

Massachusetts Water Resources Authority

General Revenue Bonds

New Issue Summary

Sale Date: Week of Oct. 7, via competitive sale.

Series: \$50,000,000 General Revenue Bonds (Federally Taxable), 2019 Series E; \$550,000,000 General Revenue Refunding Bonds, 2019 Series F (Federally Taxable) (Green Bonds); Series 2019F; \$25,000,000 General Revenue Refunding Bonds 2019 Series G (Green Bonds).

Purpose: To fund a portion of the authority's capital program, refund a portion of the Massachusetts Water Resources Authority's (MWRA) outstanding bonds for interest savings, and pay costs of issuance.

Security: The bonds and parity general revenue bonds are payable from a first lien on net revenues of the authority, derived largely from wholesale rates and charges assessed on local units of government. The subordinate lien bonds are payable from a second lien on net authority revenues, subordinate only to the authority's lien securing its senior lien obligations.

Key Rating Drivers

Regional Provider of Essential Service: MWRA provides essential wholesale water and wastewater services to a large and diverse service area that encompasses 62 communities located primarily in eastern Massachusetts, including the city of Boston. The service area benefits from strong economic underpinnings.

Strong Payment Protections and Collections: Local governments served by the authority are required to pay for MWRA services as a general obligation, and non-payment is subject to a tested state aid intercept. MWRA has achieved strong collection rates of 100% since its inception.

Stable Financial Performance: The authority continues to generate stable financial margins despite increases in annual debt carrying costs. Financial performance remains stable and within historical norms with Fitch Ratings-calculated debt service coverage (DSC) averaging 1.1x over the last five years and liquidity remaining sound at over 200 days cash on hand over the same period.

Change in Capital Focus: The authority's capital improvement program (CIP) has recently transitioned from costly court-mandated projects to ongoing rehabilitation and water system redundancy. Water redundancy projects are expected to be substantial and span the next 15 years.

Abundant Capacity: The wholesale system benefits from an ample long-term water supply and sufficient excess water and sewer treatment capacity.

Rating Sensitivities

Escalation in Leverage: Rising capital costs that lead to escalating leverage could result in downward rating pressure for MWRA.

Ratings

New Issues

\$50,000,000 General Revenue Bonds (Federally Taxable), Series 2019E	AA+
\$550,000,000 General Revenue Refunding Bonds (Federally Taxable) (Green Bonds), Series 2019F	AA+
\$25,000,000 General Revenue Refunding Bonds (Green Bonds), Series 2019G	AA+

Outstanding Debt

General Revenue Bonds - Senior Lien	AA+
General Revenue Bonds - Subordinate Lien	AA

Rating Outlook

Stable

Related Research and Criteria

[Fitch Rates Massachusetts Water Resources Authority Revs 'AA+'; Outlook Stable \(October 2019\)](#)

[2019 Water and Sewer Medians \(November 2018\)](#)

[Fitch Ratings 2019 Outlook: U.S. Water and Sewer Sector \(December 2018\)](#)

[Public Sector, Revenue-Supported Entities Rating Criteria \(May 2019\)](#)

[U. S. Water and Sewer Rating Criteria \(November 2018\)](#)

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Credit Profile

Large Service Territory with Strong Enforcement Mechanisms

MWRA provides wholesale water and wastewater services to communities located primarily in eastern Massachusetts. About three million people (or over 40% of the population of the commonwealth) reside in the authority's service area. The largest of these is the City of Boston (Issuer Default Rating [IDR] AAA/Rating Outlook Stable), which contributes approximately 30% of MWRA's revenue derived from rates and charges. Fitch Ratings currently rates the Boston Water and Sewer Commission's (BWSC) revenue bonds 'AA+' / Rating Outlook Stable. The service area generally is economically diverse, and wealth levels tend to be above state and national averages.

The 62 local communities included in the service area are required to pay for MWRA services as a general obligation, and rate-setting is not subject to any limitations, including the state's Proposition 2 1/2. These protections, coupled with the authority's ability (pursuant to its enabling act) to utilize a local aid intercept to recover amounts unpaid by one of its member communities (excluding revenues of the BWSC), provide significant revenue protection and are important credit considerations.

Stable Financial Performance

The authority's financial operations have remained very stable despite escalating debt service. Historical Fitch-calculated DSC on senior lien obligations has averaged a strong 1.7x over the three years through audited fiscal 2019. Fitch calculated all-in DSC, which includes subordinate public debt and privately-placed state revolving fund loans, has been low but adequate at 1.1x over the same period. Liquidity has shown some modest improvement to over 240 days cash on hand, up from just about 200 days the two prior fiscal years.

Management forecasts point to continued stable operations based on the authority's conservative budgeting practices. DSC is expected to remain near historical norms and generate surpluses that the authority expects to use to defease future debt maturities. MWRA's positive variances are driven by conservative budgeting estimates (particularly with regards to variable interest rate costs) and tight expenditure controls.

Substantial Leverage Tempered by Improving Capital Cycle

The spending for capital projects spanning fiscal years 2019 through 2023 is estimated at just over \$1 billion and includes a significant shift in funding priorities from regulatory compliance projects to renewal and replacement of system assets and water redundancy. Since 2003, the MWRA's board has adopted five year spending caps for capital spending. The 2019-2023 cap of \$984 million is up from the prior 2014-2018 cap of \$791 million. Despite the uptick in expected spending, Fitch believes future capital costs will remain manageable given MWRA's vigilant project oversight and its board's self-imposed spending cap for capital projects.

The authority's CIP remains sizable but is significantly below historical spending levels, which were driven by the cleanup of Boston Harbor in the 1990s and the completion of the majority of the combined sewer overflow (CSO) control plan in recent years. In December 2015, courts declared MWRA's long-term CSO control plan to be substantially complete.

Funding for capital needs will continue to come almost entirely from long-term borrowings, including revenue bonds and state revolving fund loans. The authority's debt levels have been and will remain high for the foreseeable future due to past borrowings. Debt to net plant is notably high at 94%, debt to funds available for debt service is 12x, and annual debt service costs consume over one-half of gross annual revenues.

Favorably, the authority continues to amortize more principal annually than it anticipates issuing through at least 2021. Even with the planned capital spending, this trend should help to improve the authority's leverage over time and position it to handle the additional debt associated with the renewal and redundancy projects.

High Rates Limit Flexibility

MWRA's high rates are an ongoing credit concern as flexibility continues to diminish. Average combined charges within MWRA, based on the authority's advisory board's most recent rate survey for fiscal 2018, were over \$1,650 per year (based on 120 hundred cubic feet of water

Rating History – Senior Lien

Rating	Action	Outlook/ Watch	Date
AA-	Assigned	Stable	11/21/18
AA+	Affirmed	Stable	4/18/19
AA+	Affirmed	Stable	4/23/18
AA+	Affirmed	Stable	4/19/17
AA+	Affirmed	Stable	7/22/16
AA+	Affirmed	Stable	3/18/16
AA+	Affirmed	Stable	10/24/14
AA+	Affirmed	Stable	5/16/14
AA+	Revision	Stable	4/30/10
AA	Upgrade	Stable	3/8/05
AA-	Affirmed	Positive	12/11/03
AA-	Upgrade	Stable	6/7/00
A+	Upgrade	Stable	6/22/98
A	Assigned	Stable	9/14/92

Rating History – Subordinate Lien

Rating	Action	Outlook/ Watch	Date
AA	Affirmed	Stable	4/18/19
AA	Affirmed	Stable	4/23/18
AA	Affirmed	Stable	4/19/17
AA	Affirmed	Stable	7/22/16
AA	Affirmed	Stable	3/18/16
AA	Affirmed	Stable	10/24/14
AA	Affirmed	Stable	5/16/14
AA	Revision	Stable	4/30/10
AA-	Upgrade	Stable	3/8/05
A+	Affirmed	Positive	12/11/03
A+	Upgrade	Stable	10/12/00
A	Assigned	—	5/21/99

usage). This total is 2% of median household income, which is Fitch's affordability threshold. However, the size of needed rate hikes has trended downward in recent years as annual capital spending has begun to decline to a more manageable level. Over the five years through fiscal 2020, the authority raised rates on average a moderate 3.3% annually, and just 3.1% in fiscal 2020.

MWRA's long-term rate forecast also continues to trend below prior estimates. Rates originally projected to climb by as much as 5.2% annually by 2021 are now estimated to increase by no more than 3.6% through fiscal 2024. Actual rate adjustments may be less, though, as MWRA has prudently been applying surplus revenues to level off near-term escalations in debt service costs.

Strong Operating Profile

The authority's ample water supply is drawn primarily from the Quabbin and Wachusetts reservoirs and the Ware River. Under present operating rules, the authority's water sources can supply a safe yield of approximately 300 million gallons daily (mgd), which has not been exceeded since 1989. Demand continues to decline due to improvements in water efficiency and increased conservation efforts, making current supply more than sufficient to meet demand through at least 2060. The system operates two relatively new water treatment plants with a combined treatment capacity of 428 mgd, which is more than sufficient capacity to meet the average demand of less than 200 mgd.

Retail customers of the authority collect and convey wastewater to MWRA, which provides transport and treatment through its two wastewater treatment facilities for combined average daily flow treatment capacity of 364 mgd. Average daily flows for the past five years register just over 300 mgd.

ESG Considerations

Unless otherwise disclosed in this section, the highest level of ESG credit relevance is a score of 3. 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 our ESG Relevance Scores, visit www.fitchratings.com/esg.

Financial Summary

(\$000, Audited Years Ended June 30)	2015	2016	2017	2018	2019
Balance Sheet					
Unrestricted Cash and Investments	99,482	102,929	61,872	63,866	66,471
Other Unrestricted Current Assets	30,956	31,251	31,338	32,097	33,800
Available Restricted Cash and Investments	97,084	78,418	91,926	93,743	96,328
Current Liabilities Payable from Unrestricted Assets	(356,568)	(282,777)	(349,139)	(350,382)	(362,949)
Net Working Capital	(129,046)	(70,179)	(164,003)	(160,676)	(166,350)
Net Fixed Assets	5,935,338	5,776,418	6,023,414	5,948,350	5,840,416
Total Debt	5,928,466	5,804,338	5,658,719	5,520,452	5,478,827
Operating Statement					
Operating Revenues	668,604	696,973	716,776	738,304	755,336
Non-Operating Revenues Available for Debt Service	15,949	19,276	3,124	3,995	27,210
Total Revenues Available for Debt Service	684,553	716,249	719,900	742,299	782,546
Operating Expenditures (Excluding Depreciation)	263,403	272,038	286,269	277,857	305,110
Depreciation	194,000	197,128	201,481	202,799	207,127
Net Revenues Available for Debt Service	421,150	444,211	433,631	464,442	477,436
Senior Lien ADS	208,500	272,570	262,093	261,383	269,435
All-In ADS	370,237	387,051	401,523	419,868	438,452
Financial Statistics					
Senior Lien DSC (x)	2.0	1.6	1.7	1.8	1.8
All-In ADS (x)	1.1	1.2	1.1	1.1	1.1
Days Cash on Hand	272	243	196	207	195
Debt/Net Plant (%)	100	100	94	93	94
Free Cash/Depreciation (%)	26	29	16	22	19

N.A. - Not available. Note: Fitch may have reclassified certain financial statement items for analytical purposes.
Source: Fitch Ratings, Fitch Solutions, Massachusetts Water Resources Authority.

Financial Summary – Forecast

(\$000, Fiscal Years Ending June 30)	2020	2021	2022	2023	2024
Operating Statement					
Operating Revenues	776,744	804,701	833,074	860,196	888,364
Non-Operating Revenues Available for Debt Service	15,504	17,015	16,541	18,151	19,263
Total Revenues Available for Debt Service	792,248	821,716	849,615	878,347	907,627
Operating Expenditures (Excluding Depreciation)	299,168	312,820	321,553	330,720	340,290
Net Revenues Available for Debt Service	493,080	508,896	528,062	547,627	567,337
Senior Lien ADS	202,300	270,916	267,908	342,301	356,494
All-In ADS	464,707	463,732	489,698	514,863	516,375
Financial Statistics (x)					
Senior Lien DSC	2.44	1.88	1.97	1.60	1.59
All-In DSC	1.06	1.10	1.08	1.06	1.10

N.A. - Not available. Note: Fitch may have reclassified certain financial statement items for analytical purposes.
Source: Fitch Ratings, Fitch Solutions, Massachusetts Water Resources Authority.

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