.0x range is considered high for the rating. However, given that SDCWA is through its significant capital program and has reduced its planned future borrowing, leverage is expected to trend downward to more moderate levels over time. Coverage of full obligations (COFO) and days cash on hand are both considered adequate and are neutral to the assessment.

Asymmetric Additive Risk Considerations

No asymmetric additive risk considerations affected this rating determination.

RATING SENSITIVITIES

Factors that could, individually or collectively, lead to positive rating action/upgrade:

--A sustained reduction in leverage to below 5.0x in Fitch's base and stress cases due to an increase in financial margins or decrease in debt provided stability in the revenue defensibility and operating risk assessments.

Factors that could, individually or collectively, lead to negative rating action/downgrade:

--Failure to reduce leverage to at or below the 8.0x range in Fitch's base and stress cases followed by continued lower trajectory thereafter provided stability in the revenue defensibility and operating risk assessments.
Addition of significant new capital projects that materially increase leverage expectations.

A significant decline in purchaser credit quality.

**Best/Worst Case Rating Scenario**

International scale credit ratings of Sovereigns, Public Finance and Infrastructure issuers have a best-case rating upgrade scenario (defined as the 99th percentile of rating transitions, measured in a positive direction) of three notches over a three-year rating horizon; and a worst-case rating downgrade scenario (defined as the 99th percentile of rating transitions, measured in a negative direction) of three notches over three years. The complete span of best- and worst-case scenario credit ratings for all rating categories ranges from 'AAA' to 'D'. Best- and worst-case scenario credit ratings are based on historical performance. For more information about the methodology used to determine sector-specific best- and worst-case scenario credit ratings, visit [https://www.fitchratings.com/site/rc/10111579](https://www.fitchratings.com/site/rc/10111579).

**SECURITY**

The water revenue bonds and COPs are payable from the authority's water system net revenues. The series 2021S-1 bonds are on parity with the CP program, and have a subordinate lien on net revenues.

**Revenue Defensibility**

SDCWA's customers exhibit very strong credit quality, scoring a '1' on the Purchaser Credit Index (a weighted average score of purchaser credit quality relative to proportion of sales based on credit ratings). The largest member, the City of San Diego water system, accounted for 35% of revenues in fiscal 2021. Other customers representing between 3% and 10% of revenues include Otay Water District, Helix Water District (IDR AA+/Stable), City of Oceanside water system, Carlsbad Municipal Water District, Vallecitos Water District (IDR AA+/Stable), Valley Center Municipal Water District, Olivenhain Municipal Water District (IDR AAA/Stable), Rainbow Municipal Water District, City of Escondido water system, and the Padre Dam Municipal Water District (IDR AA+/Stable). The remaining 16% of revenues are generated by Vista Irrigation District, City of Poway water system, and Fallbrook Public Utility District, among others.

The SDCWA's board is able to fully reallocate costs amongst the members in the event of a failure to pay by one or more members. It has independent rate setting authority with water rates established by its board of directors made up of 36 members with each member agency having at least one voting representative. SDCWA bills its members for water deliveries by the tenth business day of every month for water purchased during the prior month. Rates include fixed storage, customer service, and supply reliability charges and variable transportation, treatment, and supply rates.

After a series of double-digit rate increases about a decade ago to support the debt associated with the supply diversification program, water rates have increased more moderately in recent years. The all-in cost for untreated water increased 4.8% in each of calendar years (CYs) 2020 and 2021 and 3.3% in CY 2022. Rates are expected to continue to rise annually. The LRFP indicates average annual high and low estimates for rate increases over the next ten years of 6% and 3.3%, respectively.

Approximately 2% of total revenues are generated by SDCWA's portion of the 1% ad valorem property tax levied and collected by the county. Other non-operating revenues include infrastructure access charges (IACs) comprising about 5% of total revenues. IACs are fixed charges adjusted annually and levied on each member based on the number and size of retail water meters within the agencies and the SDCWA's service area.

While water sales have varied year-to-year, the general trend over the last decade has been downward due to conservation-related declines, particularly as a result of a severe state-wide drought that ended in 2017 and which
has significantly impacted ongoing usage patterns thereafter. The peak sales in 2008 of 619,000 af declined to approximately 354,000 af in fiscal 2020, and increased 8.5% to approximately 384,000 af in fiscal 2021. It has forecast modest growth of 3.1% in fiscal 2022 and 1.5% in each of fiscals 2023 and 2024.

Two of the SDCWA's members, Rainbow Municipal Water District and Fallbrook Public Utilities District, accounting for approximately 4.3% and 2.2% of revenues, respectively, or a total of $40 million in fiscal 2021, have begun the process of attempting to separate from the authority. The authority disputes the separation and estimates that resolution of the issue could take a year or more. If the separation does eventually occur, the authority estimates the negative net financial impact at about $13 million and rates could be increased on the remaining members to make up for the loss.

**Operating Risks**

SDCWA's operating risk profile is assessed at 'aa' supported by a very low, but increasing, operating cost burden as well as moderate life cycle investment needs. The operating cost burden, measured as total operating costs (including an adjustment for SDCWA's portion of capital-related expenses associated with purchased water) relative to water production, is very low at $5,045 per mg at fiscal year-end 2021. This metric has increased each of the last five years as spending has increased and water production has trended downward. Given expectations for relatively flat to modestly increasing water sales and rising water costs, the operating cost burden is likely to increase at a gradual pace but should remain below Fitch's $6,500 per mg threshold for the 'aa' subfactor assessment.

The largest cost to SDCWA is imported water from MWD. MWD water rates are set biannually and are currently expected to increase moderately over the next several years. This exposure is somewhat mitigated as the authority recovers its share of the MWD readiness-to-serve and capacity charges through a direct pass-through to members. Further, MWD recently allocated 100% of its demand management costs to its supply rate beginning in calendar year 2023; these costs had previously been allocated to the transportation rate paid by the authority. As a result, the authority stands to save $4.5 million (for six months of savings) in fiscal 2023 and $10 to $15 million per year going forward. These savings are included in its financial forecast.

IID water rates are set to increase based on inflationary factors through 2034. The authority's most expensive water source is desalinated water produced by Carlsbad under a 30-year agreement with Poseidon. Under the agreement, Poseidon owns, operates, and maintains the plant and the authority owns, operates, and maintains the 10-mile pipeline that delivers the desalinated water to the authority's distribution system.

SDCWA's life cycle ratio is 21%, well below the 'aa' subfactor assessment threshold of 45%. The authority is in a downward phase of its capital cycle after having completed a variety of significant water diversification projects over the last couple of decades. The authority's 10-year capital improvement plan (CIP) for fiscal 2022 through 2031 indicates approximately $982 million in spending. It includes the current issuance of $170 million and an estimated $165 million borrowing in fiscal 2029. The focus of the CIP is on asset management. SDCWA recently completed its UWMP and LRFP and will undertake the Water Facilities Master Plan by 2023 to identify infrastructure needs.

The peak of the capital cycle was reached in 2007 with annual spending of $290 million. Significant projects completed over the last decade include the San Vicente Dam Raise, which increased regional capacity of emergency and carryover storage by 157,000 af, the Olivenhain Dam, Twin Oaks Water Treatment Plant, and pipeline relining.

The Carlsbad Desalination Project was also completed but is included as operating costs rather than CIP spending. The Carlsbad facility is in the process of transitioning from an original water intake associated with a facility that stopped generating in 2018 to a standalone intake by the end of 2023. The plant operator, Poseidon Resources (IDR BBB/Stable), is responsible for the construction of the new intake and discharge facilities, with SDCWA financing
some improvements. Poseidon will pass along capital and operating costs associated with the facilities through water price adjustments to SDCWA subject to certain price increase caps.

Potential additional long-term projects with significant possible impacts to the authority include the Bay-Delta Fix (i.e. one tunnel plan) and a Regional Conveyance Project. However, even if one or both of the projects move forward, the ultimate costs and timelines are currently unknown. The Bay-Delta Fix, estimated at a cost of $15.9 billion, is the California Department of Water Resources (DWR) plan to construct a tunnel system under the San Francisco-San Joaquin Bay Delta to increase reliability of water supplies for State Water Project contractors. The MWD board authorized a funding commitment of 47.2% of costs for preliminary design and planning activities. Design could take several years, DWR estimates construction to last approximately 13 years and it is expected that the project will face multiple lawsuits.

The authority is also considering a Regional Conveyance Project, which would comprise construction of a pipeline to deliver the authority’s QSA supplies as an alternative to paying MWD to deliver this water. The first phase, which was completed in August 2020, determined that the project is technically feasible and cost competitive with other options. The next phase will further examine the project’s financial feasibility and impacts on rates and is expected to be completed by summer 2022. The current estimated cost of the project is $5 billion.

**Financial Profile**

Leverage is on the higher end of the ‘aa’ assessment level at over 9.0x the last five years. However, it should improve over the forward look given forecast rate increases and modest increases in sales volumes the next several years. In addition, the authority is through the largest portion of its capital program and debt issuances are expected to be well below historical levels, particularly given the revision of the targeted debt to cash ratio to 35%/65% in the recently completed LRFP from 70%/30% previously.

Total long-term debt stood at $2.18 billion at fiscal year-end 2021, and net adjusted debt, including capitalized fixed charges and pension liability adjusted to Fitch’s 6% discount rate less available cash and funds restricted for debt service, stood at $3.3 billion. Funds available for debt service (FADS), adjusted for fixed services expense, increased only about 1% in fiscal 2021 despite a 9% increase in operating revenue due primarily to a 14% increase in purchased water costs.

SDCWA’s liquidity profile is adequate and considered neutral to the rating with COFO of approximately 1.1x in fiscal 2021; Fitch-calculated all-in debt service coverage was also 1.1x. For the same period, current available cash totaled $238 million, equal to 68 days current cash on hand.

**Fitch Analytical Stress Test (FAST)**

The FAST considers the potential trend of key ratios in a base case and a stress case. The stress case is designed to impose capital costs 10% above expected base case levels and evaluate potential variability in projected key ratios. SDCWA’s financial forecast, which includes assumed rate increases and a modest increase in water sales, growth in operating expenses due to purchased water costs, and this $170 million borrowing, is the basis for Fitch’s base case. Given these assumptions, leverage decreases below 8.0x in fiscal 2024, and to around 7.1x and 7.2x in the base and stress cases by fiscal 2026.

**Sources of Information**

In addition to the sources of information identified in Fitch’s applicable criteria specified below, this action was informed by information from Lumesis.
REFERENCES FOR SUBSTANTIALLY MATERIAL SOURCE CITED AS KEY DRIVER OF RATING

The principal sources of information used in the analysis are described in the Applicable Criteria.

ESG Considerations

Unless otherwise disclosed in this section, the highest level of ESG credit relevance is a score of ‘3’. This means ESG issues are credit-neutral or have only a minimal credit impact on the entity, either due to their nature or the way in which they are being managed by the entity. For more information on Fitch's ESG Relevance Scores, visit [www.fitchratings.com/esg](http://www.fitchratings.com/esg).

### RATING ACTIONS

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<td>San Diego County Water Authority (CA) / Water Revenues/1 LT</td>
<td>LT</td>
<td>AA+ Rating Outlook Stable Affirmed</td>
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APPLICABLE CRITERIA

U.S. Water and Sewer Rating Criteria (pub. 18 Mar 2021) (including rating assumption sensitivity)
Public Sector, Revenue-Supported Entities Rating Criteria (pub. 01 Sep 2021) (including rating assumption sensitivity)

ADDITIONAL DISCLOSURES

Dodd-Frank Rating Information Disclosure Form
Solicitation Status
Endorsement Policy

ENDORSEMENT STATUS

San Diego County Water Authority (CA) EU Endorsed, UK Endorsed

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