Moody's
INVESTORS SERVICE

CREDIT OPINION
21 March 2023

Send Your Feedback

Contacts

Nicholas Lehman +1.781.672.1124
VP-Senior Analyst
nicholas.lehman@moodys.com

Heather Guss +1.214.979.6881
AVP-Analyst
heather.guss@moodys.com

Massachusetts Water Resources Authority

Update to credit analysis

Summary

Massachusetts Water Resources Authority (MWRA, Aa1 stable) benefits from the strong credit profile of its service area and member communities that includes the greater Boston (Aaa stable) metro area. The authority's member communities secure their assessments with a general obligation pledge. The MWRA has a long history of narrow but very stable annual debt service coverage, satisfactory liquidity, and comprehensive planning of long-term capital needs. The authority's conservative and proactive management team help to mitigate a highly leveraged debt position that includes a variable rate component. The MWRA is expected to continue to adequately contribute towards maintaining low unfunded pension and OPEB liabilities. Also contributing to the credit strength is the authority's ability to intercept member municipalities' state aid in the event of non-payment of assessments.

Credit strengths

» Strong credit quality and payment history of local government members

» Ability to intercept members' state aid to cure payment delinquencies

» Strong management of financial operations, capital plans and debt portfolio

» Well funded pension plan

Credit challenges

» Large debt position relative to assets

» Reliance on annual rate increases

» Below-average annual debt service coverage and liquidity for the rating category

Rating outlook

The stable outlook reflects Moody's expectation that financial operations will remain balanced over the outlook period with sufficient debt service coverage and liquidity due to manageable annual rate increases. The outlook also incorporates the credit strength of the service area and MWRA's conservative and comprehensive planning of long-term capital needs.

Factors that could lead to an upgrade

» Substantial decline in debt relative to assets

» Strengthening and sustained trend in annual coverage for senior and total debt service

Factors that could lead to a downgrade

- Increase in the debt ratio
- Narrowing of annual debt service coverage
- Failed remarketing leading to accelerated amortization of variable rate debt
- Deterioration of the service areas credit profile

Key indicators

Exhibit 1

Massachusetts Water Resources Authority					
System Characteristics					
Asset Condition (Net Fixed Assets / Annual Depreciation)	26 years				
System Size - O&M (in $000s)	$294,655.00				
Service Area Wealth: MFI % of US median	11260.00%				
Legal Provisions					
Rate Covenant (x)	1.20				
Debt Service Reserve Requirement	DSRF fundied at less than 3-prong test OR springing DSRF (A)				
Management					
Rate Management	Aaa				
Regulatory Compliance and Capital Planning	Aaa				
Financial Strength					
	2018	2019	2020	2021	2022
Operating Revenue ($000)	$738,304	$755,336	$778,326	$786,119	$811,854
System Size - O&M ($000)	$260,743	$273,403	$276,963	$294,059	$294,655
Net Revenues ($000)	$485,441	$512,973	$522,840	$493,630	$498,578
Net Funded Debt ($000)	$4,576,130	$4,510,739	$4,345,805	$4,198,199	$4,076,367
Annual Debt Service ($000)	$397,261	$434,678	$466,412	$457,713	$414,555
Annual Debt Service Coverage (x)	1.2x	1.2x	1.1x	1.1x	1.2x
Days Cash on Hand	89	89	93	93	96
Debt to Operating Revenues (x)	6.2	6.0	5.6	5.3	5.0

Source: Moody's Investors Service and MWRA

Profile

MWRA is a regional water and sewer enterprise system providing wholesale water and wastewater services to the Boston (Aaa stable) metro-area and water and/or wastewater services to surrounding communities in eastern and central Massachusetts (Aa1 stable).

Detailed credit considerations

Service area and system characteristics: large regional system serving member communities with strong credit characteristics

MWRA is authorized to provide wholesale water and wastewater services to 62 communities in eastern and central Massachusetts (Aa1 stable), serving approximately three million people representing 44% of the commonwealth's population. Incorporated in the long-term rating is the authority's strong collection of member assessments supported by historical receipt of 100% of assessments within the levy year, 31% of which come from the Boston Water and Sewer Commission (BWSC, Aa1 stable). Including BWSC, the top five largest customers provide 46.4% of 2023 total assessments. After BWSC, the other top five are the cities of Newton (4.5%, Aaa stable), Quincy (4.5%, Aa3), Cambridge (3.5%, Aaa stable) and Somerville (3.3%, Aa1). Additional credit strengths include: MWRA's ability to intercept most members' monthly state aid payments; the authority's stable membership with lack of alternative sources; independent rate-setting authority; and the essential nature of the services provided.

MWRA derives water it supplies to 54 local entities primarily from the Quabbin Reservoir located 65 miles west of Boston and the Wachusett Reservoir located 35 miles west of Boston which have a combined capacity of 477 billion gallons. Demand consistently falls below the safe yield level of 300 million gallons per day (MGD) and capacity is expected to be sufficient until at least 2060. Treatment of much of the system's water by ozonation, UV light and chlorination is provided at the system's John J. Carroll Treatment Plant. Transmission and covered storage facilities include the 17.6-mile MetroWest Water Supply Tunnel and the 115 million gallon Norumbega Covered Storage Facility.

Wastewater collection and treatment are provided to 43 communities, with a major treatment facility located on Deer Island in Boston Harbor. The $3.8 billion Deer Island plant and 9.5-mile effluent outfall tunnel, which were phased into service between 1996 and 2000, allow for average flow of 310 MGD (with peak capacity of 1,270 MGD). Sludge is piped to the authority's pelletization plant in Quincy where it is processed into commercially available fertilizer.

Debt service coverage and liquidity: satisfactory coverage and liquidity bolstered by history of stable operations and annual rate increases

Financial operations will likely reman stable over the next few years with satisfactory debt service coverage and liquidity levels consistent with historical trends. Stable finances are primarily driven by regular annual rate increases and the use of the authority's multi-year defeasance program.

The fiscal 2019 through 2023 five-year average annual combined rate increase equals 2.6%. The fiscal 2023 combined rate increase was 2.85%. Based on the fiscal 2023 current expense budget (CEB) and capital improvement plan (CIP), estimated future combined annual rate increases average 3.3% from 2024 through 2028. We expect the authority to continue to approve predictable and sustainable annual rate increases that will result in strong assessment collections and stable debt service coverage.

Fiscal 2022 audited financials reflect net revenue provided for Moody's calculated senior lien debt service coverage of 2.10 times and total debt service coverage of 1.10 times. The five year average senior lien and total debt service coverage ratios are 1.99 times and 1.16 times, respectively, representing the limited but stable operating results. The authority's fiscal 2022 debt service coverage, as defined by its bond resolution, was 2.33 times for senior debt and 1.24 times for total debt service.

The fiscal 2023 CEB totals $840 million reflecting an increase of 3.3% over 2022. The budget is driven by a 5.4% increase in direct expenses, 6.8% increase in indirect expenses and 1.9% increase in debt service. The direct expense increases include costs related to energy, utilities, chemicals, salaries and benefits. Capital financing expenses represent 60% of total expenses. The budget was balanced with the 2.85% increase in rate revenue and includes just under $1 million from the rate stabilization fund. Operations through January 2023 indicate expenses are 1.7% below budget and revenue is up 2.3% over budget providing a year to date total debt service coverage of 1.24 times according to MWRA.

Operations typically generate sizable annual surpluses which are usually used to defease outstanding debt contributing to future spikes in debt service in order to reduce the need for large rate increases in the future. For example, defeasances generated budgetary savings of $35.8 million in fiscal 2023 and contributed to maintaining a combined rate increase of 2.85% instead of 7.3% increase without restructuring, defeasance or reserves.

The authority was not able to directly receive funding from the American Rescue Plan Act but did receive indirect awards totaling $3.9 million from the Massachusetts Clean Water Trust (Aaa stable) and the state.

Liquidity

As of fiscal 2022 year end, unrestricted cash and investments totaled $77.4 million, representing a limited 96 days cash on hand and bringing the five year average down to 92 days. When adding the $40.3 million balance in the rate stabilization reserve to the liquidity position, the cash position increases to $113.5 million or a more satisfactory 141 days cash on hand and an adjusted five year average of 145 days. The rating category median is more than double this amount. The strong management team and consistent application of operating surpluses towards debt defeasance helps mitigate the narrow liquidity.

In addition to the rate stabilization reserve, MWRA maintains reserve accounts that are required under the bond resolution and allocated as restricted investments in the audit. As of fiscal 2022 year end, the reserves and balances are: $22.6 million in the bond redemption fund (debt service revenue redemption fund), $138.9 million in the debt service reserve, $47.3 million in the operating reserve, $13.8 million in the insurance reserve and $10 million in the renewal and replacement reserve.

Debt and legal covenants: high debt burden with modest covenants, strong debt management and capital planning

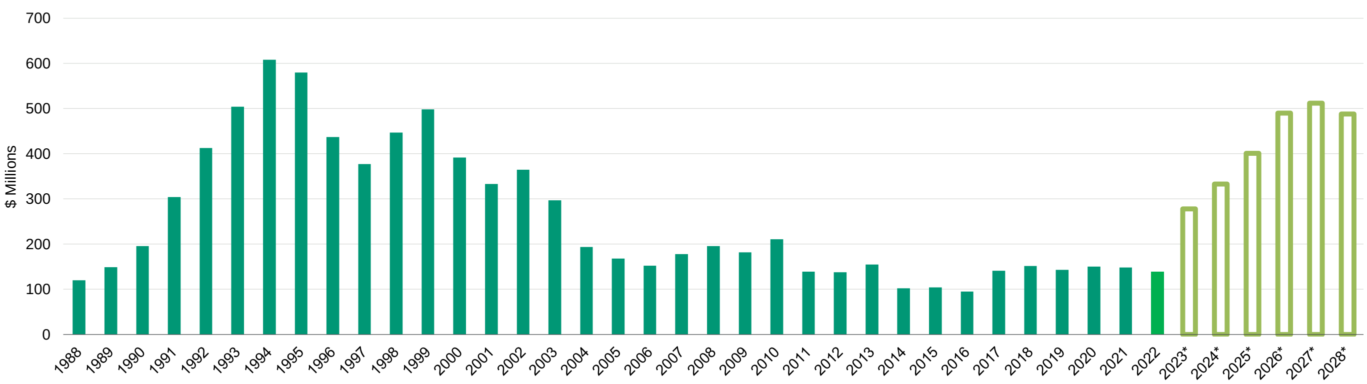
The General Resolution includes a covenant to set rates that provide coverage of 1.2 times on senior lien debt service and 1.1 times on subordinate debt service. The resolution requires maintenance of a debt service reserve fund equal to the least of (i) 50% of maximum annual Adjusted Debt Service (MADS), (ii) 10% of original par, (iii) 125% of the average annual debt service or (iv) the maximum annual debt service. The reserve balance is currently modeled to equal 50% of MADS.

In support of significant capital investments, MWRA has issued a substantial amount of debt and remains highly leveraged with a debt to operating revenues of 5.02 times at the end of fiscal 2022. As of February 1, 2023, the authority has $3 billion in senior lien general revenue bonds, $808 million in SRF loans (subordinate), and $435.6 million in subordinate variable rate revenue bonds outstanding. Additionally, MWRA is authorized to issue up to $150 million in tax-exempt commercial paper and draw on $100 million revolving loan.

The debt ratio will likely remain high but at a reduced level compared to what it has been historically. As of 2016 the debt ratio was over 8 times revenue and has gradually declined to around 5 times in 2022. After reaching a capital spending low point in 2016 and 2017, the capital improvement plan (CIP) will accelerate over the medium term in part due to a $1.5 billion water tunnel project (see exhibit) that will provide redundant capacity to facilitate maintenance of service when existing facilities require maintenance or are otherwise not useable.

Exhibit 2

MWRA's capital spending is projected to rise over the medium term driven by redundancy and maintenance projects



*Based on the fiscal 2023 capital improvement plan
Source: MWRA

The fiscal 2023 CIP includes planned expenditures of $278.5 million for the year with actual spending through January of $72.3 million. The majority of the waterworks system capital funding will be going toward transmission, distribution and pumping improvements. Wastewater funding is mostly allocated towards inception and pumping improvements. The proposed fiscal 2024-28 CIP including a spend rate adjustment totals $1.27 billion and $230 million of spending in 2024.

Legal security

The bonds are backed by a senior lien pledge of net system revenues under the terms of the authority's general revenue bond resolution. Roughly 97% of MWRA's revenue is provided by a general obligation pledge of the member communities to make timely assessment payments to the authority. In addition, pursuant to a tested state aid intercept program, MWRA can intercept state aid payable to member communities in the event that they fail to make timely payment of assessments.

Debt structure

The debt portfolio is 87% fixed rate including the senior general revenue bonds and SRF state loans. Variable rate debt currently represents 10% and commercial paper represents 3% of total outstanding debt. Variable rate demand bonds (VRDBs) in the amount of $166.3 million are hedged with interest rate swaps while the balance of $269.2 million are unhedged. The authority actively manages its capital structure risks including staggering of mandatory tender dates, and diversification of bank and swap counterparties. The potential for debt acceleration is remote given MWRA's good headroom under its covenants and management's careful attention to other terms.

Debt-related derivatives

MWRA has a large and complex interest rate swap portfolio, including five floating-to-fixed swaps. As of February 24, 2023, the entire swap portfolio had a market valuation of negative $32.7 million to MWRA. Early termination events are triggered if MWRA's underlying senior lien rating falls below Baa3.

One letter of credit supports the remaining unhedged VRDBs and expires in December 2023. The 2012 Series E and G bonds, 2014 Series A and 2018 Series A and D were all issued through negotiated direct purchase agreements.

There are four standby bond purchase agreements totaling $208.6 million with three different providers with various expirations in 2024 and 2026. MWRA actively diversifies its variable rate portfolio across providers currently using eight different providers with J.P. Morgan representing the largest share with 25%.

Pensions and OPEB

Retirement liabilities are well managed for the authority. MWRA contributes to the Massachusetts Water Resources Authority Employees' Retirement Plan, a single-employer, defined benefit plan. The plan is well-funded, currently at 89% based on the January 1, 2022 actuarial valuation using a 6.9% discount rate. The plan's current funding date is 2030. The 2021 Moody's adjusted net pension liability was $535 million equal to a low 0.7 times operating revenue.

The authority also makes strong contributions toward its OPEB liability which it funds on a pay-as-you-go basis plus additional contributions into an OPEB trust. The fiduciary net position equaled 56.2% of the total OPEB liability at the end of fiscal 2022.

ESG considerations

Massachusetts Water Resources Authority's Credit Impact Score is neutral to low (CIS-2)

Massachusetts Water Resources Authority's ESG credit impact score of CIS-2 indicates that ESG considerations have a neutral-to-low impact on its credit rating. This reflects moderately negative exposure to environmental risks and social risks, and positive governance considerations.

Environmental

The authority's credit exposure to environmental risks is moderately negative (E-3), reflecting moderately negative exposure to water management risk. Wastewater and combined water and wastewater utilities have moderately negative exposure to water management considerations given the risk of potential regulatory violations associated with wastewater disposal. Wastewater operations face risks of increased operating costs or capital requirements to address violations. The MWRA is not in violation of any regulations. The authority also has moderately negative exposure to physical climate risks given the location of its treatment plant and other important infrastructure on Deer Island in the Massachusetts Bay and along the coastline. The authority has neutral to low exposure to carbon transition, natural capital and waste and pollution.

Social

The authority's credit exposure to social risks is moderately negative (S-3). Water utilities have exposure to responsible production risk, which we view as moderately negative across the sector. Testing results reported to the Environmental Protection Agency indicate that most utilities provide clean and safe drinking water. However, water utilities are at risk of health violations resulting from catastrophic events, changes in source water quality, failures in treatment or transmission processes or revised regulations. MWRA does not have any health violations. The authority has neutral-to-low risks associated with demographic and social trends, customer relations, human capital, and health and safety considerations.

Governance

MWRA's governance considerations are positive (G-1). The authority benefits from positive financial strategy and risk management considerations, and positive management credibility and track record considerations. MWRA has neutral-to-low exposure to organizational structure and compliance and reporting. Exposure to risks associated with board structure, policies and procedures is also neutral-to-low given broad representation from member communities on the 11-person board.

REPORT NUMBER 1361522

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454