MOODY'S
INVESTORS SERVICE

CREDIT OPINION
4 September 2018

Rate this Research

Contacts

Andrew T. Van Dyck Dobos +1.312.706.9974
Analyst
andrew.vandyckdobos@moodys.com

Matthew Butler +1.212.553.7108
VP-Senior Analyst
matthew.butler@moodys.com

Great Lakes Water Authority, MI Water Enterprise

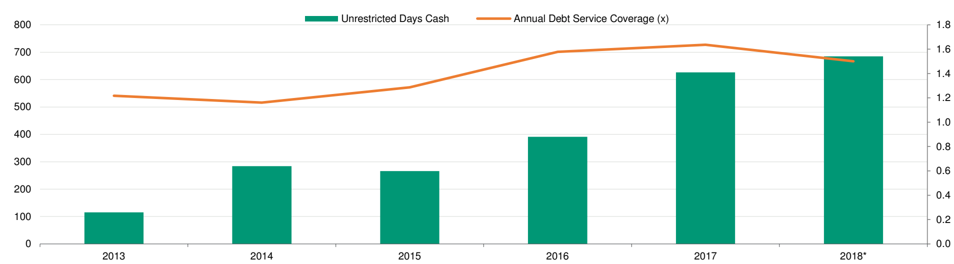
Update following upgrade of water revenue bonds to A2 and A3

Summary

The Great Lakes Water Authority's (GLWA) Water Enterprise (A2 stable) has maintained strong financial metrics in recent years and we expect this to continue. A combination of GLWA's commitment to raising rates and stabilization of the customer base supports an expectation of continued and moderate revenue growth. The system's healthy liquidity and debt service coverage balance a very high debt burden. At the same time, the enterprise has resources available to support capital spending in ways other than issuing debt. Though we anticipate more borrowing in the coming years, continued revenue growth should moderate the system's debt burden. The authority has achieved operating efficiencies by reducing staff and right-sizing treatment facilities. The system's sizable service area and scale of operations remain credit strengths, though there are and will remain economic weaknesses in certain areas of the customer base. Activity in the City of Detroit (Ba3 stable) accounts for a large share of annual revenue and the retail system in the city is still contending with leaks and water losses. We do not expect addressing these challenges will be a significant burden as long as revenue growth and the underlying economy remain healthy. An economic setback in the region, however, could intensify operating challenges.

On August 31, 2018 we upgraded to A2 and A3 from A3 and Baa1 GLWA's senior and second lien water revenue debt, respectively.

Exhibit 1
Debt service coverage and liquidity have improved and are strong



* Unaudited
Source: Audited financial statements of Great Lakes Water Authority and City of Detroit Water Fund

Credit strengths

- Very large system that provides essential water services to approximately 38% of the state's population
- Commitment to annual revenue enhancements to support sound debt service coverage and healthy liquidity
- Implementation of operational efficiencies, including right-sizing of personnel and water treatment capacity

Credit challenges

- Declining water consumption trend given economic and demographic weaknesses in portions of the service area, as well as general conservation efforts
- High leverage will moderate slowly given outstanding capital needs and plans to issue additional debt
- High combined operating needs and fixed costs leave little margin to miss revenue targets in order to maintain strong liquidity and expand pay-go capital financing

Rating outlook

The stable outlook incorporates our expectation that key financial metrics will remain favorable and mitigate high leverage of pledged revenue.

Factors that could lead to an upgrade

- Sustained expansion and diversification of the service area's economic base
- Growth in revenue that continues to outpace borrowing so as to moderate leverage of pledged resources

Factors that could lead to a downgrade

- Renewed economic stress that pressures consumption and revenue trends
- Material reduction to the system's liquidity or debt service coverage ratios
- Growth in leverage of the water system's net revenue

Key indicators

Exhibit 2

Great Lakes Water Authority, Water Enterprise, MI					
System Characteristics					
Asset Condition (Net Fixed Assets / Annual Depreciation)	14 years				
System Size - O&M ($000)	$155,776				
Service Area Wealth: MFI % of US median	101.20%				
Legal Provisions					
Rate Covenant (x)	1.20x				
Debt Service Reserve Requirement	DSRF funded at lesser of standard 3-prong test				
Management					
Rate Management	A				
Regulatory Compliance and Capital Planning	A				
Financial Strength					
	2013	2014	2015	2016	2017
Operating Revenue ($000)	$361,092	$357,291	$366,104	$426,450	$442,093
System Size - O&M ($000)	$151,204	$145,268	$136,030	$156,333	$155,776
Net Revenues ($000)	$209,888	$212,023	$230,074	$270,117	$286,317
Outstanding Revenue Debt ($000)	$2,546,229	$2,505,049	$2,394,144	$2,278,059	$2,358,137
Annual Debt Service ($000)	$172,459	$182,645	$178,924	$171,139	$175,010
Annual Debt Service Coverage (x)	1.2x	1.2x	1.3x	1.6x	1.6x
Cash on Hand	115 days	284 days	266 days	391 days	626 days
Debt to Operating Revenues (x)	7.1x	7.0x	6.5x	5.3x	5.3x

See the coverage section under Debt Service Coverage and Liquidity for more details about what's included in revenues, expenditures, and debt service, and how coverage is calculated under the bond resolution.
Source: Audited financial statements of Great Lakes Water Authority and City of Detroit Water Fund

Profile

The Great Lakes Water Authority (GLWA) is the regional wholesale provider of water and sewer services to southeast Michigan (Aa1 stable). Fully established in 2016, GLWA is an incorporated municipal authority operating under the guidance of a six-member board consisting of one appointee each of the counties of Macomb (Aa1 stable), Oakland (Aaa stable), and Wayne (Baa2 stable), two appointees of the Mayor of Detroit, and one of the Governor of Michigan. The water enterprise treats water from Lake Huron, Lake St. Clair and the Detroit River and distributes treated water to a service area population of approximately 3.8 million.

Detailed credit considerations

Service area and system characteristics: very large service area in southeast Michigan

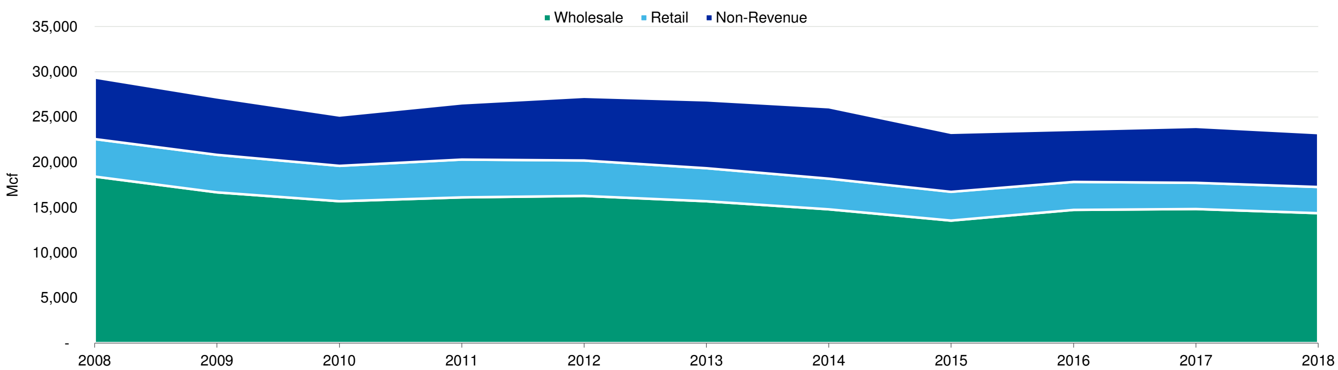
The regional water supply system, which is leased from the City of Detroit, covers a vast 1,760 square miles in southeast Michigan. It provides treated water to all or portions of eight counties. The system is a wholesale enterprise whose articles of incorporation allow for direct retail service. Residential and business activity within the City of Detroit, has accounted for between 20% and 25% of annual GLWA revenue over the last five fiscal years (2013-2017). Residents and businesses within Detroit are retail customers of the Detroit Water and Sewerage Department (DWSD). The remainder of water sales are to 127 suburban customers via 87 wholesale customer contracts.

Since 2008, 80 of GLWA's wholesale customers signed new model contracts with 30-year terms and automatic 10-year renewal. Customers must provide notice of intent to terminate five years in advance of the end of the contract term. Effective December 1, 2017 the City of Flint entered into the 30-year model contract, which will provide the city with a stable source of quality treated water. The contract was signed in conjunction with a master agreement and regional collaboration among the city and GLWA, as well as the Genesee County Drain Commissioner (GCDC), Karegnondi Water Authority (KWA; A2 stable), and the State of Michigan. The agreement provides for reciprocal backup water supply from GCDC and GLWA's use of Flint's KWA raw water rights.

Although the creation of the KWA resulted in the exit of GCDC as a wholesale customer, we anticipate the model contracts will ensure a stable customer base going forward. GCDC had been the water system's third largest customer, accounting for 5.9% of wholesale customer charges in fiscal 2017. Stabilization of the regional economy should further support the resiliency of the customer base. Since peaking at 15.1% in 2009, the Detroit MSA's unemployment rate has fallen to 4.4% as of August 2018. Median family income has also gradually improved, and is now estimated at 101.2% of the national figure.

Similar to many water systems in the Midwest, consumption is falling. From 2008 to 2018 the volume of water billed dropped by roughly 23%. At the same time, non-revenue volume produced by the water utility remains very high, driven mainly by leaks or major breaks in the transmission and distribution systems. Over the past five years non-revenue water accounted for approximately 27% of water produced. Production volumes, however, are not metered, and the recent cost of service study indicates production volumes are likely overstated.

Exhibit 3
Water usage continues to decline, while non-revenue water production remains high



Fiscal 2018 figures are preliminary
Source: Audited financial statements of Great Lakes Water Authority

Declining usage can be traced to several factors, including weather trends and conservation efforts. While this trend may stabilize over the long term, sustained upticks in usage are unlikely absent the expansion of the system into new wholesale contract communities. Population in the Detroit MSA fell nearly 4% between 2000 and 2010, and while recent estimates point to flat trends in the service area since, material growth may be unlikely. GLWA has adjusted its rate structure to increase fixed rate charges, which will continue to mitigate downward effects of consumption decline.

Debt service coverage and liquidity: financial metrics expected to remain healthy

Debt service and liquidity strengthened in recent years and we expect both to remain healthy. The authority plans to limit annual growth in its water system revenue requirements by 4%, but is committed to adjusting service charges, as needed, to meet bond covenants. Each year GLWA conducts an extensive study of both its wholesale service charges and allocated annual revenue requirement to retail water customers, with the purpose of adjusting revenue to reflect the cost of operations, depreciation expense, and return on the rate base. Due to positive operating variances in fiscal 2017, GLWA's needed revenue increases fell below 4% in fiscal 2018 and in the adopted fiscal 2019 budget.

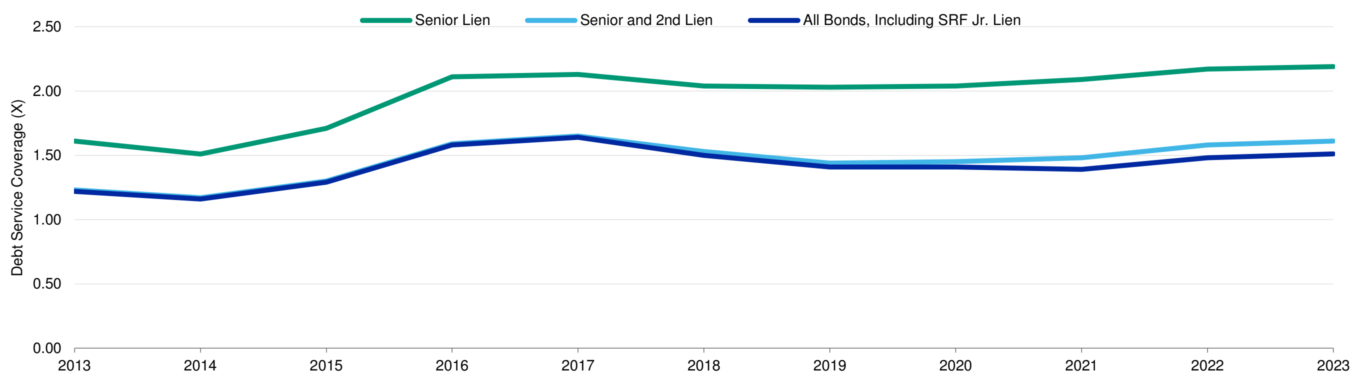
Significant growth in retail rates in Detroit could challenge the capacity of some of DWSD's customers to pay. Delinquent Detroit retail accounts have remained high, though DWSD has enhanced both collection efforts and customer assistance programs, including participating in GLWA's water residential assistance program (WRAP). Additionally, DWSD funds a budget reserve, per the bond ordinance, to cover shortfalls in retail collections. The significant portion of annual revenue derived from Detroit retail operations remains a key credit challenge that could affect debt service coverage and liquidity. However, in conjunction with GLWA's commitment to manageable revenue requirement increases, DWSD's efforts should limit growth in delinquent retail accounts, especially if moderate economic growth continues.

Fiscal 2017 marked GLWA's first full year in operation, during which total water revenue grew 3.7%. Growth in revenue supported 2.1x coverage of senior lien debt service, 1.7x coverage on combined senior and second lien debt service, and 1.6x coverage of all debt service including junior lien state revolving fund payments. Thought audited information is not yet available for fiscal 2018, management estimates coverage at 2.0x and 1.5x, respectively, of senior lien and total debt service.

Per the master bond ordinance, revenue includes all money collected from the regional wholesale and local retail water customer payments deposited to a lockbox administered by a third-party trustee. O&M expenses are defined as cash transfers made to the GLWA's and DWSD's respective operation and maintenance funds. Bifurcated accounting between the GLWA's regional and DWSD's local operations means adjustments must be made to accurately assess coverage under the master bond ordinance.

Exhibit 4

Debt service coverage expected to remain stable



2018 figures are unaudited, 2019-2023 figures are projected

Source: Audited financial statements and projections of Great Lakes Water Authority

LIQUIDITY

The water system's liquidity is strong and will remain so despite planned spending. At the close of fiscal 2017 the water fund had an unrestricted cash balance of $267.3 million, equivalent to 626 days of O&M. The authority estimates cash increased to $313.2 million at the close of fiscal 2018. The water fund also has significant restricted cash assets held for budget stabilization, debt service, and capital. The authority anticipates cash will remain at or above 433 days of operations through 2023. This accounts for up to $350 million of planned capital spending from reserves and surplus revenue over the next five years.

Debt and legal covenants: high debt burden could moderate with sustained revenue growth

Leverage of pledged water revenue is high. Current long-term debt across all liens is 5.3x fiscal 2017 operating revenue. Upcoming capital needs include improvements to the water delivery infrastructure ($274 million), water treatment plants ($210 million), and general purpose and central services ($99 million). In addition to financing these improvements with reserves and surplus revenue, GLWA plans to issue approximately $52.2 million in revenue bond, and $137.2 million in junior lien SRF loans over the next five years. The increase in debt will be more than offset by the amount paid down over the next five years. Though we expect the system's debt burden will remain high, sustained revenue growth would make leverage less of a credit challenge going forward.

DEBT STRUCTURE

All water revenue debt of the GLWA is fixed rate. GLWA's rate covenant requires net revenue coverage of debt service equal to 120% for senior lien bonds, 110% for second lien bonds and 100% for any subordinate lien debt. Senior and second lien bonds benefit from debt service reserve funds (DSRF) sized at lessor of the standard three-prong test. As of July 1, 2018, approximately 12% and 13%, respectively, of the senior and second lien DSRF requirements are satisfied with cash. The balances of each are satisfied with various surety or insurance policies.

DEBT-RELATED DERIVATIVES

GLWA is not party to any derivative agreements associated with its pledge of net water revenue.

PENSIONS AND OPEB

Current employees of GLWA are participants in a defined contribution benefit plan, though many are scheduled to receive accrued pension benefits from the City of Detroit's frozen defined benefit General Retirement System (GRS). Pursuant to the City of Detroit's bankruptcy settlement, GLWA will contribute $45.4 million annually to GRS through fiscal 2023 to accelerate amortization of the GRS unfunded liability associated with GLWA employees. The water enterprise's share of the annual GLWA payment to GRS will be $19.5 million, or approximately 5% of fiscal 2017 gross revenue, not inclusive of operating revenue from DWSD pledged to debt service. Less than half of the annual GRS payment is considered O&M and senior to debt service.

Beyond 2023, GLWA's payments to GRS will be based on the actuarial needs of the plan and sized to amortize any unfunded liability associated with GLWA employees. GLWA makes no payments towards accrued retiree healthcare liabilities as the City of Detroit's bankruptcy settlement eliminated those benefits. GLWA established a new defined contribution retiree healthcare savings plan, resulting in no potential unfunded liability.

Management and governance: management works to sustain regional cooperation

The management of GLWA has made strides in enhancing operational efficiencies and regional cooperations since its formation. To that end GLWA dramatically right-sized its work force, reducing full time employees by over 1,000 over the past several years. Additionally, since system capacity exceeds demand, management has de-rated parts of its treatment plants. This allows the water system to reduce capital costs while preserving flexibility to put the facilities back to use. Rate structure adjustments and payment assistance to low-income retail customers should support revenue stability. Additionally, the number of wholesale model contracts entered into points to increased regional collaboration.

REPORT NUMBER 1139872

CLIENT SERVICES

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

MOODY'S INVESTORS SERVICE