

Great Lakes Water Authority

Investment Performance Report – March 2019



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Great Lakes Water Authority
 Executive Summary

PORTFOLIO RECAP

- Safety – The aggregate portfolio is diversified amongst cash, bank deposits, U.S. Treasuries, Federal Agencies, commercial paper, SEC-registered money market funds, and a local government investment pool. The total credit profile of the pool is strong with over 98% of the assets invested in bank deposits or securities that are rated within the two highest short and long-term rating classifications as established by Standard & Poor's.
- Liquidity – The Authority has continued to reduce its weighting to overnight funds, with only 36% of the total assets maturing overnight.
- Return – The overall market yield slightly decreased to 2.37% as of March 31, 2019 versus 2.40% at December 31, 2018. The Authority earned \$15,928,947 in investment income for fiscal year-to-date on a book value basis. Based on the current interest rate environment, the investment income earned for the previous quarter, and assuming that the Authority maintains the same investable balances for the remainder of the fiscal year, we are projecting that the Authority will earn approximately \$21.2 million in investment income for fiscal year 2019.
- Compliance – The aggregate portfolio is in compliance with the Authority's investment policy and Michigan Public Act 20.

AVAILABLE FUNDS (Unaudited)

Type	Financial Institution	Book Value	Market Value	YTM @ Market (as of 3/31/19)
Deposit Account	Comerica	\$12,398	\$12,398	0.25%
Deposit Account - Retainage	First Independence	\$16,622,964	\$16,622,964	0.05%
Deposit Account – Flint Security Deposit	Chase	\$3,780,756	\$3,780,756	1.32%
Deposit Account	Chase	\$12,916,266	\$12,916,266	1.32%
Trust Money Market Fund	U.S. Bank	\$194,998,031	\$194,998,031	2.31%
Money Market Fund	JP Morgan	\$75,563,368	\$75,563,368	2.19%
Local Government Investment Pool	GovMIC	\$81,882,189	\$81,882,189	2.49%
Managed Funds	PFM	\$698,201,746	\$698,928,787	2.48%
TOTAL		\$1,083,977,717	\$1,084,704,758	2.37%

The accounts at Comerica Bank get an earnings credit to offset bank fees. The funds and earnings in the Retainage account are held on behalf of the contractors and do not belong to GLWA. The funds and earnings in the Flint Security Deposit account are held on behalf of the City of Flint and do not belong to GLWA. Note that market values move inversely to interest rates, and the recent rise in yields has led to the overall market value being less than the book value. In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of 3/31/2019.

Great Lakes Water Authority
Investment Strategy

GLWA INVESTMENT STRATEGY

- The portfolio is in compliance with the Authority’s investment policy.
- To date, the Authority has continued to invest its funds in a mixture of short and intermediate-term investments to ensure sufficient liquidity.
- The aggregate portfolio was yielding 2.37% at the end of December.*
 - This compares to the 2.35% yield of the Bank of America / Merrill Lynch 3-Month U.S. Treasury Bill Index as of 3/31/2019, which is a comparable market indicator.
- The Authority continues to implement a disciplined investment plan to provide improved safety and diversification and putting every dollar to work.
- For the fourth quarter of FY 2019, the Authority’s investment advisor will continue to align balances with expected liabilities, subject to the Authority’s investment policy.
- The Authority will continue to work with its investment manager to identify strategies in this somewhat volatile market to maximize future investment income while meeting the objectives of safety and liquidity.
- Assuming that the Authority maintains the same investable balances for FY 2019 and the interest rate environment remains in a similar trading range, we conservatively expect to earn approximately \$21.2 million in interest income in FY 2019.

* Current market yield as of March 31, 2019.

**Great Lakes Water Authority
Market Overview and Outlook****ECONOMIC HIGHLIGHTS UPDATE**

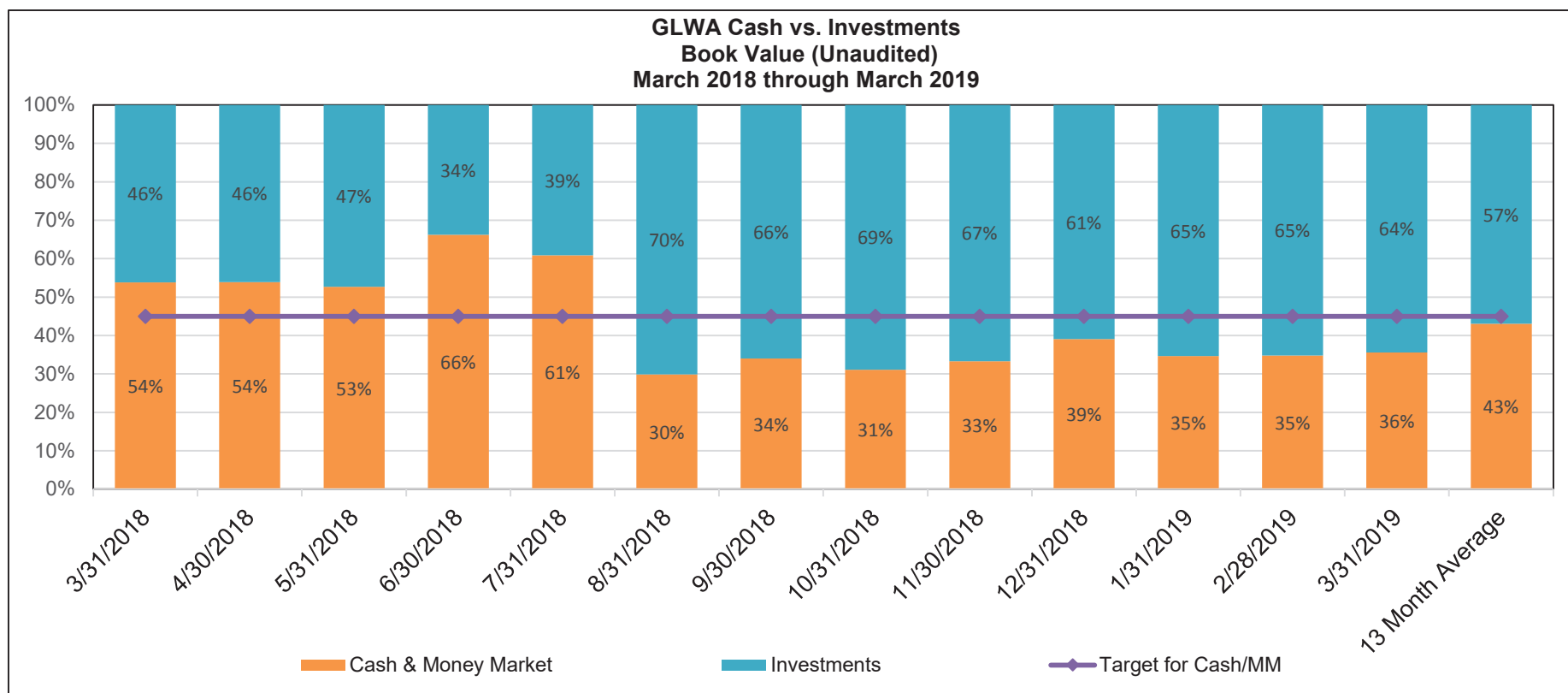
- At the end of March, all eyes turned to the seven-day stint when the yield on a 3-month U.S. Treasury Bill exceeded that of a 10-year U.S. Treasury Note. This yield curve inversion often precedes a recession. Despite this warning sign, other measures of market and economic conditions – such as credit spreads and jobless claims – do not portend a recession in the near term.
- As expected, the Federal Reserve left the Federal Funds rate unchanged in March at its current target range of 2.25% to 2.50%. Fed Chairman Jerome Powell confirmed the Fed's intent to be patient and “on hold” while assessing global economic and financial developments and inflation to determine what future adjustments to short-term rates – up or down – might be warranted.

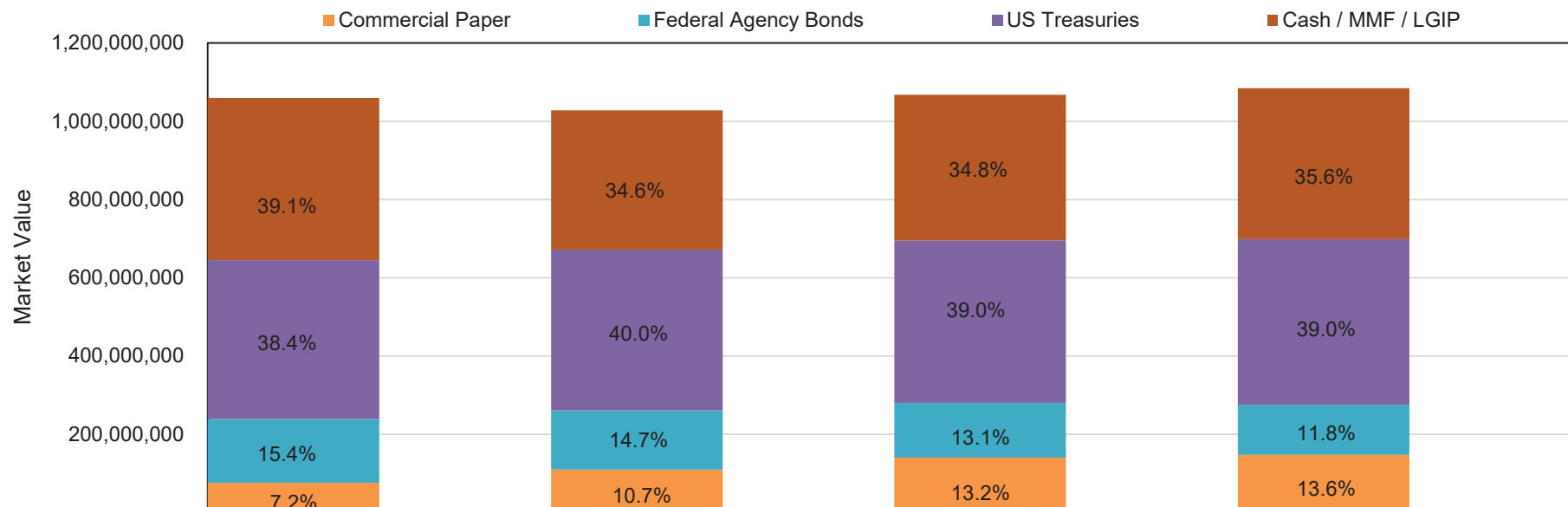
ECONOMIC IMPACT ON PORTFOLIO

- The inversion of the yield curve, albeit brief, did not change positive investor sentiment. Historically, this inverted relationship has foreshadowed recessions, with only one false positive in the past 45 years. But this event was brief, and other confirming signals such as stock market prices and credit market conditions suggest that a downturn is not imminent.
- U.S. Treasury yields rallied across the curve over the previous quarter, resulting in an even flatter yield curve. The Fed is currently on hold and many investors are expecting a rate cut rather than a rate hike as the next move.
- Commercial paper was a standout performer in the past quarter as spreads narrowed back to September of 2018 levels. Because of this, current value has diminished somewhat, but the positively-sloped credit curve continues to support allocations to the sector. With lower yields and a flat Treasury yield, we expect incremental income from CP to buoy performance in coming quarters for the Authority's portfolio.
- The Authority continues to reap the benefits of short-maturity yields at a decade high. Although yields on commercial paper have moderated with the outlook for a patient Fed, they remain attractive relative to those in short, or even intermediate-term, government securities.

**Great Lakes Water Authority
Portfolio Mix
Cash / Money Market vs. Investments**

- The Authority's liquidity requirements fluctuate each month based on operational requirements, capital funding, and debt payments. Based on a review of historical activity and refinement of cash flow projections, the Authority has set an average target of 45% cash/money market accounts and 55% investments for the portfolio holdings. The 13-month average as of the end of March of 2019 is very close to the target.
- The chart below compares the monthly allocation of the portfolio holdings to the 13-month average and the target. The allocation between cash and investments will vary each month based on liquidity requirements.

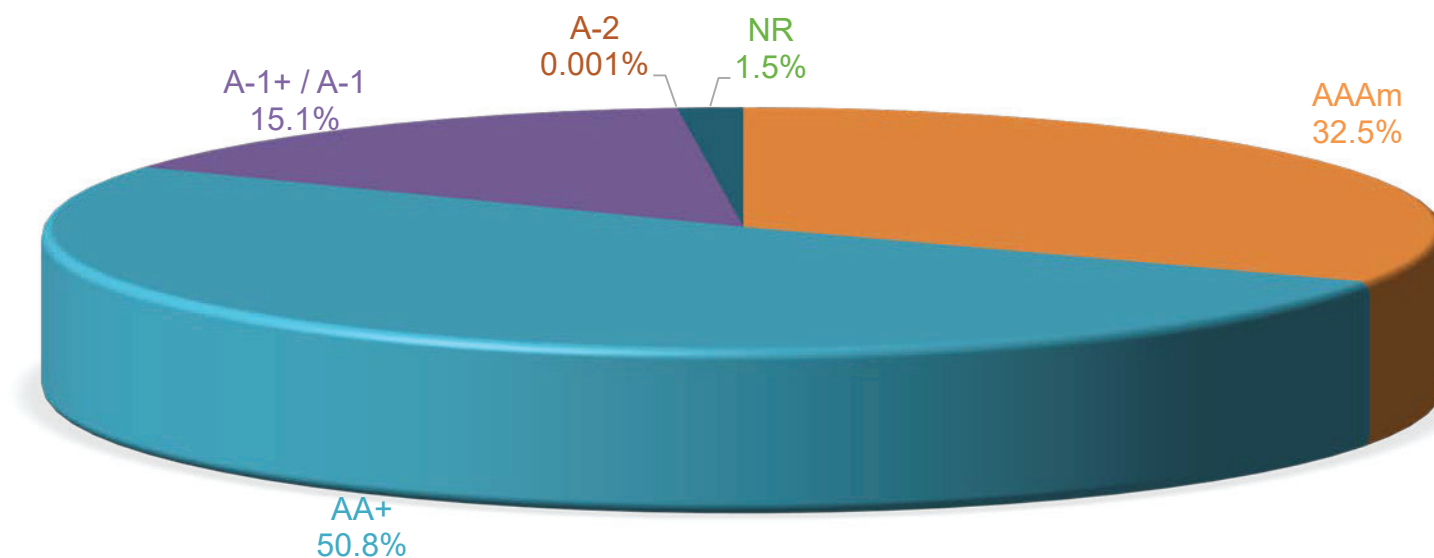


**Great Lakes Water Authority
 Investments – By Security Type**


Security Type	December		January		February		March	
	Market Value	Asset Allocation	Market Value	Asset Allocation	Market Value	Asset Allocation	Market Value	Asset Allocation
Commercial Paper	76,085,397	7.2%	109,833,905	10.7%	140,668,127	13.2%	147,599,028	13.6%
Federal Agencies	162,894,722	15.4%	151,224,508	14.7%	139,333,833	13.1%	127,908,615	11.8%
U.S. Treasuries	406,532,663	38.4%	410,908,633	40.0%	415,835,845	39.0%	423,421,144	39.0%
Cash / MMF / LGIP	414,381,117	39.1%	356,146,824	34.6%	371,730,951	34.8%	385,775,971	35.6%
Total	1,059,893,899	100.0%	1,028,113,870	100.0%	1,067,568,756	100.0%	1,084,704,758	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of March 31, 2019.

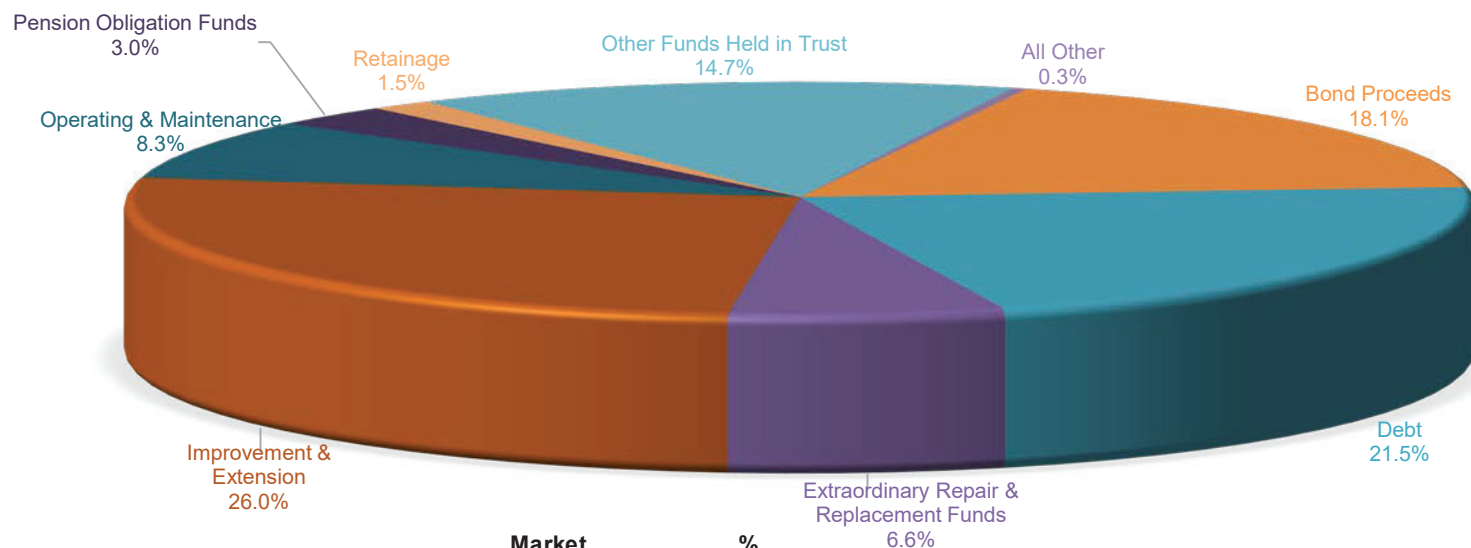
**Great Lakes Water Authority
Investments – By Credit Quality
As of March 31, 2019**



Credit Quality	Market Value	Asset Allocation
Ratings		
AAAm	352,443,587	32.5%
AA+	551,329,759	50.8%
A-1 + / A-1	164,296,050	15.1%
A-2	12,398	0.001%
NR	16,622,964	1.5%
Totals	1,084,704,758	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of March 31, 2019.

**Great Lakes Water Authority
 Investment Analysis – By Account Purpose
 As of March 31, 2019**



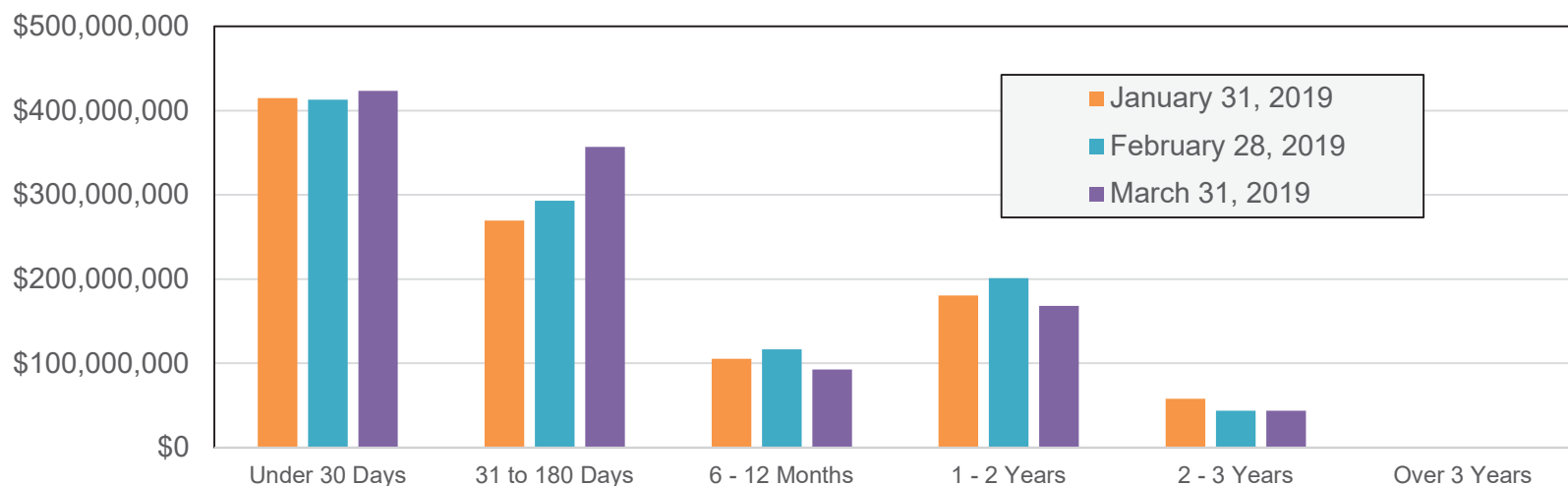
Account Purpose	Market Value	% Allocation
Bond Proceeds	\$ 195,937,071	18.1%
Debt	\$ 233,042,444	21.5%
Extraordinary Repair & Replacement Funds	\$ 71,626,803	6.6%
Improvement & Extension	\$ 281,802,040	26.0%
Operating & Maintenance	\$ 90,210,404	8.3%
Pension Obligation Funds	\$ 32,180,097	3.0%
Retainage	\$ 16,622,964	1.5%
Other Funds Held in Trust	\$ 159,502,180	14.7%
All Other	\$ 3,780,756	0.3%
Total	\$ 1,084,704,758	100.0%

Other Funds Held in Trust	Market Value	% Allocation
Budget Stabilization Funds	\$ 7,492,349	4.7%
Receiving Funds	\$ 142,356,902	89.3%
WRAP Funds	\$ 9,652,929	6.1%
Total	\$ 159,502,180	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of March 31, 2019. "All Other" funds includes the Flint Security Deposit account which is held on behalf of the City of Flint and do not belong to GLWA.

Great Lakes Water Authority
 Investment Analysis – By Maturity

Maturity Distribution	January 31, 2019	%	February 28, 2019	%	March 31, 2019	%
Under 30 Days	\$ 414,767,823	40.3%	\$ 413,115,612	38.7%	\$ 423,258,250	39.0%
31 to 180 Days	269,602,466	26.2%	293,169,277	27.5%	356,803,934	32.9%
6 - 12 Months	105,340,260	10.2%	116,639,822	10.9%	92,781,503	8.6%
1 - 2 Years	180,417,415	17.5%	200,980,614	18.8%	167,996,058	15.5%
2 - 3 Years	57,985,907	5.6%	43,663,432	4.1%	43,865,014	4.0%
Over 3 Years	-	0.0%	-	0.0%	-	0.0%
Totals	\$ 1,028,113,870	100.0%	\$ 1,067,568,756	100.0%	\$ 1,084,704,758	100.0%



In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of March 31, 2019.



**Great Lakes Water Authority
Investment Accounts – Yield at Cost & Market
As of March 31, 2019**

	As of March 31, 2019		As of December 31, 2018	
	YTM @ Cost	YTM @ Market	YTM @ Cost	YTM @ Market
Bank Deposits				
Comerica	0.25%	0.25%	0.25%	0.25%
First Independence	0.05%	0.05%	0.05%	0.05%
Flint Deposit Account	1.32%	1.32%	1.30%	1.30%
JP Morgan Chase	1.32%	1.32%	1.30%	1.30%
Sub-Total Bank Deposits	0.69%	0.69%	0.67%	0.67%
Money Market Funds / LGIPs				
GovMIC	2.49%	2.49%	2.38%	2.38%
U.S. Bank - First American MMF	2.31%	2.31%	2.27%	2.27%
JP Morgan Securities - Blackrock MMF	2.19%	2.19%	2.19%	2.19%
Sub-Total MMF / LGIPs	2.33%	2.33%	2.28%	2.28%
Investment Portfolios				
Sewage SR Debt Serv 5403	2.73%	2.59%	1.75%	2.55%
Sewage SR Res 5400	1.51%	2.45%	1.59%	2.53%
Sew 2nd Debt Serv 5403	2.70%	2.60%	2.47%	2.49%
Sewage 2nd Res 5481	1.88%	2.44%	2.47%	2.49%
Sew SRF Debt Serv 5410	2.70%	2.68%	2.85%	2.92%
Sewage ER & R	2.64%	2.38%	1.51%	2.53%
Sewer Improvement & Extension	2.56%	2.43%	2.90%	2.96%
Sewer Pension Obligation	2.48%	2.45%	1.96%	2.54%
Sewer Wrap Fund	2.54%	3.83%	2.60%	2.75%
Sewer Budget Stabilization Fund	2.66%	2.37%	2.60%	2.51%
Sewer Bond Fund	1.66%	2.44%	2.54%	2.52%
Sewer O&M Pension Sub Account	2.47%	2.45%	2.47%	2.48%
Water SR Debt Ser 5503	2.73%	2.62%	2.59%	2.55%
Water SR Reserve 5500	2.49%	2.45%	2.62%	2.52%
Water 2nd Debt Serv 5503	2.68%	2.58%	2.86%	2.94%
Water 2nd Res 5581	2.15%	2.49%	2.49%	2.55%
Water SRF Debt Serv 5575	2.74%	2.67%	2.81%	2.88%
Water ER & R	2.63%	2.39%	2.15%	2.52%
Water Improvement & Extension	2.63%	2.40%	2.66%	2.80%
Water Pension Obligation	2.48%	2.45%	2.60%	2.51%
Water Wrap Fund	2.54%	4.45%	2.60%	2.52%
Water Budget Stabilization Fund	2.66%	2.37%	2.47%	2.48%
Water Bond Fund	1.86%	2.44%	2.59%	2.55%
Water O&M Pension Sub Account	2.47%	2.45%	2.62%	2.52%
Sub-Total Investment Portfolios	2.42%	2.48%	2.32%	2.57%
Grand Total	2.34%	2.37%	2.26%	2.40%

The accounts at Comerica Bank get an earnings credit to offset bank fees. The earnings in the accounts at First Independence Bank is credited to the contractors and not the Authority. The funds in the Flint Security Deposit account are held on behalf of the City of Flint and the earnings do not belong to GLWA. YTM @ Cost is the expected return, based on the original cost, the annual interest receipts, maturity value and the time period from purchase date to maturity, stated as a percentage, on an annualized basis. YTM @ Market is the rate of return, based on the current market value, the annual interest receipts, maturity value and time period remaining until maturity, stated as a percentage, on an annualized basis.

**Great Lakes Water Authority
 Demonstration of Yield to Maturity vs. Duration
 As of March 31, 2019**

- The comparison agencies included in the list below were selected based on type and/or other non-performance based criteria to show a broad range of water entities/utilities. This peer group list does not represent an endorsement of any of the public agencies or their services. The types of funds (e.g., bond proceeds, debt service, etc.) and duration of the overall portfolios listed below as well as the various differences in permitted investments and allowable credit capacity in state statutes (i.e., the ability or non-ability to invest in long-term corporate credit) will have a direct impact on the corresponding yields at market.
- The overall yield of the Authority's aggregate portfolio compares favorably to those of other short-term market indices (i.e., the S&P LGIP index and the 3-month U.S. Treasury index).
- The Authority does not have a potential for a longer duration portfolio when compared to other similar water entities/utilities as the Authority's covenants limits and restricts its ability in managing assets to a longer-term strategy.

As of March 31, 2019				
	<i>Market Value</i>	<i>YTM @ Market</i>	<i>Effective Duration</i>	<i>Weighted Average Maturity</i>
GLWA				
Great Lakes Water Authority	\$1,084,704,758	2.37%	0.45 Years	169 Days
Short/Intermediate-Term Indices				
S&P Rated Government Investment Pool Index		2.30%	0.08 Years	30 Days
BoA / ML 3-Month Treasury Index		2.35%	0.16 Years	90 Days
BoA / ML 6-Month Treasury Index		2.43%	0.41 Years	180 Days
BoA / ML 1-Year Treasury Index		2.41%	0.90 Years	365 Days
BoA / ML 1-3 Year Treasury Index		2.32%	1.81 Years	661 Days
BoA / ML 1-5 Year Treasury Index		2.29%	2.56 Years	934 Days
Peer Analysis (Water Entities / Utilities)				
Alameda County Water District, CA	\$134,321,979	2.38%	2.59 Years	997 Days
Coachella Valley Water District, CA	\$455,122,923	2.45%	1.84 Years	812 Days
District of Columbia Water & Sewer Authority, DC	\$259,982,278	2.37%	0.96 Years	366 Days
DuPage Water Commission, IL	\$141,571,749	2.41%	2.17 Years	1,106 Days
Fairfax County Water Authority, VA	\$191,364,191	2.38%	2.07 Years	816 Days
San Bernardino Valley Municipal Water District, CA	\$346,203,480	2.44%	1.82 Years	690 Days
Truckee Meadows Water Authority, NV	\$115,037,298	2.37%	1.87 Years	715 Days

The BoA / ML indexes are unmanaged indexes tracking on-the-run Treasuries. These indexes are produced and maintained by Bank of America / Merrill Lynch & Co. Yield to maturity is the rate of return, based on the current market value, the annual interest receipts, maturity value and time period remaining until maturity, stated as a percentage, on an annualized basis.

Great Lakes Water Authority
Investment Income (by Book Value)
As of March 31, 2019

INVESTMENT INCOME BY MONTH (Unaudited)

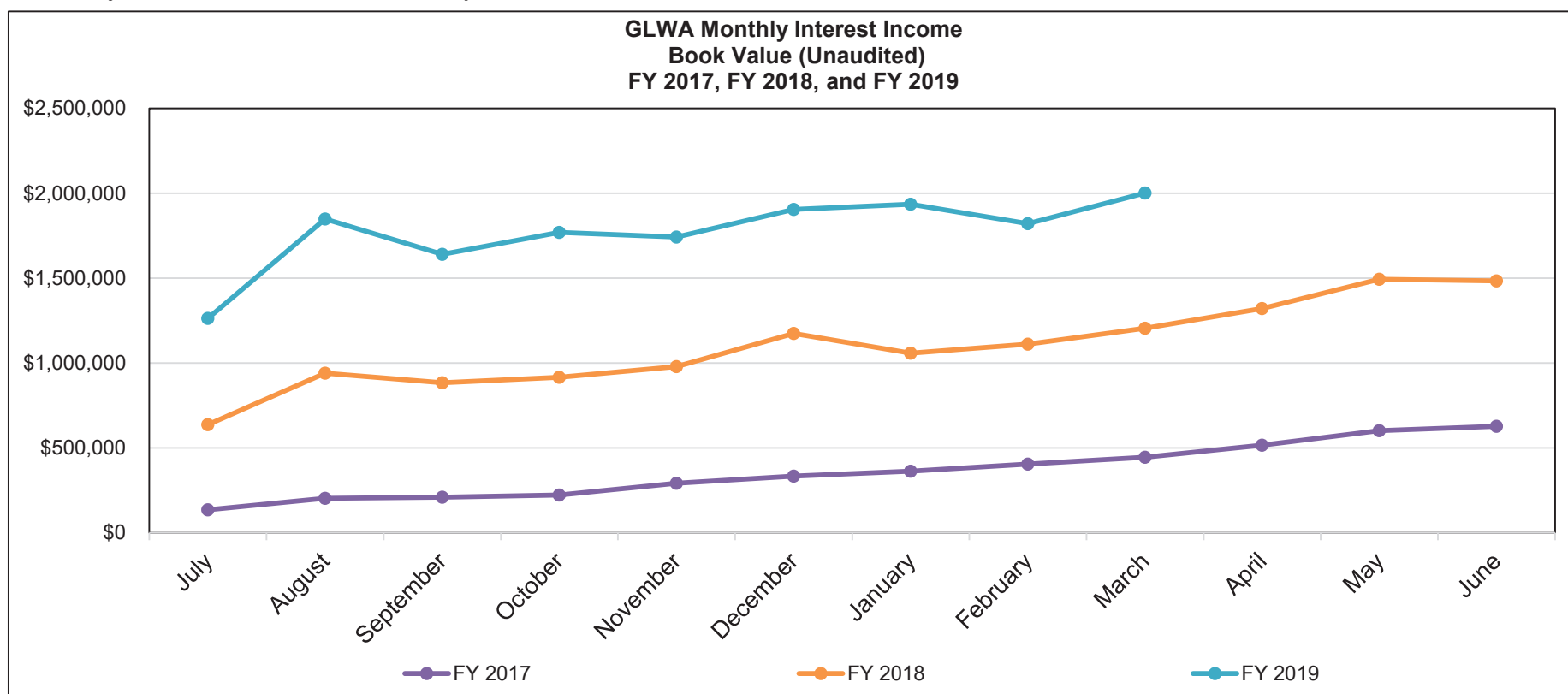
Month	Interest Earned During Period	Realized Gain / Loss	Investment Income
July 2018	\$1,264,010.74	\$0.00	\$1,264,010.74
August 2018	\$1,849,353.45	\$0.00	\$1,849,353.45
September 2018	\$1,638,462.50	\$1,631.65	\$1,640,094.15
October 2018	\$1,769,202.57	\$0.00	\$1,769,202.57
November 2018	\$1,742,251.26	\$0.00	\$1,742,251.26
December 2018	\$1,904,361.36	\$0.00	\$1,904,361.36
January 2019	\$1,890,671.19	\$45,694.26	\$1,936,365.45
February 2019	\$1,828,469.60	(\$6,953.05)*	\$1,821,516.55
March 2019	\$2,001,791.03	\$0.00	\$2,001,791.03
<u>FY 2019 Y-T-D</u>	<u>\$15,888,573.70</u>	<u>\$40,372.86</u>	<u>\$15,928,946.56</u>

* The Authority generally does not realize losses on its investments, however, in February, an adjustment to the cash flow forecast resulted in the sale of investments to meet liquidity requirements. As GLWA continues to refine cash flows, they will work closely with their investment advisor to align investment maturities with cash flow requirements.

These figures are based upon actual interest earned and posted to the Authority's various accounts via book value and does not include any earnings credit rate tied to the Authority's bank deposits.

**Great Lakes Water Authority
Monthly Investment Income**

- The Authority has earned \$15,928,947 in investment income through March for fiscal year 2019 on a book value basis compared to \$8,907,945 for the first nine months of fiscal year 2018.
- The monthly investment earnings are continuing on an upward trend as the Authority continues to refine cash flows and work with its investment advisor to identify strategies to maximize future investment income while meeting the objectives of safety and liquidity.
- Projected investment income for fiscal year 2019 is \$21.2 million.



Appendix I: Portfolio Holdings



Great Lakes Water Authority
Portfolio Holdings
As of March 31, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
Short-Term Bank Deposits / MMF / LGIP									
COMERICA BANK		\$ 12,398	4/1/2019	3/31/2019	0.25%	\$ 12,398	1	\$ -	\$ 12,398
FIRST INDEPENDENCE BANK		16,622,964	4/1/2019	3/31/2019	0.05%	16,622,964	1	-	16,622,964
FLINT DEPOSIT ACCOUNT		3,780,756	4/1/2019	3/31/2019	1.32%	3,780,756	1	-	3,780,756
JP MORGAN CHASE		12,916,266	4/1/2019	3/31/2019	1.32%	12,916,266	1	-	12,916,266
GovMIC		81,882,189	4/1/2019	3/31/2019	2.49%	81,882,189	1	-	81,882,189
U.S. BANK - FIRST AMERICAN MMF		194,998,031	4/1/2019	3/31/2019	2.31%	194,998,031	1	-	194,998,031
JP MORGAN SECURITIES - BLACKROCK MMF		75,563,368	4/1/2019	3/31/2019	2.19%	75,563,368	1	-	75,563,368

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of March 31, 2019.



Great Lakes Water Authority
Portfolio Holdings
As of March 31, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
Commercial Paper									
MUFG Bank NY 0 4/1/2019	62479MR13	\$ 1,004,000	4/1/2019	2/6/2019	2.54%	\$ 1,000,190	1	\$ -	\$ 1,004,000
MUFG Bank NY 0 4/1/2019	62479MR13	1,004,000	4/1/2019	2/6/2019	2.54%	1,000,190	1	-	1,004,000
ING Funding 0 4/9/2019	4497W1R99	3,049,000	4/9/2019	7/16/2018	2.62%	2,990,884	9	-	3,047,293
ING Funding 0 4/9/2019	4497W1R99	251,000	4/9/2019	7/16/2018	2.62%	246,216	9	-	250,859
ING Funding 0 4/9/2019	4497W1R99	1,352,000	4/9/2019	7/16/2018	2.62%	1,326,230	9	-	1,351,243
ING Funding 0 4/9/2019	4497W1R99	478,000	4/9/2019	7/16/2018	2.62%	468,889	9	-	477,732
MUFG Bank NY 0 5/1/2019	62479MS12	1,525,000	5/1/2019	2/28/2019	2.56%	1,518,355	31	-	1,521,782
MUFG Bank NY 0 5/1/2019	62479MS12	2,796,000	5/1/2019	2/28/2019	2.56%	2,783,817	31	-	2,790,100
BNP Paribas 0 6/20/2019	09659CTL2	1,284,000	6/20/2019	1/4/2019	2.81%	1,267,501	81	-	1,276,643
BNP Paribas 0 6/20/2019	09659CTL2	9,898,000	6/20/2019	1/4/2019	2.81%	9,770,813	81	-	9,841,284
ING US Funding 0 6/20/2019	4497W1TL0	5,845,000	6/20/2019	11/7/2018	2.88%	5,741,617	81	-	5,811,508
JPMorgan Securities 0 6/20/2019	46640QLT5	3,609,000	6/20/2019	12/7/2018	2.93%	3,552,700	81	-	3,588,320
Lloyds Bank 0 6/20/2019	53943STL1	1,500,000	6/20/2019	12/7/2018	2.92%	1,476,681	81	-	1,491,405
Lloyds Bank 0 6/20/2019	53943STL1	6,390,000	6/20/2019	12/7/2018	2.92%	6,290,662	81	-	6,353,385
Natixis NY 0 6/20/2019	63873KTL1	3,354,000	6/20/2019	2/6/2019	2.69%	3,321,166	81	-	3,334,782
Natixis NY 0 6/20/2019	63873KTL1	2,100,000	6/20/2019	2/6/2019	2.69%	2,079,442	81	-	2,087,967
SwedBank 0 6/20/2019	87019STL8	6,549,000	6/20/2019	2/6/2019	2.60%	6,486,352	81	-	6,511,474
Toyota Motor Credit 0 6/20/2019	89233HTL8	500,000	6/20/2019	3/13/2019	2.51%	496,576	81	-	497,135
Toyota Motor Credit 0 6/20/2019	89233HTL8	9,907,000	6/20/2019	3/13/2019	2.51%	9,839,162	81	-	9,850,233
BNP Paribas 0 6/20/2019	09659CTL2	3,658,000	6/20/2019	1/4/2019	2.81%	3,610,996	81	-	3,637,040
ING US Funding 0 6/20/2019	4497W1TL0	6,293,000	6/20/2019	11/7/2018	2.88%	6,181,693	81	-	6,256,941
Lloyds Bank 0 6/20/2019	53943STL1	2,610,000	6/20/2019	12/7/2018	2.92%	2,569,425	81	-	2,595,045
Lloyds Bank 0 6/20/2019	53943STL1	7,500,000	6/20/2019	12/7/2018	2.92%	7,383,406	81	-	7,457,025
Natixis NY 0 6/20/2019	63873KTL1	3,240,000	6/20/2019	12/21/2018	2.99%	3,192,596	81	-	3,221,435
Natixis NY 0 6/20/2019	63873KTL1	2,398,000	6/20/2019	2/6/2019	2.69%	2,374,525	81	-	2,384,259
Natixis NY 0 6/20/2019	63873KTL1	3,648,000	6/20/2019	2/6/2019	2.69%	3,612,288	81	-	3,627,097
SwedBank 0 6/20/2019	87019STL8	7,931,000	6/20/2019	2/6/2019	2.60%	7,855,131	81	-	7,885,555
Toyota Motor Credit 0 6/20/2019	89233HTL8	5,251,000	6/20/2019	3/13/2019	2.51%	5,215,044	81	-	5,220,912
Toyota Motor Credit 0 6/20/2019	89233HTL8	2,750,000	6/20/2019	3/13/2019	2.51%	2,731,169	81	-	2,734,243
Credit Agricole 0 6/28/2019	22533UTU7	2,558,000	6/28/2019	1/4/2019	2.82%	2,523,431	89	-	2,541,859
JPMorgan Securities 0 6/28/2019	46640QTU5	2,846,000	6/28/2019	12/7/2018	2.93%	2,799,781	89	-	2,828,042
Credit Agricole 0 6/28/2019	22533UTU7	11,682,000	6/28/2019	1/4/2019	2.82%	11,524,131	89	-	11,608,287
JPMorgan Securities 0 6/28/2019	46640QTU5	1,348,000	6/28/2019	1/2/2019	2.87%	1,329,244	89	-	1,339,494
JPMorgan Securities 0 6/28/2019	46640QTU5	2,883,000	6/28/2019	12/7/2018	2.93%	2,836,180	89	-	2,864,808
JPMorgan Securities 0 9/23/2019	46640QWP2	216,000	9/23/2019	1/4/2019	2.97%	211,425	176	-	213,281
MUFG Bank NY 0 9/23/2019	62479MWP4	213,000	9/23/2019	2/6/2019	2.73%	209,369	176	-	210,318
MUFG Bank NY 0 9/23/2019	62479MWP4	396,000	9/23/2019	3/27/2019	2.61%	390,892	176	-	391,014
JPMorgan Securities 0 9/23/2019	46640QWP2	4,872,000	9/23/2019	1/4/2019	2.97%	4,768,819	176	-	4,810,662
MUFG Bank NY 0 9/23/2019	62479MWP4	8,855,000	9/23/2019	3/27/2019	2.61%	8,740,771	176	-	8,743,516
Natixis NY 0 9/23/2019	63873KWP8	5,000,000	9/23/2019	3/27/2019	2.61%	4,935,500	176	-	4,937,050

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DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
Federal Agencies									
FHLB 1.375 5/28/2019	3130ABF92	\$ 5,260,000	5/28/2019	7/26/2017	1.40%	\$ 5,257,423	58	\$ 24,711	\$ 5,251,137
FHLB 1.375 5/28/2019	3130ABF92	5,245,000	5/28/2019	8/31/2017	1.34%	5,248,409	58	24,641	5,236,162
FHLB 1.625 6/14/2019	313379EE5	7,050,000	6/14/2019	9/1/2017	1.38%	7,080,033	75	34,051	7,038,861
FHLMC 0.875 7/19/2019	3137EAEB1	5,230,000	7/19/2019	7/26/2017	1.41%	5,176,079	110	9,153	5,205,074
FHLMC 0.875 7/19/2019	3137EAEB1	6,720,000	7/19/2019	8/31/2017	1.36%	6,659,386	110	11,760	6,687,972
FHLMC 1.375 8/15/2019	3137EAEB8	5,215,000	8/15/2019	7/26/2017	1.45%	5,206,917	137	9,162	5,194,797
FNMA 1 8/28/2019	3135G0P49	6,715,000	8/28/2019	8/31/2017	1.39%	6,664,100	150	6,155	6,674,891
FNMA 1.75 9/12/2019	3135G0ZG1	4,705,000	9/12/2019	7/26/2017	1.45%	4,734,171	165	4,346	4,689,897
FHLB 1 9/26/2019	3130A9EP2	7,550,000	9/26/2019	8/31/2017	1.39%	7,490,053	179	1,049	7,497,528
FHLMC 1.25 10/2/2019	3137EADM8	5,045,000	10/2/2019	12/28/2017	1.93%	4,985,469	185	31,356	5,014,377
FHLB 2.125 2/11/2020	3130ADN32	3,750,000	2/11/2020	6/28/2018	2.52%	3,726,750	317	11,068	3,739,523
FHLMC 2.5 4/23/2020	3137EAEM7	3,750,000	4/23/2020	6/28/2018	2.56%	3,746,288	389	41,146	3,752,013
FHLB 2.625 5/28/2020	3130AECJ7	3,750,000	5/28/2020	6/28/2018	2.57%	3,753,825	424	33,633	3,758,081
FHLMC 2.375 2/16/2021	3137EAEL9	3,500,000	2/16/2021	8/8/2018	2.79%	3,465,210	688	10,391	3,503,395
FHLMC 2.375 2/16/2021	3137EAEL9	20,000,000	2/16/2021	8/8/2018	2.79%	19,801,200	688	59,375	20,019,400
FHLMC 2.375 2/16/2021	3137EAEL9	250,000	2/16/2021	8/9/2018	2.78%	247,563	688	742	250,243
FHLMC 2.375 2/16/2021	3137EAEL9	685,000	2/16/2021	8/9/2018	2.78%	678,321	688	2,034	685,664
FNMA 2.5 4/13/2021	3135G0U27	3,500,000	4/13/2021	8/8/2018	2.82%	3,471,685	744	40,833	3,512,985
FNMA 2.5 4/13/2021	3135G0U27	20,000,000	4/13/2021	8/8/2018	2.82%	19,838,200	744	233,333	20,074,200
FNMA 2.5 4/13/2021	3135G0U27	250,000	4/13/2021	8/9/2018	2.81%	247,985	744	2,917	250,928
FNMA 2.5 4/13/2021	3135G0U27	3,400,000	4/13/2021	8/8/2018	2.81%	3,372,698	744	39,667	3,412,614
FNMA 2.5 4/13/2021	3135G0U27	685,000	4/13/2021	8/9/2018	2.81%	679,479	744	7,992	687,541
FNMA 2.5 4/13/2021	3135G0U27	5,750,000	4/13/2021	8/8/2018	2.81%	5,703,828	744	67,083	5,771,333

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DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
U.S. Treasuries									
T-Note 1.625 4/30/2019	912828D23	\$ 2,000,000	4/30/2019	8/8/2018	2.35%	\$ 1,989,609	30	\$ 13,557	\$ 1,998,680
T-Note 1.625 4/30/2019	912828D23	1,250,000	4/30/2019	2/7/2019	2.40%	1,247,803	30	8,473	1,249,175
T-Note 1.25 4/30/2019	912828S18	5,225,000	4/30/2019	7/26/2017	1.37%	5,214,183	30	27,244	5,219,514
T-Note 1.625 4/30/2019	912828D23	11,200,000	4/30/2019	2/7/2019	2.36%	11,181,188	30	75,917	11,192,608
T-Note 1.625 4/30/2019	912828D23	4,000,000	4/30/2019	8/8/2018	2.35%	3,979,219	30	27,113	3,997,360
T-Note 1.25 4/30/2019	912828S18	6,680,000	4/30/2019	8/31/2017	1.31%	6,673,216	30	34,830	6,672,986
T-Note 1.25 5/31/2019	912828XS4-1	5,180,000	5/31/2019	7/26/2017	1.37%	5,168,669	61	21,524	5,169,624
T-Note 1.25 5/31/2019	912828XS4-2	3,690,000	5/31/2019	10/1/2018	2.49%	3,660,019	61	15,333	3,682,620
T-Note 1.25 5/31/2019	912828XS4-2	3,875,000	5/31/2019	10/1/2018	2.49%	3,843,516	61	16,101	3,867,250
T-Note 0.875 6/15/2019	912828R85-1	510,000	6/15/2019	9/5/2018	2.40%	504,063	76	1,300	508,326
T-Note 0.875 6/15/2019	912828R85-1	508,000	6/15/2019	10/2/2018	2.51%	502,265	76	1,294	506,332
T-Note 0.875 6/15/2019	912828R85-1	1,077,000	6/15/2019	8/8/2018	2.41%	1,063,117	76	2,744	1,073,464
T-Note 0.875 6/15/2019	912828R85-1	506,000	6/15/2019	12/4/2018	2.57%	501,513	76	1,289	504,339
T-Note 0.875 6/15/2019	912828R85-1	507,000	6/15/2019	2/1/2019	2.41%	504,148	76	1,292	505,336
T-Note 0.875 6/15/2019	912828R85-1	521,000	6/15/2019	1/3/2019	2.49%	517,276	76	1,328	519,290
T-Note 0.875 6/15/2019	912828R85-1	508,000	6/15/2019	11/2/2018	2.56%	502,781	76	1,294	506,332
T-Note 0.875 6/15/2019	912828R85-1	912,000	6/15/2019	9/5/2018	2.40%	901,384	76	2,324	909,006
T-Note 0.875 6/15/2019	912828R85-1	910,000	6/15/2019	10/2/2018	2.51%	899,727	76	2,319	907,012
T-Note 0.875 6/15/2019	912828R85-1	908,000	6/15/2019	11/2/2018	2.56%	898,672	76	2,314	905,019
T-Note 0.875 6/15/2019	912828R85-1	933,000	6/15/2019	1/3/2019	2.49%	926,331	76	2,377	929,937
T-Note 0.875 6/15/2019	912828R85-1	906,000	6/15/2019	2/1/2019	2.41%	900,904	76	2,309	903,026
T-Note 0.875 6/15/2019	912828R85-1	906,000	6/15/2019	12/4/2018	2.57%	897,966	76	2,309	903,026
T-Note 0.875 6/15/2019	912828R85-1	1,929,000	6/15/2019	8/8/2018	2.41%	1,904,134	76	4,915	1,922,667
T-Note 0.875 6/16/2019	912828R85-2	729,000	6/16/2019	8/8/2018	2.41%	719,603	77	1,858	726,609
T-Note 0.875 6/16/2019	912828R85-2	1,503,000	6/16/2019	11/2/2018	2.55%	1,487,618	77	3,830	1,498,070
T-Note 0.875 6/16/2019	912828R85-2	900,000	6/16/2019	9/5/2018	2.39%	889,523	77	2,293	897,048
T-Note 0.875 6/16/2019	912828R85-2	1,428,000	6/16/2019	2/1/2019	2.42%	1,419,912	77	3,639	1,423,316
T-Note 0.875 6/16/2019	912828R85-2	896,000	6/16/2019	12/4/2018	2.56%	888,055	77	2,283	893,061
T-Note 0.875 6/16/2019	912828R85-2	919,000	6/16/2019	1/2/2019	2.48%	912,395	77	2,342	915,986
T-Note 0.875 6/16/2019	912828R85-2	905,000	6/16/2019	10/2/2018	2.49%	894,819	77	2,306	902,032
T-Note 0.875 6/16/2019	912828R85-2	1,236,000	6/16/2019	9/5/2018	2.39%	1,221,612	77	3,149	1,231,946
T-Note 0.875 6/16/2019	912828R85-2	2,143,000	6/16/2019	11/2/2018	2.55%	2,121,068	77	5,461	2,135,971
T-Note 0.875 6/16/2019	912828R85-2	1,240,000	6/16/2019	10/2/2018	2.49%	1,226,050	77	3,160	1,235,933
T-Note 0.875 6/16/2019	912828R85-2	860,000	6/16/2019	8/8/2018	2.41%	848,914	77	2,191	857,179
T-Note 0.875 6/16/2019	912828R85-2	1,262,000	6/16/2019	1/2/2019	2.48%	1,252,929	77	3,216	1,257,861
T-Note 0.875 6/16/2019	912828R85-2	1,230,000	6/16/2019	12/4/2018	2.56%	1,219,093	77	3,134	1,225,966
T-Note 0.875 6/16/2019	912828R85-2	2,117,000	6/16/2019	2/1/2019	2.42%	2,105,009	77	5,394	2,110,056

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U.S. Treasuries									
T-Note 1.25 6/30/2019	912828XV7-1	20,185,000	6/30/2019	8/8/2018	2.43%	19,975,265	91	62,730	20,122,023
T-Note 1.25 6/30/2019	912828XV7-1	15,140,000	6/30/2019	8/8/2018	2.43%	14,982,686	91	47,051	15,092,763
T-Note 1.25 6/30/2019	912828XV7-2	1,700,000	6/30/2019	9/20/2018	2.16%	1,688,115	91	5,283	1,694,696
T-Note 1.25 6/30/2019	912828XV7-1	4,763,000	6/30/2019	2/28/2018	2.17%	4,705,695	91	14,802	4,748,139
T-Note 1.625 6/30/2019	912828WS5	146,000	6/30/2019	7/21/2017	1.35%	146,776	91	590	145,674
T-Note 1.625 6/30/2019	912828WS5	135,000	6/30/2019	10/3/2018	2.53%	134,104	91	545	134,699
T-Note 1 6/30/2019	912828TC4	1,021,000	6/30/2019	7/13/2018	2.36%	1,007,799	91	2,538	1,017,171
T-Note 1 6/30/2019	912828TC4	127,000	6/30/2019	7/13/2018	2.36%	125,358	91	316	126,524
T-Note 1.25 6/30/2019	912828XV7-2	1,743,000	6/30/2019	2/6/2019	2.46%	1,734,694	91	5,417	1,737,562
T-Note 1.625 6/30/2019	912828WS5	3,342,000	6/30/2019	3/13/2019	2.45%	3,333,645	91	13,502	3,334,547
T-Note 1.625 6/30/2019	912828WS5	5,500,000	6/30/2019	10/30/2018	2.56%	5,466,055	91	22,220	5,487,735
T-Note 1.625 6/30/2019	912828WS5	1,625,000	6/30/2019	2/27/2017	1.27%	1,638,267	91	6,565	1,621,376
T-Note 1.25 6/30/2019	912828XV7-1	5,800,000	6/30/2019	10/11/2017	1.49%	5,776,664	91	18,025	5,781,904
T-Note 1.25 6/30/2019	912828XV7-1	159,000	6/30/2019	2/28/2018	2.17%	157,087	91	494	158,504
T-Note 1.625 6/30/2019	912828WS5	4,475,000	6/30/2019	2/10/2017	1.32%	4,506,989	91	18,079	4,465,021
T-Note 1 6/30/2019	912828TC4	2,059,000	6/30/2019	7/13/2018	2.36%	2,032,378	91	5,119	2,051,279
T-Note 1.625 6/30/2019	912828WS5	6,537,000	6/30/2019	3/13/2019	2.45%	6,520,658	91	26,410	6,522,422
T-Note 1.625 6/30/2019	912828WS5	892,000	6/30/2019	3/13/2019	2.45%	889,770	91	3,604	890,011
T-Note 1.25 6/30/2019	912828XV7-1	10,050,000	6/30/2019	10/11/2017	1.49%	10,009,564	91	31,233	10,018,644
T-Note 1.25 6/30/2019	912828XV7-1	195,000	6/30/2019	2/28/2018	2.17%	192,654	91	606	194,392
T-Note 1.625 6/30/2019	912828WS5	2,450,000	6/30/2019	2/27/2017	1.27%	2,470,002	91	9,898	2,444,537
T-Note 1.25 6/30/2019	912828XV7-1	100,000	6/30/2019	9/20/2018	1.49%	99,818	91	311	99,688
T-Note 1.625 8/31/2019	912828D80	3,500,000	8/31/2019	8/8/2018	2.51%	3,467,734	153	4,791	3,486,735
T-Note 1.625 8/31/2019	912828D80	20,000,000	8/31/2019	8/8/2018	2.51%	19,815,625	153	27,378	19,924,200
T-Note 1.625 8/31/2019	912828D80	250,000	8/31/2019	8/9/2018	2.50%	247,715	153	342	249,053
T-Note 1.625 8/31/2019	912828D80	3,400,000	8/31/2019	8/8/2018	2.51%	3,368,656	153	4,654	3,387,114
T-Note 1.625 8/31/2019	912828D80	685,000	8/31/2019	8/9/2018	2.50%	678,739	153	938	682,404
T-Note 1.625 8/31/2019	912828D80	5,750,000	8/31/2019	8/8/2018	2.51%	5,696,992	153	7,871	5,728,208
T-Note 1.25 10/31/2019	912828TV2	1,275,000	10/31/2019	2/7/2019	2.54%	1,263,196	214	6,648	1,266,088
T-Note 1.5 10/31/2019	912828F62-2	2,000,000	10/31/2019	8/8/2018	2.56%	1,974,453	214	12,514	1,988,820
T-Note 1.5 10/31/2019	912828F62-1	3,405,000	10/31/2019	6/28/2018	2.43%	3,363,635	214	21,305	3,385,980
T-Note 1.25 10/31/2019	912828TV2	11,275,000	10/31/2019	2/7/2019	2.53%	11,171,499	214	58,789	11,196,188
T-Note 1.5 10/31/2019	912828F62-2	4,000,000	10/31/2019	8/8/2018	2.56%	3,948,906	214	25,028	3,977,640
T-Note 1.75 11/30/2019	9128283H1	3,350,000	11/30/2019	6/28/2018	2.44%	3,317,809	244	19,488	3,334,821
T-Note 1.75 11/30/2019	9128283H1	3,780,000	11/30/2019	6/28/2018	2.44%	3,743,677	244	21,989	3,762,873
T-Note 1.875 12/31/2019	9128283N8	3,300,000	12/31/2019	6/28/2018	2.46%	3,271,770	275	15,383	3,286,084
T-Note 1.875 12/31/2019	9128283N8	3,750,000	12/31/2019	6/28/2018	2.46%	3,717,920	275	17,481	3,734,186

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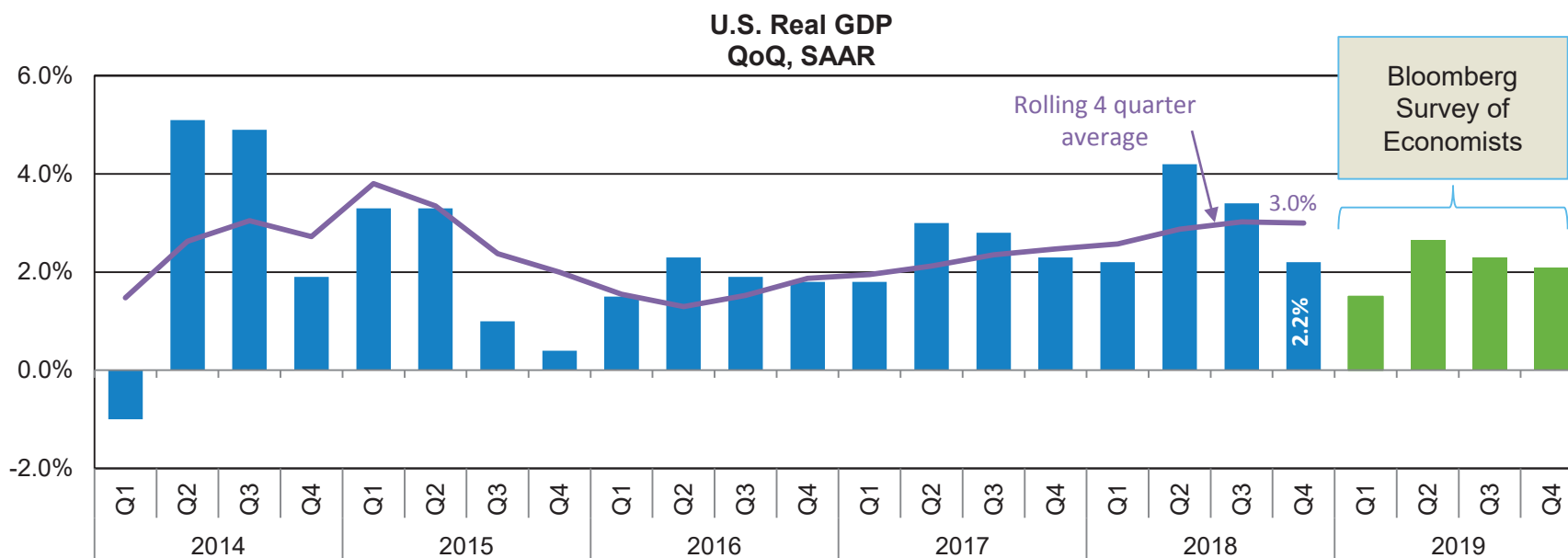
DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
U.S. Treasuries									
T-Note 1.125 12/31/2019	912828UF5	10,925,000	12/31/2019	1/4/2019	2.57%	10,771,794	275	30,557	10,819,574
T-Note 2 1/31/2020	9128283S7	3,750,000	1/31/2020	6/28/2018	2.46%	3,723,047	306	12,224	3,737,550
T-Note 2.25 2/29/2020	9128283Y4	3,500,000	2/29/2020	8/8/2018	2.63%	3,479,902	335	6,634	3,495,065
T-Note 2.25 2/29/2020	9128283Y4	20,000,000	2/29/2020	8/8/2018	2.63%	19,885,156	335	37,908	19,971,800
T-Note 2.25 2/29/2020	9128283Y4	250,000	2/29/2020	8/9/2018	2.62%	248,594	335	474	249,648
T-Note 2.25 2/29/2020	9128283Y4	3,400,000	2/29/2020	8/8/2018	2.63%	3,380,477	335	6,444	3,395,206
T-Note 2.25 2/29/2020	9128283Y4	685,000	2/29/2020	8/9/2018	2.62%	681,147	335	1,298	684,034
T-Note 2.25 2/29/2020	9128283Y4	5,750,000	2/29/2020	8/8/2018	2.63%	5,716,982	335	10,898	5,741,893
T-Note 2.25 3/31/2020	9128284C1	3,725,000	3/31/2020	6/28/2018	2.49%	3,709,431	366	-	3,718,742
T-Note 2.5 5/31/2020	9128284Q0	3,500,000	5/31/2020	8/8/2018	2.66%	3,489,883	427	29,087	3,504,375
T-Note 2.5 5/31/2020	9128284Q0	20,000,000	5/31/2020	8/8/2018	2.66%	19,942,188	427	166,209	20,025,000
T-Note 2.5 5/31/2020	9128284Q0	250,000	5/31/2020	8/9/2018	2.66%	249,297	427	2,078	250,313
T-Note 2.5 5/31/2020	9128284Q0	3,400,000	5/31/2020	8/8/2018	2.66%	3,390,172	427	28,255	3,404,250
T-Note 2.5 5/31/2020	9128284Q0	685,000	5/31/2020	8/9/2018	2.66%	683,073	427	5,693	685,856
T-Note 2.5 5/31/2020	9128284Q0	5,750,000	5/31/2020	8/8/2018	2.66%	5,733,379	427	47,785	5,757,188
T-Note 1.875 6/30/2020	912828VJ6-1	3,750,000	6/30/2020	6/28/2018	2.52%	3,703,271	457	17,481	3,725,978
T-Note 1.875 6/30/2020	912828VJ6-2	4,600,000	6/30/2020	10/30/2018	2.81%	4,530,102	457	21,443	4,570,514
T-Note 1.875 6/30/2020	912828VJ6-2	2,900,000	6/30/2020	7/3/2018	2.54%	2,862,730	457	13,519	2,881,411
T-Note 1.625 6/30/2020	912828XH8	9,705,000	6/30/2020	10/11/2017	1.61%	9,709,928	457	39,209	9,612,511
T-Note 1.625 6/30/2020	912828XH8	4,565,000	6/30/2020	2/27/2017	1.54%	4,578,374	457	18,443	4,521,496
T-Note 1.625 6/30/2020	912828XH8	6,560,000	6/30/2020	10/11/2017	1.61%	6,563,331	457	26,503	6,497,483
T-Note 2.125 8/31/2020	912828VV9	3,500,000	8/31/2020	8/8/2018	2.69%	3,460,762	519	6,265	3,488,520
T-Note 2.125 8/31/2020	912828VV9	20,000,000	8/31/2020	8/8/2018	2.69%	19,775,781	519	35,802	19,934,400
T-Note 2.125 8/31/2020	912828VV9	250,000	8/31/2020	8/9/2018	2.69%	247,188	519	448	249,180
T-Note 2.125 8/31/2020	912828VV9	3,400,000	8/31/2020	8/8/2018	2.69%	3,361,883	519	6,086	3,388,848
T-Note 2.125 8/31/2020	912828VV9	685,000	8/31/2020	8/9/2018	2.69%	677,294	519	1,226	682,753
T-Note 2.125 8/31/2020	912828VV9	5,750,000	8/31/2020	8/8/2018	2.69%	5,685,537	519	10,293	5,731,140
T-Note 2 11/30/2020	912828A42	3,500,000	11/30/2020	8/8/2018	2.72%	3,444,082	610	23,269	3,480,435
T-Note 2 11/30/2020	912828A42	20,000,000	11/30/2020	8/8/2018	2.72%	19,680,469	610	132,967	19,888,200
T-Note 2 11/30/2020	912828A42	250,000	11/30/2020	8/9/2018	2.72%	246,006	610	1,662	248,603
T-Note 2 11/30/2020	912828A42	3,400,000	11/30/2020	9/17/2018	2.81%	3,341,828	610	22,604	3,380,994
T-Note 2 11/30/2020	912828A42	685,000	11/30/2020	8/9/2018	2.72%	674,056	610	4,554	681,171
T-Note 2 11/30/2020	912828A42	5,750,000	11/30/2020	9/17/2018	2.81%	5,651,621	610	38,228	5,717,858
T-Note 2.625 5/15/2021	9128284P2	245,000	5/15/2021	2/7/2019	2.49%	245,708	776	2,416	246,713
T-Note 2.625 5/15/2021	9128284P2	3,455,000	5/15/2021	2/7/2019	2.49%	3,464,852	776	34,073	3,479,150
T-Note 2.625 5/15/2021	9128284P2	700,000	5/15/2021	2/7/2019	2.49%	702,023	776	6,903	704,893
T-Note 2.625 5/15/2021	9128284P2	5,685,000	5/15/2021	2/7/2019	2.49%	5,701,211	776	56,065	5,724,738

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of March 31, 2019.

Appendix II: Economic Update

Economic Growth Slows in the Fourth Quarter

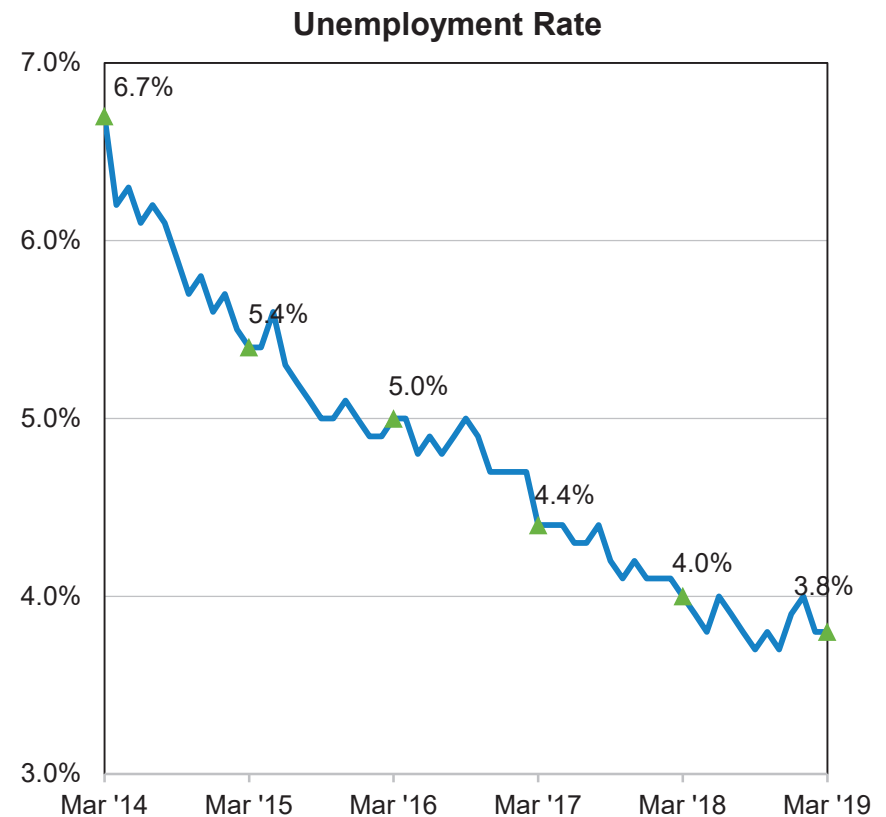
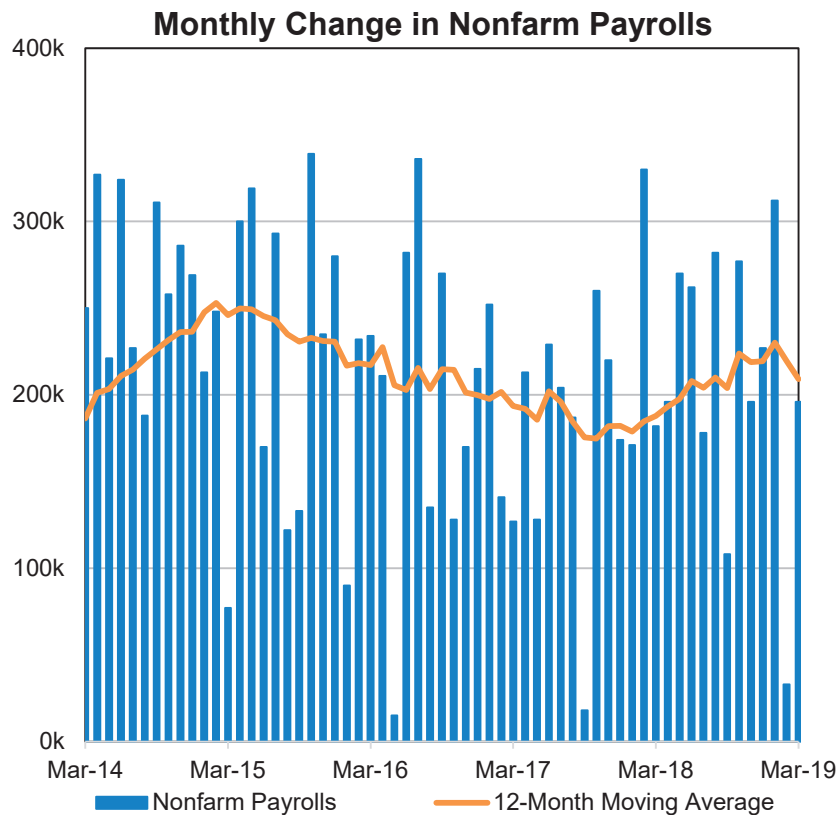
- U.S. economic activity experienced moderate growth during the fourth quarter
 - GDP grew at a 2.2% annual rate, marking a slowdown from the 2nd and 3rd quarters, which were the best back-to-back quarters since 2014
 - This slowing GDP growth occurred as the impact of the 2018 federal tax cuts and increased federal government spending waned
- Growth is projected to further decline in 2019
 - Potential imbalances, including a growing budget deficit, and challenges over trade and border security funding lead to uncertainty surrounding future growth



Source: Bloomberg, as of March 31, 2019. SAAR is seasonally adjusted annualized rate. Purple denotes rolling four-quarter averages

Labor Market Bounces Back in March

- The U.S. economy added 196,000 jobs in March, recovering from a very weak February jobs report
- The unemployment rate remains at a historically low level at 3.8%

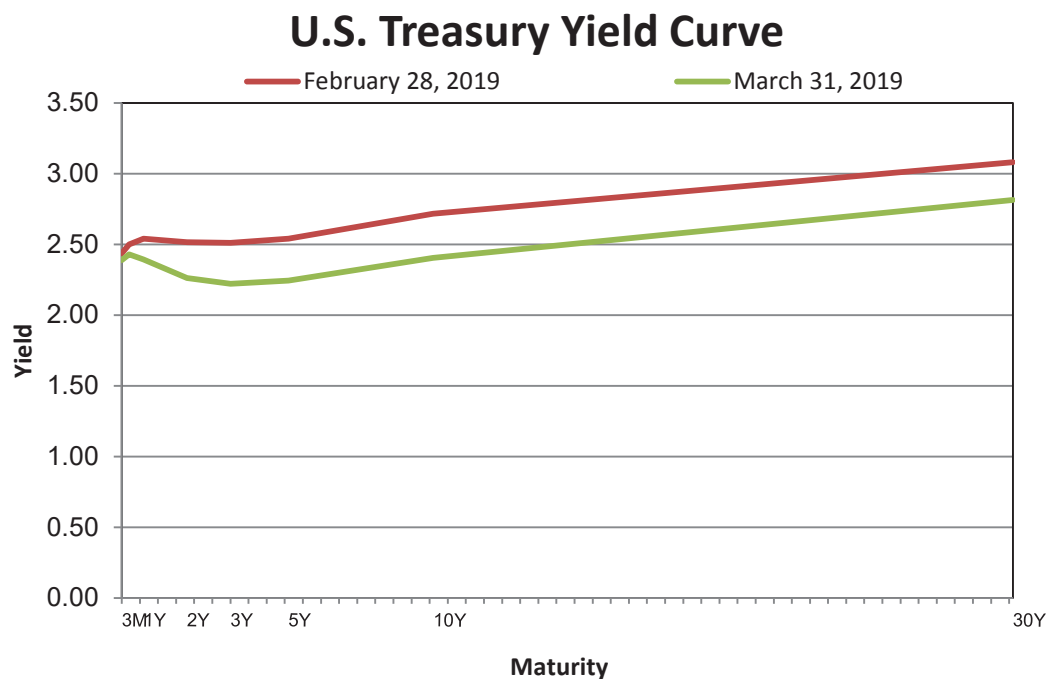


Source: Bloomberg, as of March 2019.

U.S. Treasury Yield Curve

- The U.S. Treasury yield curve continues to exhibit a very slight inversion
- Interest rates decreased across the curve during the month of March, with the strongest decline in maturities two years and beyond

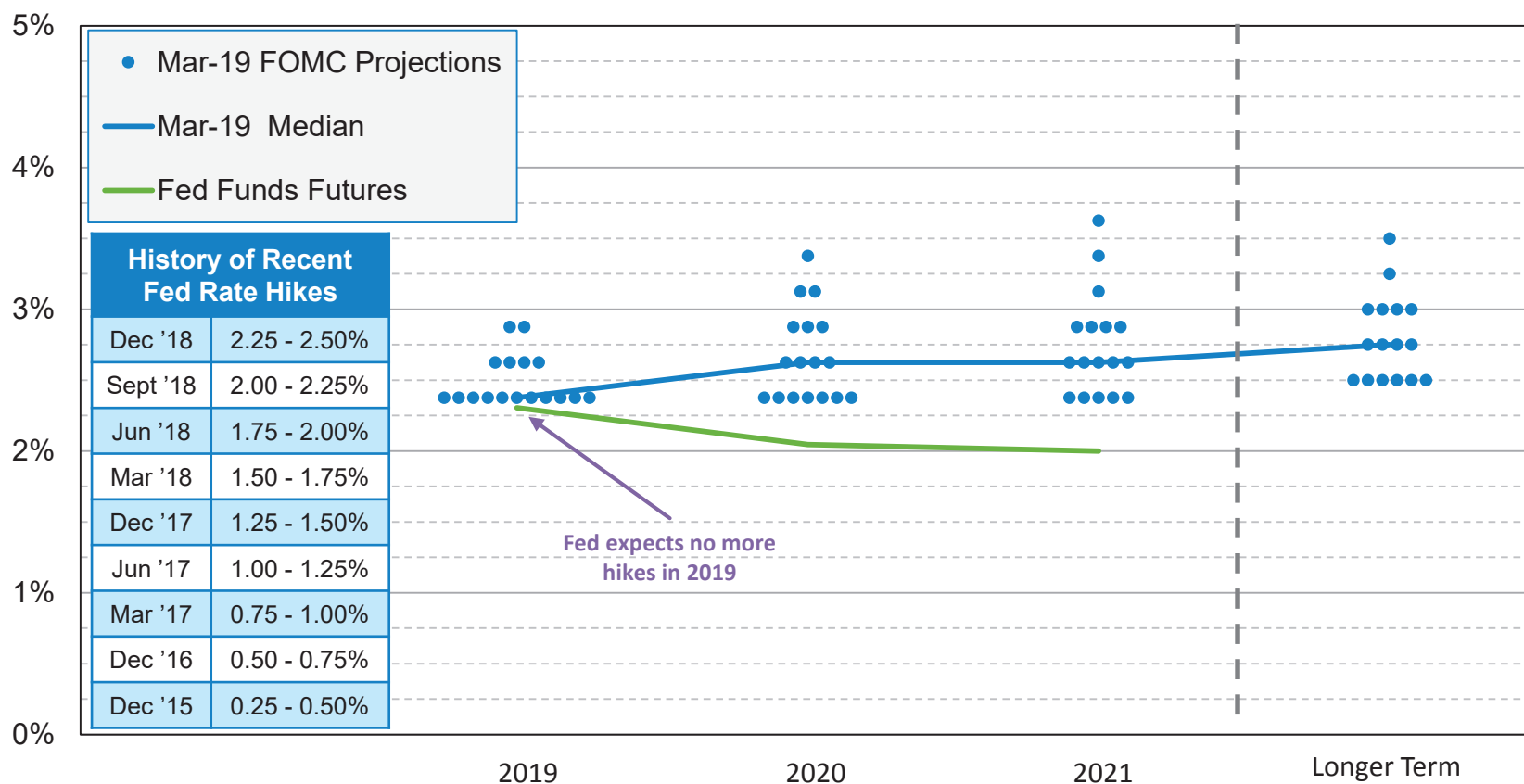
	<u>2/28/19</u>	<u>3/31/19</u>	<u>Change</u>
3 month	2.44%	2.39%	-0.05%
6 month	2.50%	2.43%	-0.07%
1 year	2.54%	2.39%	-0.15%
2 year	2.52%	2.26%	-0.25%
3 year	2.51%	2.22%	-0.29%
5 year	2.54%	2.24%	-0.30%
10 year	2.72%	2.41%	-0.31%
30 year	3.08%	2.82%	-0.27%



Source: Bloomberg

FOMC's March "Dot Plot" Shifts to No Hike in 2019

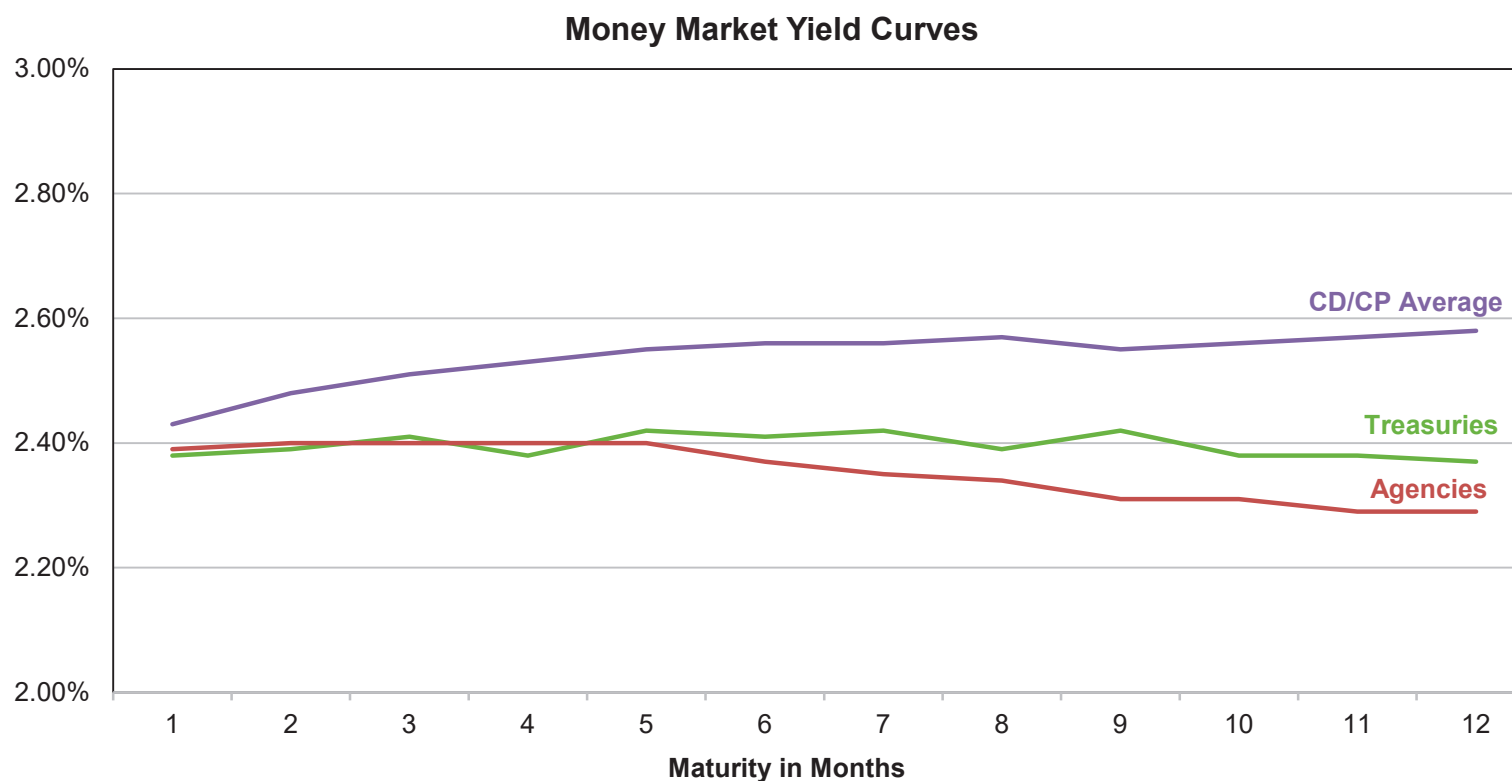
Fed Participants' Assessments of 'Appropriate' Monetary Policy



Source: Federal Reserve and Bloomberg. Individual dots represent each Fed members' judgement of the midpoint of the appropriate target range for the Federal Funds rate at each year-end. Fed Funds futures as of 3/20/19.

Current Short-Term Credit Environment

- Commercial paper and bank certificates of deposit (CP / CD) yield spreads widened slightly during March
- U.S. Treasuries continue to be relatively attractive versus Agency discount notes, especially in 7 to 12 month maturity range



Source: Bloomberg, PFMAM Trading Desk, as of 3/31/19. Not a specific recommendation.

**Great Lakes Water Authority
Market Overview and Outlook****FIXED INCOME MARKET – ECONOMIC HIGHLIGHTS**

- In a strong reversal, equity markets, credit spreads, and volatility all reversed their sharp sell-off from the fourth quarter, ending the first quarter nearly back to where they were six months ago
 - But, interest rates continued to move lower and the yield curve inverted

- Economic conditions were characterized by the following:
 - U.S. GDP growth slowed to a pace of 2.2% in the fourth quarter, following second quarter and third quarter figures of 4.2% and 3.4%, respectively
 - Inflation metrics hovered near the Fed’s target of 2.0%, but wage growth continued to improve, reaching 3.4% year-over-year, the largest gain in nearly a decade
 - The unemployment rate improved to 3.8% in February, but job gains were volatile, perhaps impacted by the government shutdown
 - Consumer sentiment metrics firmed in the first quarter on the heels of equity market strength and a resolution to the government’s longest shut down in history
 - The Fed held short-term rates unchanged at the current target range of 2.25% to 2.50%, but shifted to a “patient” stance on future rate actions, which drove market expectations that the Fed’s next move will be a rate cut rather than a hike
 - The S&P 500 returned 13.6% in the first quarter, the best quarterly return since the third quarter of 2009

- U.S. Treasury yields with maturities beyond one year fell 20 – 30%)
 - In the last week of the quarter, the 3-month to 10-year part of the yield curve inverted, renewing concerns about a possible recession in coming months

Great Lakes Water Authority
Market Overview and Outlook

FIXED INCOME MARKET – ECONOMIC HIGHLIGHTS

- The Fed is on hold and the market's current outlook is for slower economic growth and lower future interest rates\
 - Because of the maturity of the current business cycle, growth prospects are decelerating

- Short-term credit investors benefitted from high yields and wide spreads at the beginning of the year, resulting in favorable income generation for the previous quarter; the rally in bond yields during the first quarter generated strong absolute returns for the majority of fixed-income indices
 - Our sector allocation strategy continued to favor broad diversification, generally including the widest range of permitted investments; while the fourth quarter's market de-risking strongly favored Treasuries, the first quarter's rebound generated strong excess returns for portfolios that included other spread product as most fixed income sectors outperformed similar-duration Treasuries
 - With Agency spreads near historic lows, we continued to favor other sectors, though the exceptions were a few new issues that offered wider than average yield spreads; Federal Agency spreads remained very narrow during the first quarter – generally less than five basis points (0.05%) for maturities under five years, but, even that small incremental yield led to modest excess returns for the quarter

- The outlook for some of the major investment-grade fixed-income sectors are as follows:
 - As Federal Agency spreads remain very tight, we will continue to moderate use of the sector, seeking better value in either Treasuries or other sectors; given the flat yield curve, we will also evaluate callable Agencies for their incremental yield
 - Money market investors continue to reap the rewards of short-term rates above 2.25%; short-term, high quality credit in the form of commercial paper continues to offer good income potential, especially in light of the partially inverted Treasury yield curve

Disclosure

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