

SENIOR LIEN DEBT AFFIRMED AT Aa2, SUBORDINATED DEBT AFFIRMED AT Aa3, TOTAL OF \$4.5 BILLION IN RATED DEBT OUTSTANDING

Water/Sewer
MA

Moody's Rating

ISSUE	RATING
General Revenue Bonds, 2010 Series A	Aa2
Sale Amount	\$100,000,000
Expected Sale Date	04/26/10
Rating Description	Revenue

General Revenue Refunding Bonds, 2010 Series B	Aa2
Sale Amount	\$210,000,000
Expected Sale Date	04/26/10
Rating Description	Revenue

Moody's Outlook Negative

Opinion

NEW YORK, Apr 20, 2010 -- Moody's Investors Service has assigned Aa2 ratings to the Massachusetts Water Resources Authority's (MWRA) \$100 million General Revenue Bonds, 2010 Series A and approximately \$210 million General Revenue Refunding Bonds, 2010 Series B. Concurrently, Moody's has affirmed the Aa2 rating assigned to the authority's \$3.37 billion of outstanding senior lien general revenue bonds (post-refunding) and the Aa3 rating assigned to the authority's \$1.26 billion subordinated general revenue bonds; and assigned a negative outlook. The Series A bonds will finance fiscal 2010 capital improvement projects while the Series B bonds will refund roughly \$210 million in outstanding debt, including \$75 million in variable-rate subordinate lien Series 2008 D&E bonds and up to \$135 million in Senior Lien fixed-rate bonds for an expected present value savings of approximately 3.8% of refunded principal with no extension of maturity. The bonds are secured by a net revenue pledge of the system and benefit from satisfactory structural provisions including a 1.2 times rate covenant on senior lien debt. Additional security is provided for two-thirds of MWRA's revenues, because of the underlying strength of the member communities' general obligation pledges to make timely assessment payments to the authority and a tested state intercept program.

The Aa2 senior lien rating recognizes the solid and stable credit strength of the authority's service area, a well-managed but high debt burden with significant variable-rate exposure, and a satisfactory financial position with declining debt service coverage levels. Also factored into the rating are authority's reliance on regular rate increases to support debt service and anticipated capital needs. The subordinated Aa3 rating incorporates the bonds' subordinate position relative to MWRA's \$3.37 billion in senior lien debt and the authority's weaker legal covenants requiring rate revenue coverage of 1.1 times on combined senior and subordinated debt service, including subordinated fixed-rate loans issued to the authority by the State Revolving Fund (Massachusetts Water Pollution Abatement Trust rated Aaa/stable outlook).

The negative outlook reflects Moody's expectation that MWRA will be challenged to maintain superior financial flexibility and healthy debt service coverage in a period when its members are facing unprecedented financial stress and may be unwilling to support projected rate increases. Also incorporated in the negative outlook are uncertainty in the authority's reserve levels and ability to absorb unanticipated financial stress after the upcoming release of debt service reserve funds under the amended bond

resolution. Further, the negative outlook acknowledges MWRA's trend of declining coverage levels smaller projected annual rate increases in the medium term and the reduction in pre-funding of long-term liabilities, chiefly pension and OPEB unfunded liabilities.

SYSTEM'S CAPITAL INVESTMENTS PROVIDE HIGH-QUALITY ESSENTIAL SERVICE TO LARGE SERVICE AREA

MWRA provides wholesale water and wastewater services to 61 communities in eastern Massachusetts (Commonwealth rated Aa2/stable outlook), serving approximately 2.8 million people or 43% of the Commonwealth's population. Incorporated in the long-term ratings are MWRA's strong historical collection of assessments supported by historical receipt of 100% of assessments within the levy year, one-third of which come from the Boston Water and Sewer Commission (rated Aa2). Additional credit strength is provided by MWRA's ability to intercept the majority of the members' quarterly 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. As a result of the authority's significant capital investment in waterworks and wastewater treatment and transmission facilities, the authority reports important improvements in water quality. Water is supplied to 50 local bodies and is primarily derived from the Quabbin Reservoir, located 65 miles west of Boston (G.O. rated Aa1/stable outlook) and the Wachusett Reservoir, located 35 miles west of Boston, with a combined capacity of 477 billion gallons; demand consistently falls below the safe yield level of 300 million gallons per day and capacity is expected to be sufficient for at least 20 years. Treatment of much of the system's water by ozonation and chlorination is provided at the system's John J. Carroll Treatment Plant, which went on line in July of 2005. Recently completed transmission and covered storage facility projects include the \$700 million 17.6-mile MetroWest Water Supply Tunnel and the \$107 million, 155 million gallon Norumbega Covered Storage Facility which at its completion was one of the largest in the world. Completion of these projects improves the system's security and compliance with the federal Safe Drinking Water Act. The authority's capital improvement plan (CIP) has shifted focus to maintenance and rehabilitation of pipelines, pumping facilities, and expansion of the system's central monitoring system. Finally, in close conjunction with the Massachusetts Department of Conservation and Recreation, the MWRA expects to contribute \$19 million for land acquisition from 2006 to 2013 to preserve and protect its watershed areas.

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 were phased into service beginning between 1996 and 2000 and allow for average daily flow of 320 million gallons per day (with peak capacity of 1,270 mgd). Sludge is piped to the authority's pelletization plant in the City of Quincy (G.O. rated A1) where it is processed into commercially available fertilizer. The MWRA's \$1.1 million long-range Capital Improvement Plan (CIP) calls for a substantial continued investment in combined sewer overflow projects as well as facility maintenance and upgrades of the conveyance system. Favorably, the amount of MWRA's CIP that is mandated by regulatory agency deadlines has fallen to a manageable 36% from over 80% in the previous decade.

MODERATE FINANCIAL STRESS SEEN IN DECLINES IN DEBT SERVICE COVERAGE AND RESERVES

MWRA is expected to maintain a satisfactory financial position in the long term, although operations may be pressured in the medium term as operating costs continue to rise and the authority's rate increases are reduced in response to financial pressure from its members. Annual operations and hefty debt service obligations have historically been sustained by frequent and sizable rate increases, with much of annual operating surpluses transferred to various reserves, to make optional contributions toward long-term liabilities or used to defease outstanding debt. The authority's primary revenue source is rates and charges assessed to 61 member communities (weighted average G.O. rating Aa3); assessments grew by an average annual rate of 4.4% between fiscal 2006 and fiscal 2010, and account for a projected 94% of fiscal 2010 revenues. Senior and total debt service coverage have comfortably exceeded covenants of 1.2 and 1.1 times, respectively, although recent coverage has narrowed. Senior lien coverage was found at 2.05 times in fiscal 2009 but declined from more ample coverage of 2.32 times in fiscal 2008; total debt service coverage was a narrower 1.17 times. Fiscal 2010 senior and total coverage are projected to remain at 2.05 and 1.16 times, respectively, reflecting balanced operations after another year of budget adjustments including reductions in budgeted pension and OPEB contributions, although the full pension ARC was met, a reduced capital program and projected additional defeasance of roughly \$24 million in debt. The fiscal 2011 budget is based on a reduced rate increase of 1.49%, and fiscal 2012 and 2013 rate increases have also been scaled back to roughly 3.9% annually from previous projections of 6.4%. While Moody's notes that

MWRA is responding to its members' need to moderate local water and sewer rate increases under ongoing recessionary stress, the deferral of capital needs could result in heightened pressure for future rate increases and could impair long-term financial strength and flexibility. While MWRA's total coverage remains generally lower than that of comparably-rated utilities the authority's credit profile is strengthened by historical 100% collection rates and the availability of the commonwealth's local aid intercept program for assessments. Furthermore Moody's notes that since 1989 management has transferred nearly \$293.4 million to various reserve accounts and used roughly \$194.6 million to defease outstanding debt as part of the authority's long-term strategy to smooth the impact of rate increases.

Despite a moderate decline in overall reserves, MWRA is expected to maintain a sound financial position with ample liquidity, a critical factor in managing variable-rate and swap termination or acceleration events should market disruption and financial institution instability recur in the future. The authority maintains several reserve accounts which totaled roughly \$418 million in fiscal 2009, including an unrestricted operating reserve of \$38.3 million, equivalent to roughly two months' of expenses. MWRA's cash position is satisfactory representing roughly 35% of O&M or 126 days of operations. The authority maintains a conservative investment strategy with its operating cash and \$353.8 million long-term investment portfolio held in government sponsored enterprises or fully collateralized deposit accounts. Short term investments total \$368 million Moody's expects that MWRA will maintain its solid financial position given its conservative budgeting, planned regular rate increases and the anticipated maintenance of satisfactory reserve levels. While historically MWRA has not needed to reduce its rate stabilization and bond redemption funds significantly, the authority projects depletion of both funds by 2017 to smooth future rate increases and reduce outstanding debt associated with the highly-leveraged system. Economic recovery at the state and local levels is expected to lag general economic recovery and could exert pressure on MWRA's ability to resume regular rate increases and augmentation of reserves. MWRA's recently amended bond resolution permits the release of substantial reserves, which were largely pledged exclusively to debt service; although a comprehensive strategy is still being developed, management plans to use the released cash largely to defease debt and set aside reserves to smooth future spikes in debt service. Exhaustion of rate stabilization and bond redemption funds, combined with the anticipated release of up to \$93 million in debt service reserve funds under MWRA's amended resolution, could result in diminished flexibility and capacity to absorb future financial pressures and may have a negative impact on long-term credit strength.

SIZEABLE DEBT PORTFOLIO WITH SIGNIFICANT VARIABLE RATE EXPOSURE

MWRA's outstanding debt totals a sizeable \$5.9 billion, just below its legislatively established debt limit of \$6.450billion, largely reflecting completion in the last decade of \$7.2 billion in water and wastewater treatment facilities. Variable-rate debt represents a significant 25% of outstanding debt, and includes commercial paper (\$194 million, 3% of total debt), variable rate demand bonds (VRDBs) supported by letters of credit (\$199.6 million, 4%) and VRDBs supported by stand-by purchase agreements (SBPAs, \$1 billion, 18% post-refunding). The authority's debt ratio of 76.3% is well above norms for utilities rated by Moody's but not unusual for systems providing wholesale operations and having to fund capital requirements associated with environmental consent decrees. The authority's debt burden is expected to remain elevated for the long term as principal is amortized slowly, at roughly 26% in ten years, reflecting the long useful life of the system's recently completed treatment plants. Authority officials remain generally conservative in budgeting for debt service but continue to budget for variable-rate interest at 4%, which was reduced gradually from fiscal 2007 to 2009 from a historical level of 4.75%, somewhat reducing MWRA's flexibility to manage unanticipated increases in debt service costs. The authority plans to issue up to \$200 million in debt annually in support of its \$1.1 billion five-year capital improvement program; the majority of projects focus on control of combined sewer overflows and maintenance of existing system assets as well as upgrades to improve water quality and system reliability and redundancy. However, MWRA plans to issue approximately \$80 million in senior lien fixed-rate bonds and \$85 million in subordinated fixed-rate SRF bonds in 2011 to provide new money financing for fiscal 2011 capital projects; future refundings to achieve debt service savings, reduce variable-rate exposure and mitigate future rate increases are likely as market conditions allow savings exceeding 4% of refunded principal.

Of the \$1.3 billion in outstanding variable rate debt a sizeable \$728 million (57%, post-refunding) is hedged with interest rate swaps while the \$528 million remainder is unhedged. The current aggregate mark-to-market value of MWRA's swaps is negative \$111 million, although events resulting in automatic termination are currently somewhat remote. Moody's believes that while MWRA's current debt profile is structured and actively managed so that inherent variable-rate risks are somewhat mitigated by the diversity in swap counterparties and SBPA providers, the authority's solid cash position and the ability to borrow temporarily from operating, construction and other reserve funds and long-term for swap termination payments. Also

offsetting debt structure risk is management's demonstrated ability to monitor debt portfolio performance and act effectively to replace or reassign swap and credit enhancement providers, generate additional assessment revenue through timely interim assessments and curtail operating expenditures to maintain the authority's sound financial position and debt service coverage. Moody's has subjected MWRA's debt portfolio to various stress scenarios reflecting market dislocations resulting in increased interest and swap payment expense as well as accelerated principal repayments, demonstrating that, relative to the authority's resources and operational flexibility, its significant 25% exposure to variable rate debt and derivatives poses a moderate amount of risk. Somewhat mitigating variable-rate risk are cash reserves, which could be employed as a bridge to temporarily support operations and debt service until debt refunding, new credit enhancement agreements were negotiated or swap agreements are transferred. However, should prolonged market disruption prevent market access or cause cascading events requiring significantly increased interest rates, accelerated principal repayment or termination payments, reducing the authority's operating flexibility and draining cash reserves, MWRA's credit strength could be significantly affected with multi-notch downgrades a possibility. MWRA's debt portfolio includes no insured VRDB or auction rate securities; all such outstanding bonds were refunded in June 2008 with variable rate demand bonds which are supported by standby purchase agreements (SBPA).

COUNTERPARTY DIVERSIFICATION IN SWAP PORTFOLIO AND CREDIT SUPPORT

MWRA has entered into five floating-to-fixed swap agreements covering \$728 million in outstanding variable rate bonds issued in 2002 and 2008 with a total notional amount of \$799.2 million, with the most recent agreements entered into with Barclays Bank (Aa3) and Wells Fargo (Aa3) in October and November 2008 to replace agreements with Lehman Brothers affiliates that were terminated as part of Lehman's bankruptcy. All of the agreements are structured to match maturity with the original swap termination dates. Swap payments are on parity with subordinated debt service payments, termination payments are subordinate to all debt service payments. Most recent mark-to-market valuations indicate an aggregate liability to MWRA of approximately \$111 million. Early termination events are triggered if MWRA's underlying senior lien rating falls below Baa3 and although that risk is remote at this time payments could be bonded or partially funded with capacity in MWRA's commercial paper program, which is expected to have \$106 million available post-refunding and net of its \$50 million required environmental emergency reserve.

Portions of the 2008 Series A and 2008 Series E bonds are hedged by interest rate swaps with Barclays Bank and Wells Fargo Bank (notional amounts \$133 million, each). Barclays and Wells Fargo Bank are obligated to pay the authority a variable interest rate equal to the SIFMA Municipal Swap Index rate while the authority is obligated to pay Barclays and Wells Fargo fixed interest rates ranging from 4.47% to 6.94% over the life of the bonds and swap agreement. The Wells Fargo swap expires on August 1, 2030 while the Barclays swap has an expiration date of August 1, 2037.

The 2008 Series C bonds are covered by a swap agreement with Citigroup (A2, notional amount \$113 million) and one with Morgan Stanley Derivative Products (Aa2, notional amount \$75 million). The swap agreement with Citigroup provides that Citigroup is obligated to pay the authority a variable interest rate equal to the SIFMA Municipal Swap Index rate while the authority is obligated to pay Citibank a fixed interest rate of 3.994%. Morgan Stanley is obligated to pay the authority a variable interest rate equal to SIFMA Municipal Swap Index rate and the authority is obligated to pay Morgan Stanley a fixed rate of 4.03275% (an increase negotiated concurrently with this refunding from the original fixed rate of 3.994%). The Citibank and Morgan Stanley swaps have an expiration date of November 1, 2026.

The Series 2008 A, 2008 Series D and Series E bonds together with Series 2002 D, which is supported by a LBBW letter of credit, are hedged by an interest rate swap with a total of \$273.6 million outstanding with Goldman Sachs Capital Markets, LP (A1, notional amount \$273.6 million). Goldman is obligated to pay the authority a variable interest rate equal to 67% of one-month LIBOR while MWRA is obligated to pay Goldman a fixed interest rate of 4.127%. The Goldman swap has an expiration date of August 1, 2015.

Five SBPAs provide credit support for the authority's Series 2008 A-F bonds totaling \$1.06 billion in outstanding VRDBs. Agreements represent reasonable diversity with Dexia Credit Local (A1/P-1) covering the \$338 million Series 2008A bonds (27%), Bayerische Landesbank (A1/P-1) with the \$187 million Series 2008C and D bonds (15%), Bank of America, N.A. (Aa3/P-1) with the \$123 million Series 2008B (10%), JP Morgan Chase Bank (Aa1/P-1), N.A. with \$225 million Series 2008E (18%) and the Bank of Nova Scotia (Aa1/P-1) with the \$185 million Series 2008F (15%). Letters of Credit (LOC) issued by Landesbank Hessen-

Thuringen GZ (Helaba, Aa2) and Landesbank Baden-Wuerttemberg Capital Markets (Aa1) support the remaining \$199.6 million of VRDBs.

Outlook

The negative outlook reflects Moody's expectation that MWRA will be challenged to maintain superior financial flexibility and healthy debt service coverage in a period when its members are facing unprecedented financial stress and may be unwilling to support projected rate increases. Also incorporated in the negative outlook are uncertainty in the authority's reserve levels and ability to absorb unanticipated financial stress after the upcoming release of debt service reserve funds under the amended bond resolution. Further, the negative outlook acknowledges MWRA's trend of declining coverage levels smaller projected annual rate increases in the medium term and the reduction in pre-funding of long-term liabilities, chiefly pension and OPEB unfunded liabilities.

What could change the rating - UP (remove the negative outlook)

*Improved coverage for senior and total debt service

*Significant enhancement of service area's composite credit strength

*Reduced debt ratios

*Reduced exposure to risks associated with variable rate debt and derivative agreements

What could change the rating - DOWN

*Significant reduction of cash reserves and financial flexibility after amended bond resolution takes effect

*A prolonged period of minimal rate increases, shifting funding of capital needs and long-term liabilities to the future

*Failure to reduce debt burden as planned

*Higher debt ratios or increased exposure to variable rate debt

* Acceleration of debt amortization due to failed remarketings and subsequent bank bond repayment at higher interest rate

*Deterioration of service area's composite credit strength

*Reduction in debt service coverage

*Failure to effect mid-year rate adjustments or expenditure controls, if necessary

KEY DATA AND RATIOS

Type of System: Water and Sewer Treatment and Transmission

Population of Service Area: 2.8 million

Local Bodies assessed wholesale rates and charges (fiscal 2010): 61

Rate Revenue Collections within 30 days of due dates (fiscal 2009): 100%

Total Revenues (fiscal 2009): \$633.8 million

Debt Ratio (fiscal 2009): 76.3%

Amortization of Principal:

10 years 26%

20 years 72%

30 years 95%

Coverage of Senior Debt, per resolution (fiscal 2009): 2.05x

Coverage of Senior & Subordinated Debt, per resolution (fiscal 2009): 1.16x

Operating Ratio (fiscal 2009): 46.9%

Rate Revenue Increase (fiscal 2010): 3.8%

Average Annual Rate Revenue Increase (fiscal 2004-2009): 4.4%

Post-Sale Senior Lien Debt Outstanding (Senior Lien): \$3.4billion

Post-Refunding Variable Rate Subordinated Debt Outstanding: \$1.2 billion

Subordinated SRF Debt Outstanding: \$1.1 billion

Post-Sale Commercial Paper Outstanding: \$194 million

RECALIBRATION OF RATING TO THE GLOBAL RATING SCALE; PRINCIPAL METHODOLOGY

The rating assigned to Massachusetts Water Resources Authority's Series 2010 bonds was issued on Moody's municipal rating scale. Moody's has announced its plans to recalibrate all U.S. municipal ratings to its global scale and therefore, upon implementation of the methodology published in conjunction with this initiative, the rating will be recalibrated to a global scale rating comparable to other credits with a similar risk profile. Market participants should not view the recalibration of municipal ratings as rating upgrades, but rather as a recalibration of the ratings to a different rating scale. This recalibration does not reflect an improvement in credit quality or a change in our credit opinion for rated municipal debt issuers. For further details regarding the recalibration please visit www.moody.com/gsr.

The principal methodology used in assigning the rating was Moody's "Analytical Framework for Water and Sewer System Ratings," published in August, 1999 and available on www.moody.com in the Rating Methodologies sub-directory under the Research & Ratings tab. Other methodologies and factors that may have been considered in the process of rating this issuer can also be found in the Rating Methodologies sub-directory on Moody's website.

The last rating action was on February 3, 2009 when the Aa2 senior lien and Aa3 subordinate lien ratings for Massachusetts Water Resources Authority were affirmed.

Analysts

Susan Kendall
Analyst

Public Finance Group
Moody's Investors Service

Patrick Mispagel
Backup Analyst
Public Finance Group
Moody's Investors Service

Contacts

Journalists: (212) 553-0376
Research Clients: (212) 553-1653