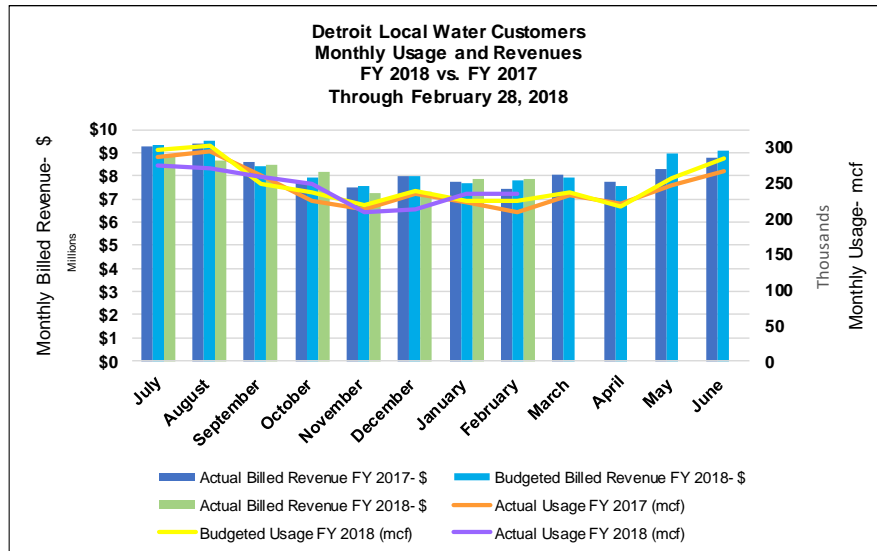


# Great Lakes Water Authority

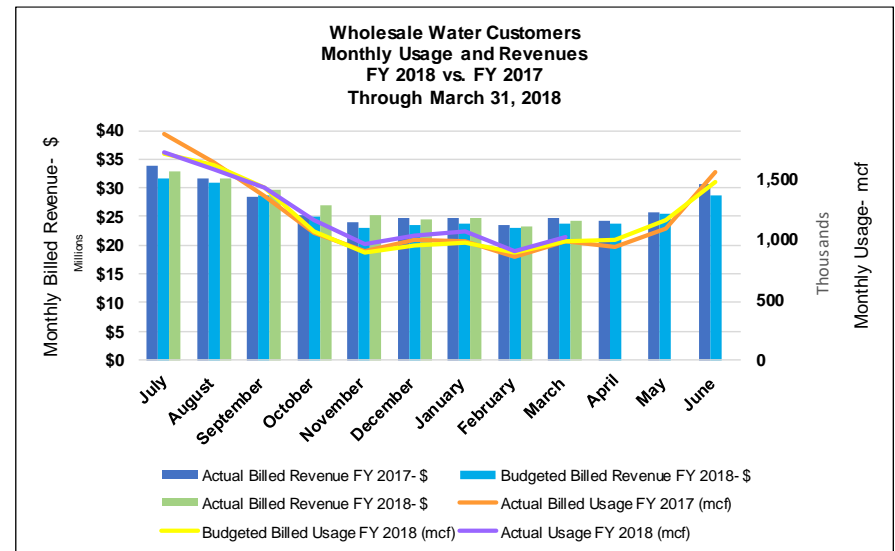
*Key Performance Indicators and  
Effective Utility Management (EUM) Metrics  
June 20, 2018*



# Financial Viability – Reliability of Water System Revenue Projections

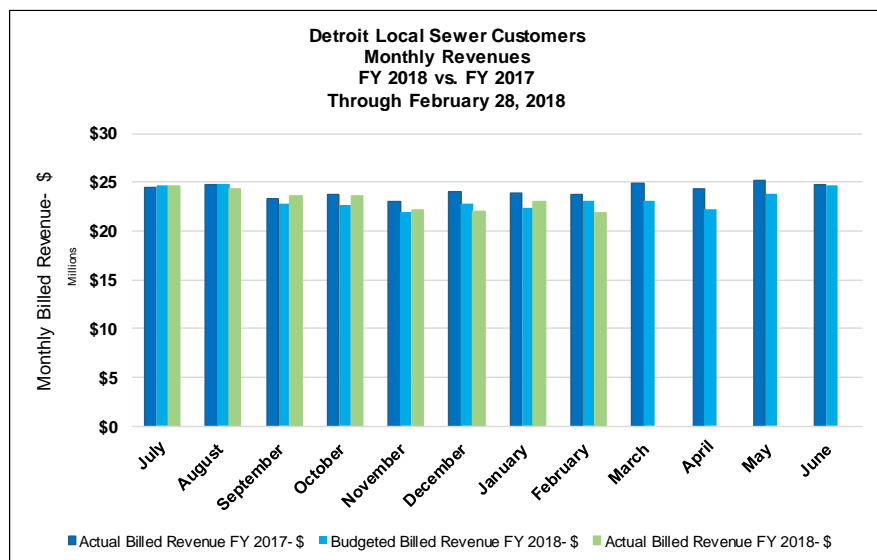


Detroit Local Water System billed revenues for FY 2018 are stable with actual billings at 97.3% of budget and actual usage at 97.7% of budget through February 2018. Billed revenue for FY 2018 was 2.0% lower compared to the same period in FY 2017.

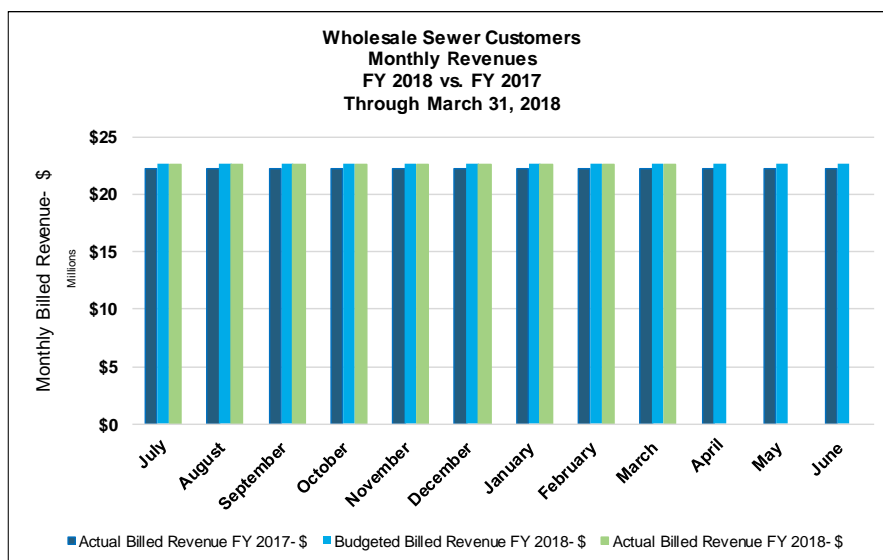


Wholesale Water System billed revenues for FY 2018 are stable with actual billings at 104.2% of budget and actual usage at 103.2% of budget through March 2018. Billed revenue for FY 2018 was 1.0% higher compared to the same period in FY 2017.

# Financial Viability – Reliability of Sewer System Revenue Projections

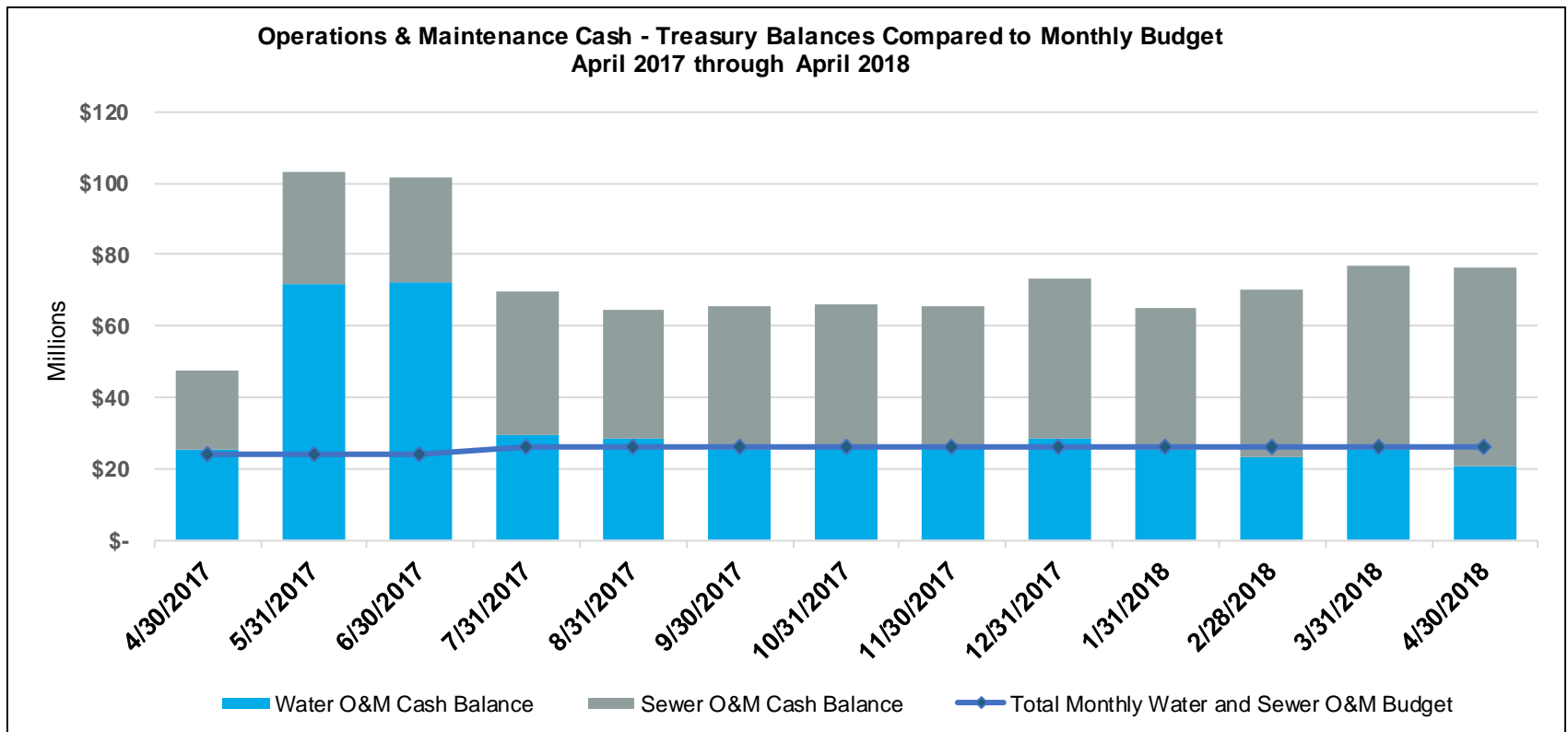


Detroit Local Sewer System billed revenues for FY 2018 are stable with actual billings at 100.0% of budget and actual usage at 99.2% of budget through February 2018. Billed revenue for FY 2018 was 3.0% lower compared to the same period in FY 2017.



Wholesale Sewer System billed revenues for FY 2018 are stable with actual billings at 100% of budget (based on the full fixed monthly charge) through March 2018. Billed revenue for FY 2018 was 1.9% higher compared to the same period in FY 2017.

# Financial Viability – Revenue Stability and Appropriate O&M Cash Reserves



- Cash balances are appropriate to fund monthly budgeted Operations & Maintenance (O&M) with an average ratio of O&M cash to budget of 3.36x for water and 2.54x for sewer.
- Variability in cash balances for May and June 2017 is due to the settlement timing of interfund receivables/payables through December 2015 and continued refinement of cash management practices.

# Product Quality – Wastewater Regulatory Compliance

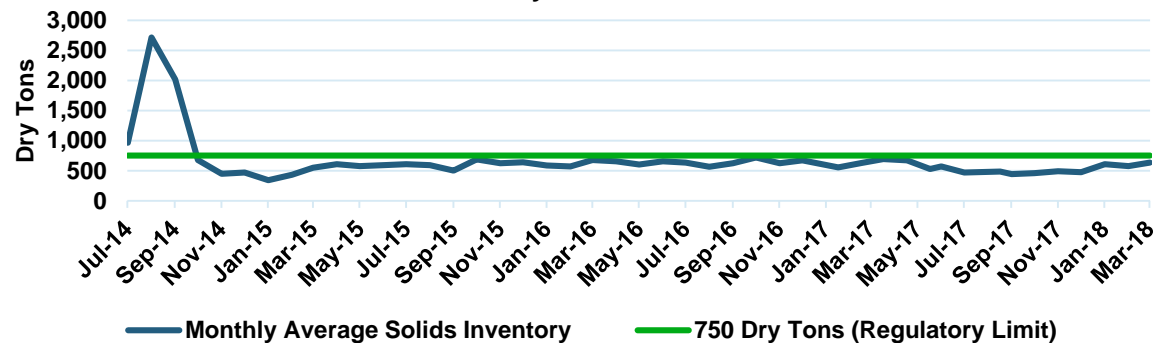
Effluent Phosphorus Concentration  
1996 to 2018



- Significant progress has been made in the reduction of effluent phosphorus.
- GLWA strives to surpass Federal and State requirements.

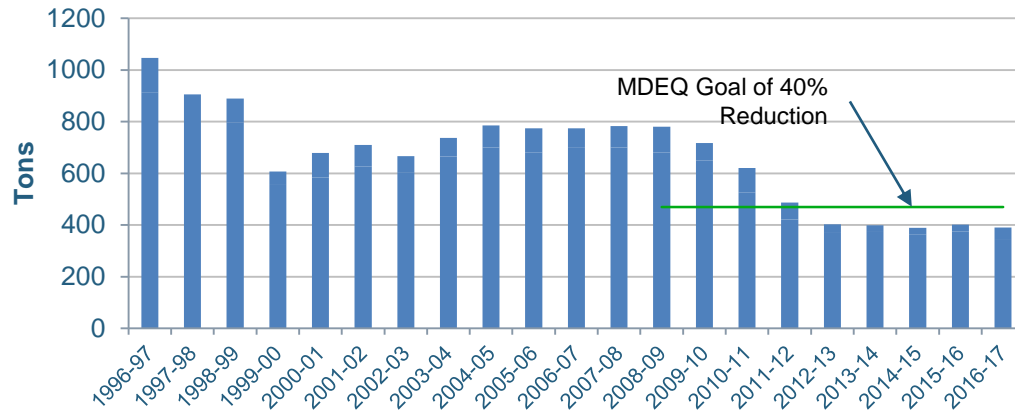
- Solids inventory is a measure of process performance and is regulated by the State.
- Having consistently tracked below 750 dry tons since Oct. 2014 is noteworthy.

Monthly Solids Inventory  
July 2014 to March 2018



# Community Sustainability – Watershed Health

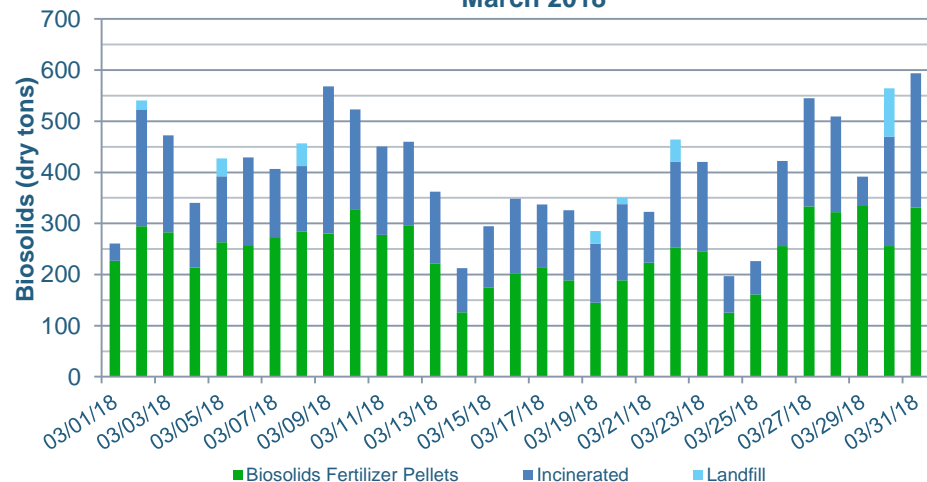
Effluent Phosphorus Loading  
1996 to 2017



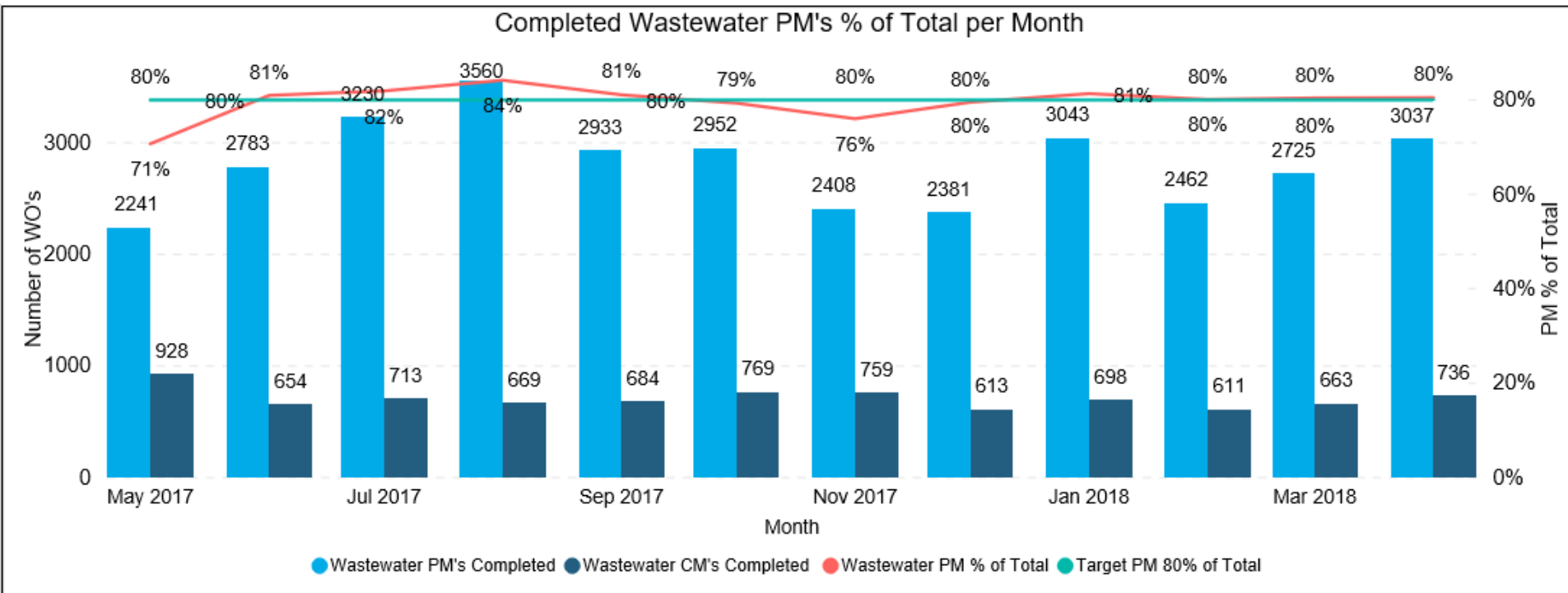
- The State and Federal regulators have a goal of 40% reduction in phosphorus loading in the Western Lake Erie Basin.
- GLWA has surpassed the State and Federal goal.

- GLWA strives to increase nutrient recovery and beneficial reuse of biosolids.
- Use of the biosolids dryer facility for solids handling is preferred because it uses biosolids for the production of fertilizer pellets.

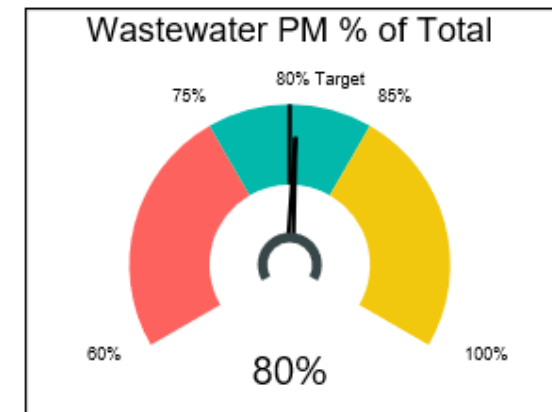
Biosolids Handling by Method  
March 2018



# Infrastructure Strategy and Performance – Wastewater Preventative & Corrective Maintenance Management April 2018

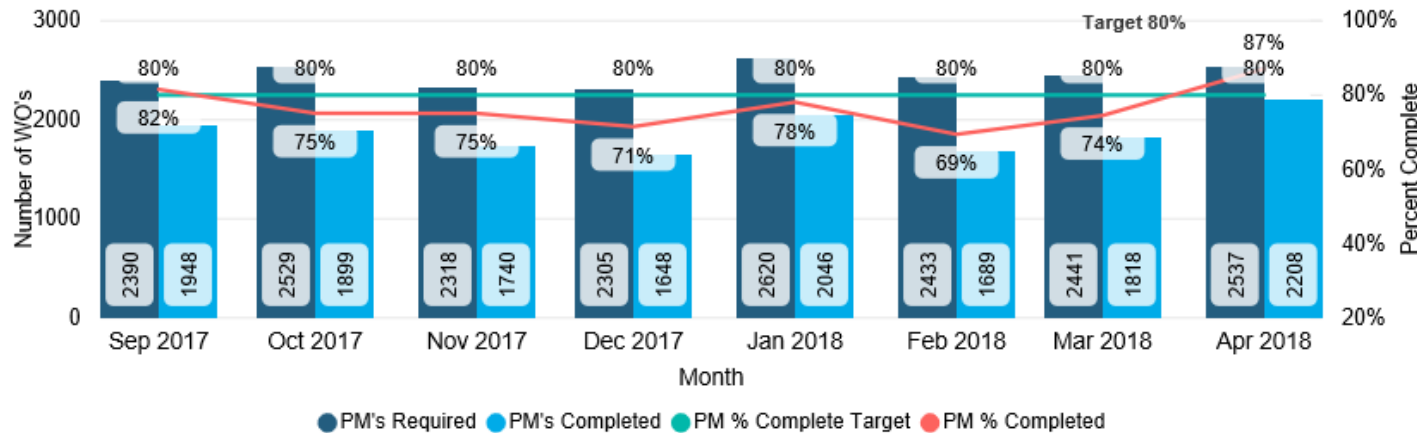


\*The Target is derived from the 2017 American Water Works Association Utility Benchmarking program that indicates that an appropriate level of PM activities can be identified by the PM percentage of total maintenance work performed. If the percentage is significantly lower than the target (red) it is a warning of possible increase in unplanned, emergency type work (CM). If the percentage is significantly higher than the target (yellow) it is a warning that PMs can be reduced and resources can be better directed to other system needs.

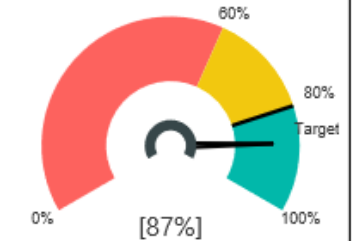


# Infrastructure Strategy and Performance – Wastewater and Water Preventative Maintenance (PM) Management April 2018

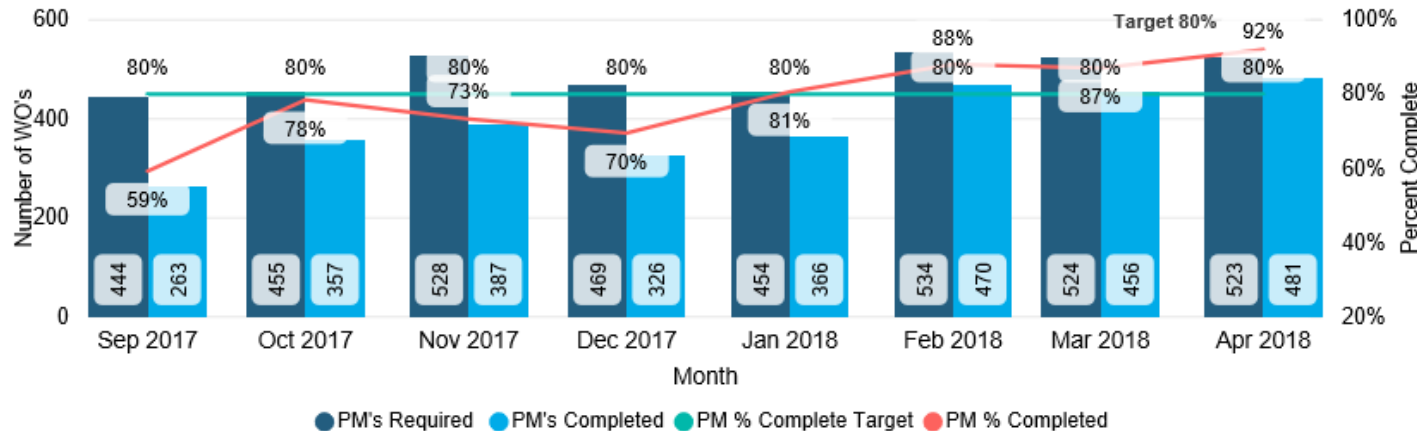
Wastewater PM's Required vs Completed per Month



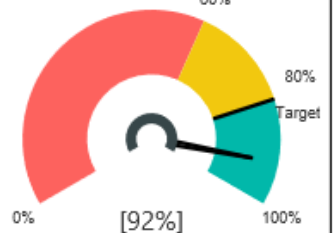
Wastewater PM % Complete



Water PM's Required vs Completed per Month

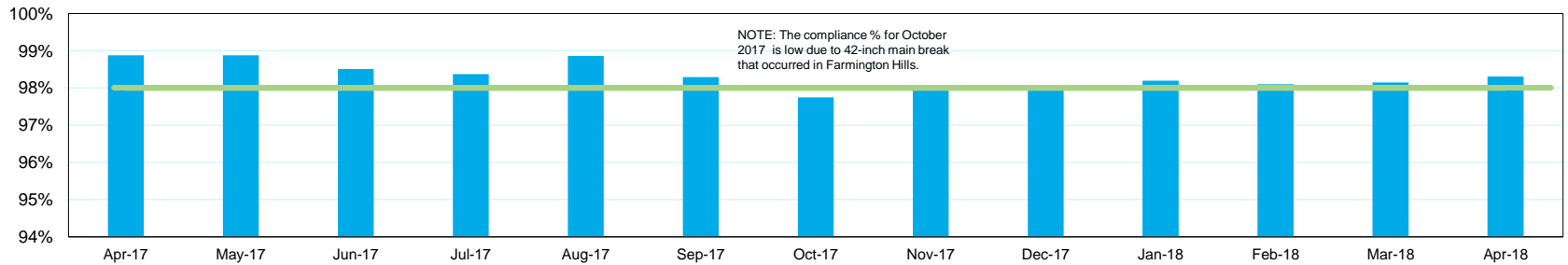


Water PM % Complete



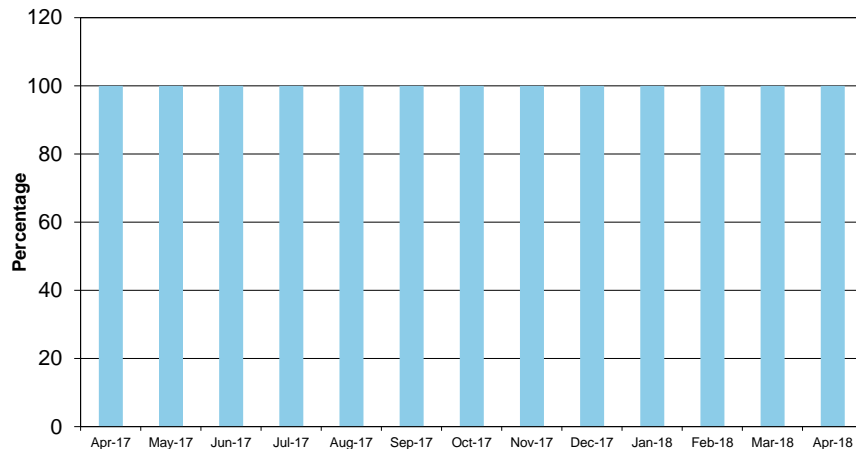
# Water & Field Services

**Customer Pressure Compliance %**



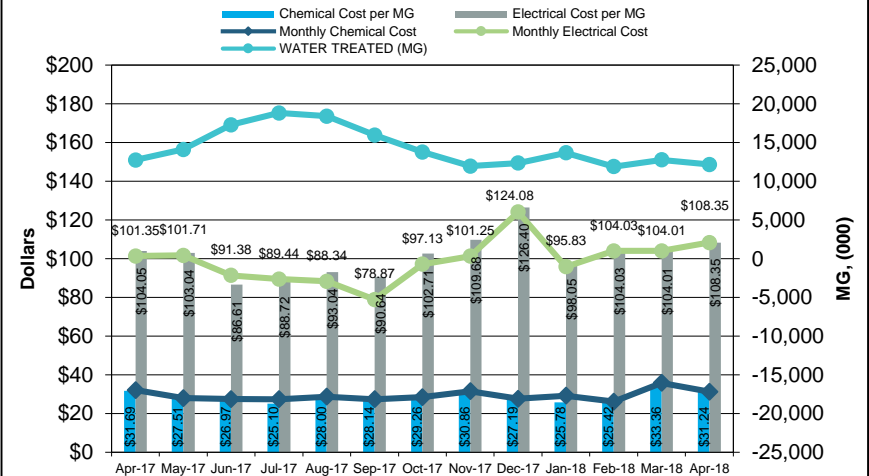
**Operational Resiliency:** To exceed customer compliance by being greater than 98% of contractual pressures.

**Percent Compliance with Safe Drinking Water Act (SDWA) by Month**



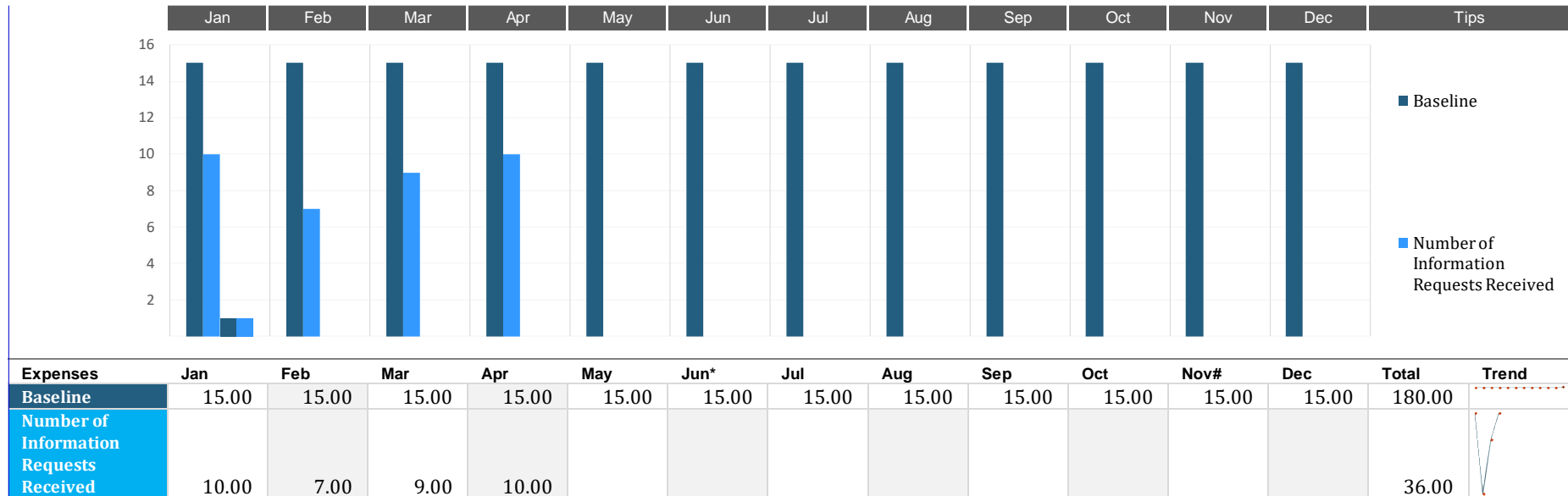
**Product Quality:** GLWA's goal is to surpass Safe Drinking Water Act requirements and this slide indicates compliance for the month.

**Chemical and Electrical cost per MG**



**Operational Optimization:** Being able to identify ongoing performance improvements for chemical and electrical usage per MG of water pumped is a key metric in managing operational cost. This slide is under development to include tracking of total costs per MG.

# General Counsel Information Requests Received

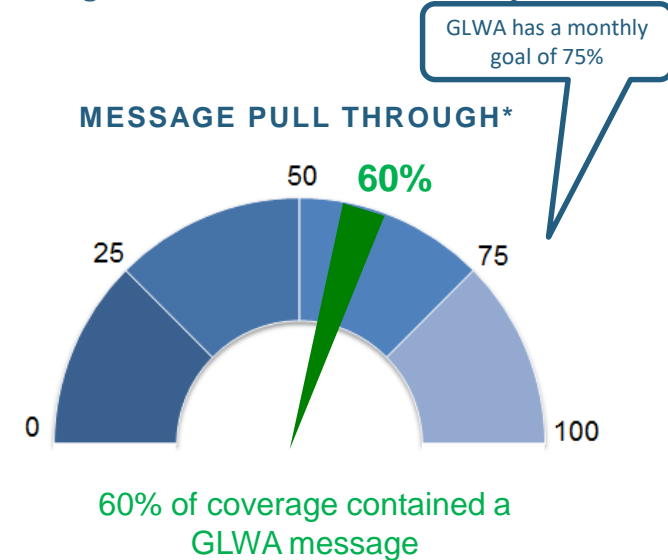
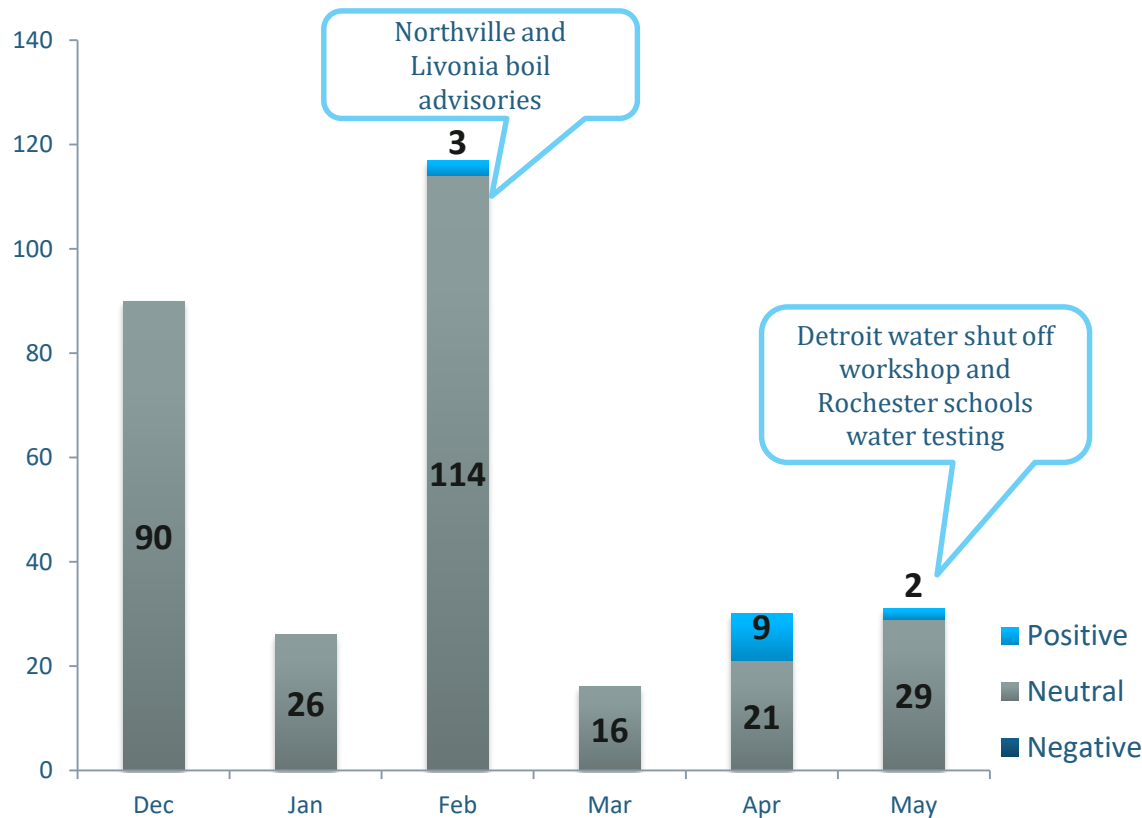


One of the measures of organizational transparency is access to information. GLWA maintains many avenues of informal information access, including through its website. To the extent the information is readily available, the Office of the General Counsel should receive fewer FOIA requests over time.

# Traditional Media Summary

Relevant news coverage for the Great Lakes Water Authority (GLWA) in May focused around Livonia water rate increases, a workshop about modernizing water infrastructure, free toilets to Detroiters through GLWA's WRAP program, and Sylvania and Monroe County looking to potentially connect with GLWA as their water provider.

Overall GLWA mentions saw a three percent increase in mentions over April, largely driven by news coverage of the Detroit water shutoff workshops and Rochester schools water testing. Articles were largely neutral with a small amount of positive sentiment attributed to the stories about the free toilets to Detroiters and the modernizing water infrastructure workshop.



**MEDIA VOLUME: 31**

**CURSORY OR FLINT MENTIONS: 26**

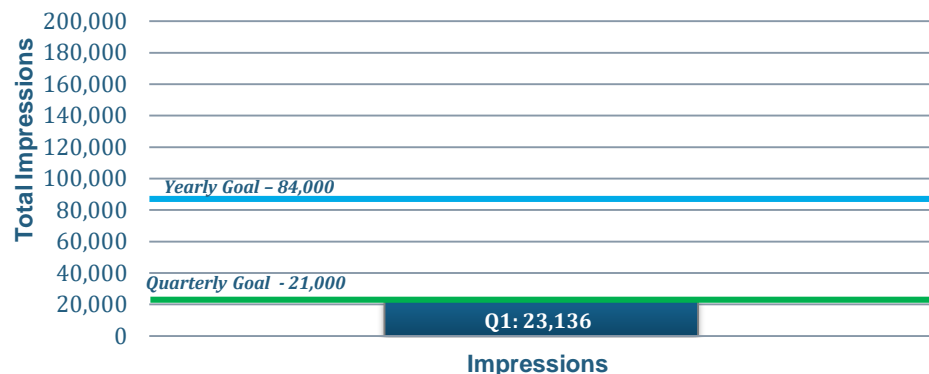
**CONTAINED GLWA MESSAGE: 3**

\*Message pull through includes quotes or comments from a GLWA spokesperson, a quote from a GLWA press release or underlying theme of GLWA providing safe and clean water.

# Facebook & Twitter – Q1 2018

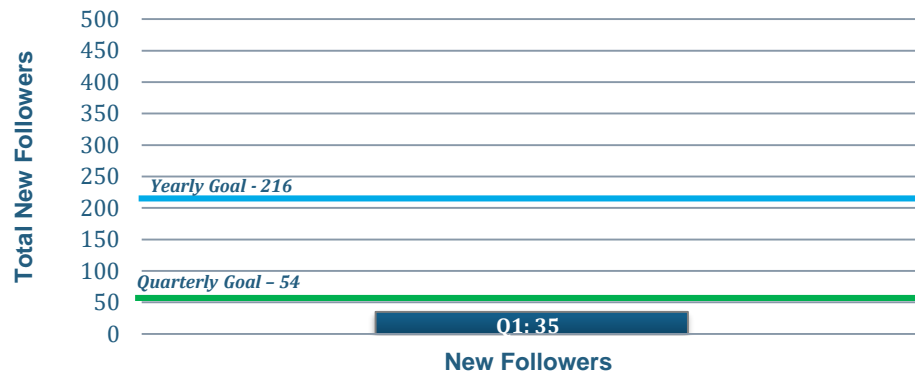
## Facebook - Total Impressions Q1 2018

- Yearly Goal (84,000 impressions/year)
- Quarterly Goal (21,000 impressions/quarter)
- Total Q1 Impressions (23,136 total impressions)



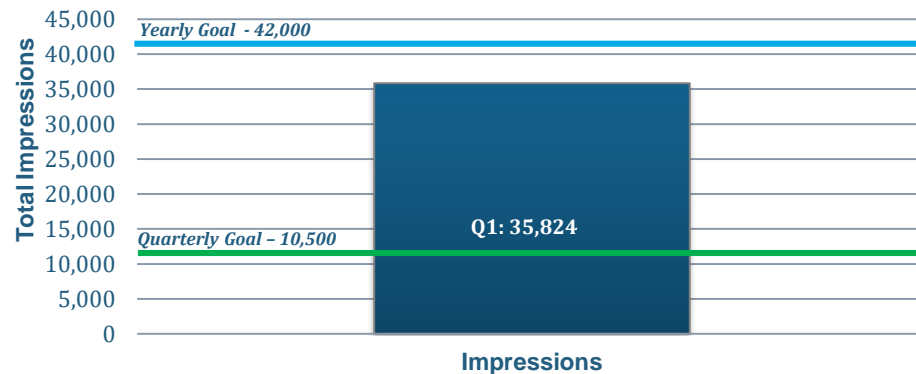
## Facebook - Total New Followers Q1 2018

- Yearly Goal (216 new followers/year)
- Quarterly Goal (54 new followers/quarter)
- Q1 New Followers (35 followers)



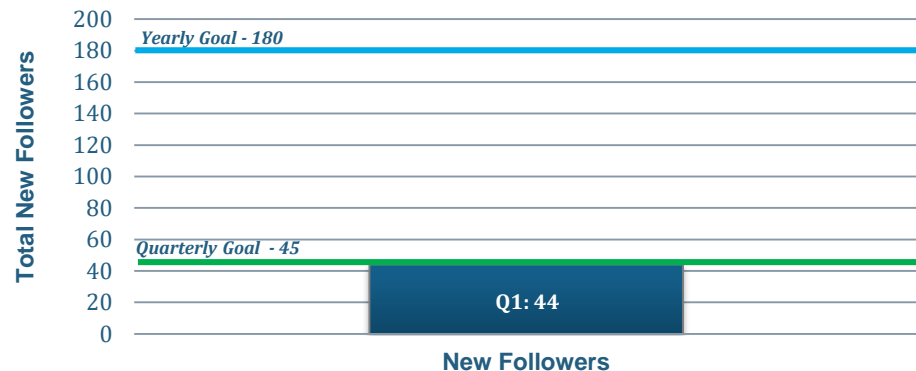
## Twitter - Total Impressions by Q1 2018

- Yearly Goal (42,000 impressions/year)
- Quarterly Goal (10,500 impressions/quarter)
- Total Q1 Impressions (35,824 total impressions)



## Twitter - Total New Followers Q1 2018

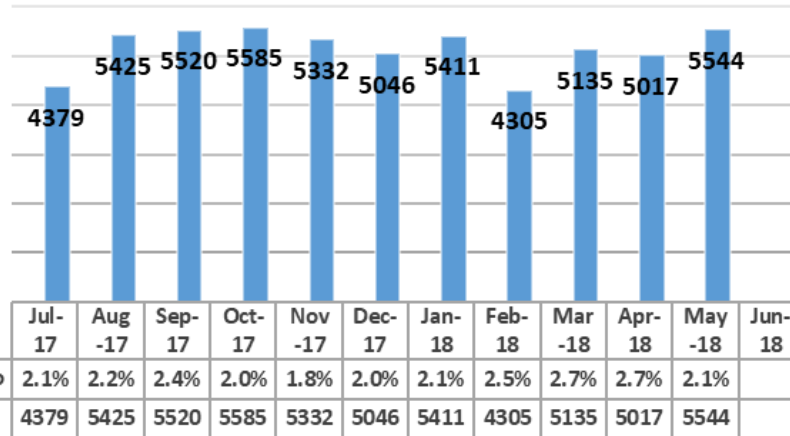
- Yearly Goal (180 new followers/year)
- Quarterly Goal (45 new followers/quarter)
- Q1 New Followers (44 total new followers)



# Security & Integrity

## Patrols

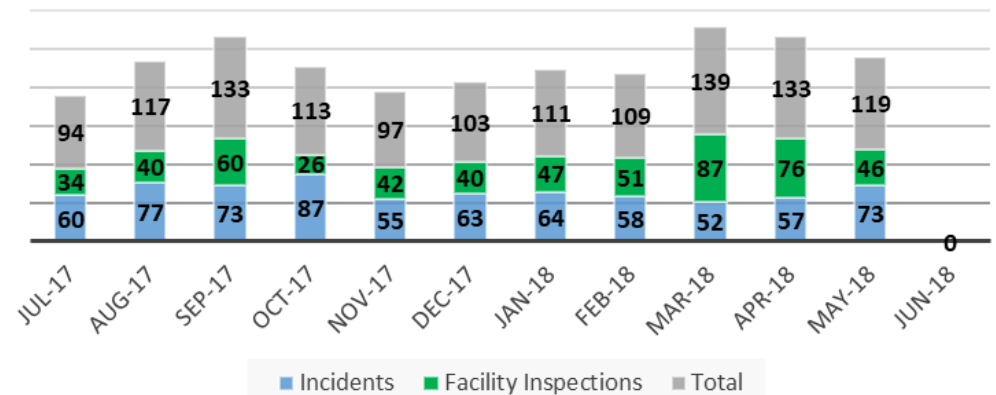
Patrol hours and resulting ratio of reports generated. Effective goal is 1.9 to 2.7



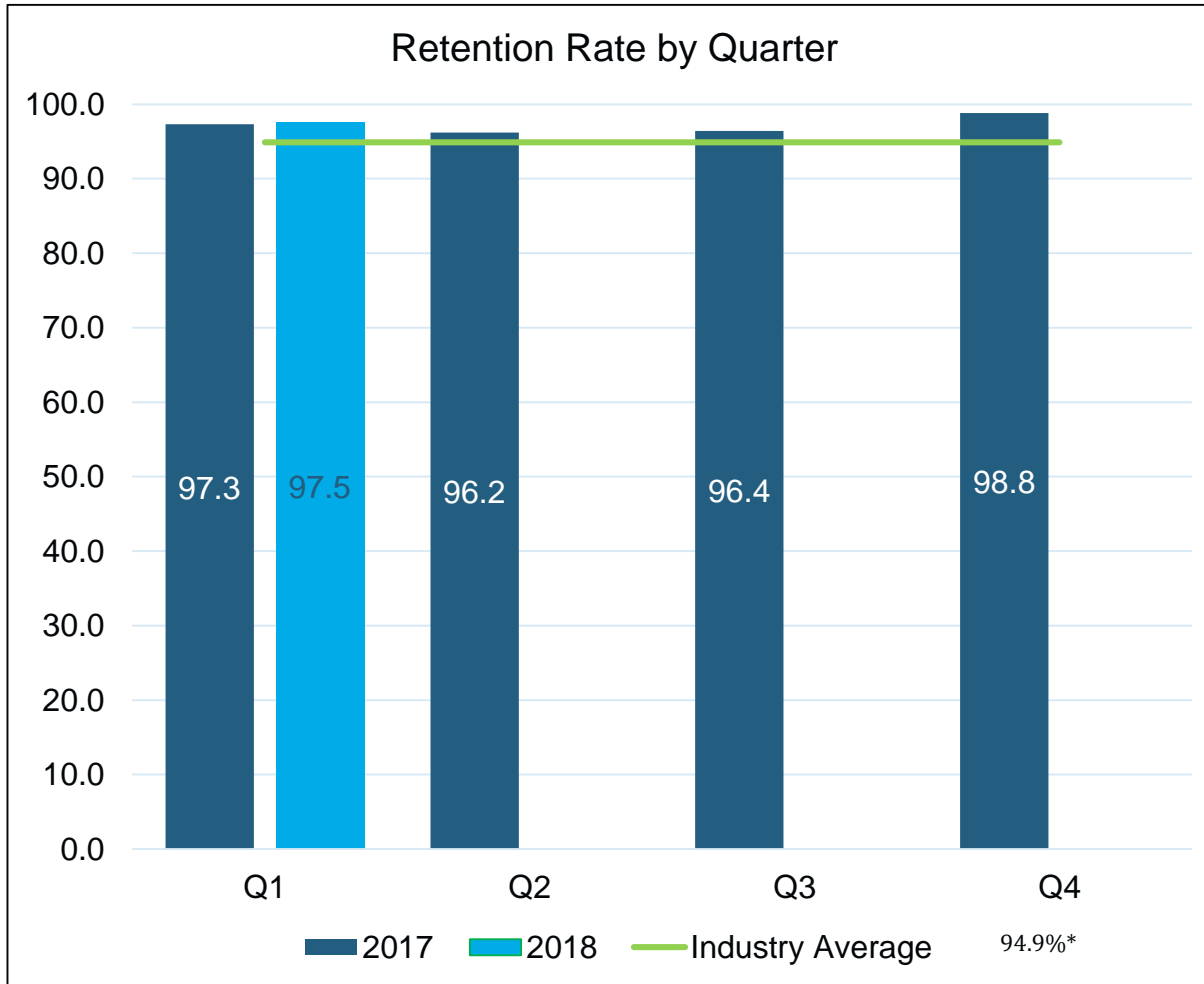
- Patrols are an indication of the level of services rendered by the staff of the Security & Integrity Group.

- Security reports are an indication of the effectiveness of security programs (less is better).

## Security Reports



# Organizational Development

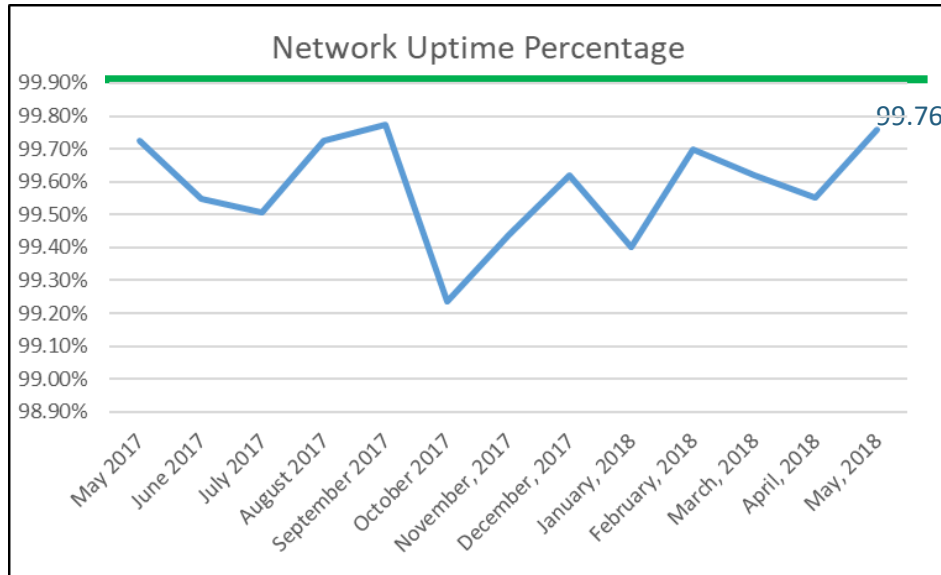


- Retention leads to decreased training costs, increased productivity, and cross training and development.

\*From the U.S. Bureau of Labor Statistics 10-Oct-2016 report for the sector "State and Local Government, Excluding Education."

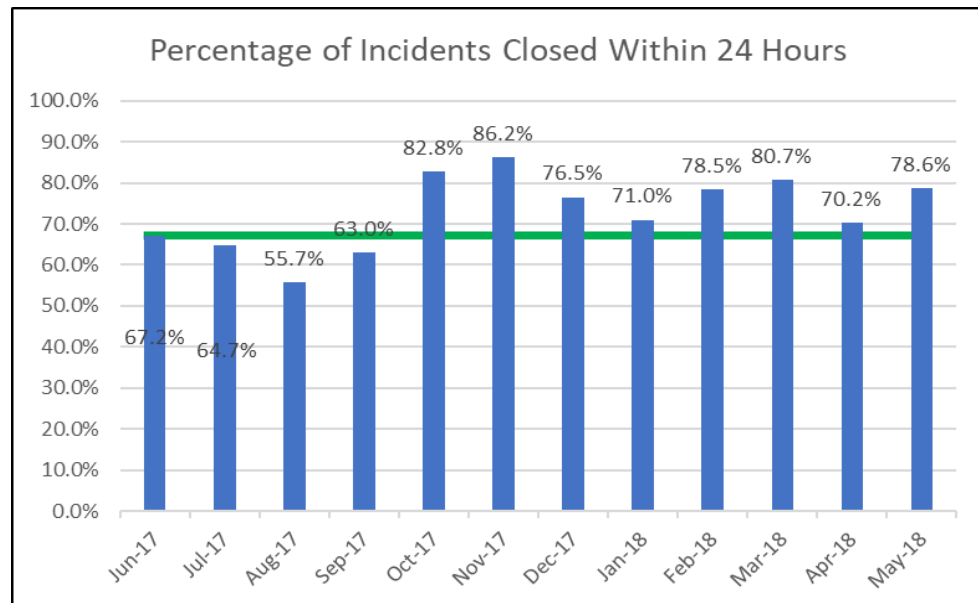
*Above retention rates are reflected in percentages*

# Information Technology

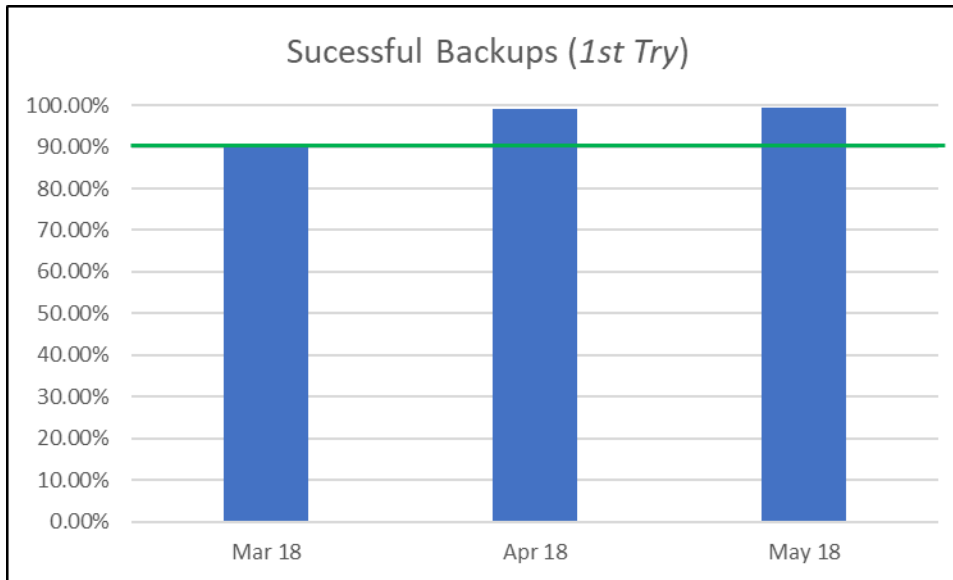


- GLWA has 59 network-connected sites, including offices, plants, pump stations and other facilities.
- Network connectivity allows employees to access the applications needed to do their work and connects plants and pump stations to the intranet to report operational data

- An incident is a technology issue that prevents an employee from performing some part of their job duties
- Quick resolution of incidents increases employee productivity.
- The industry standard for 24-hour resolution is 68%.

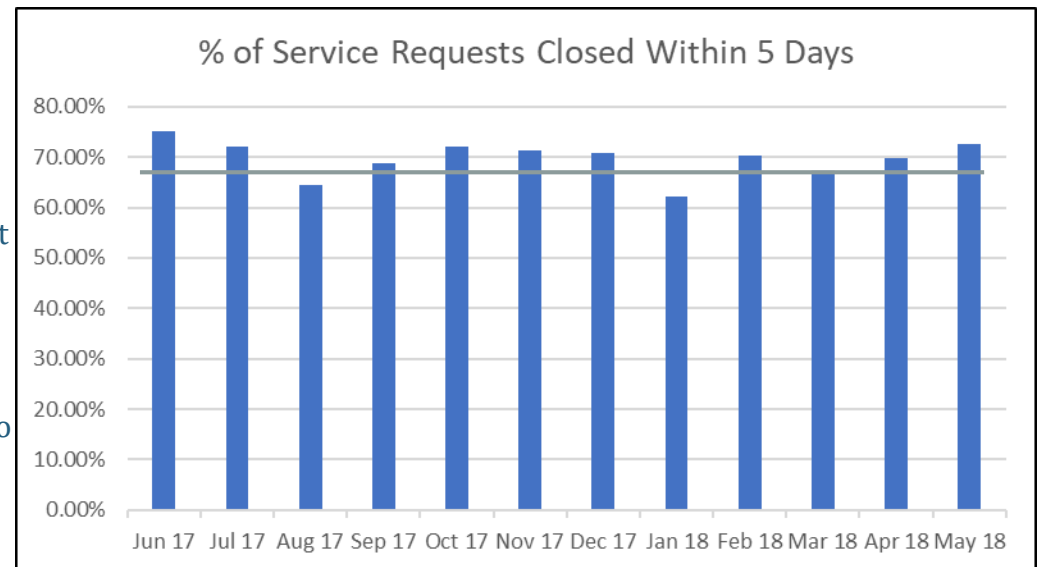


# Information Technology

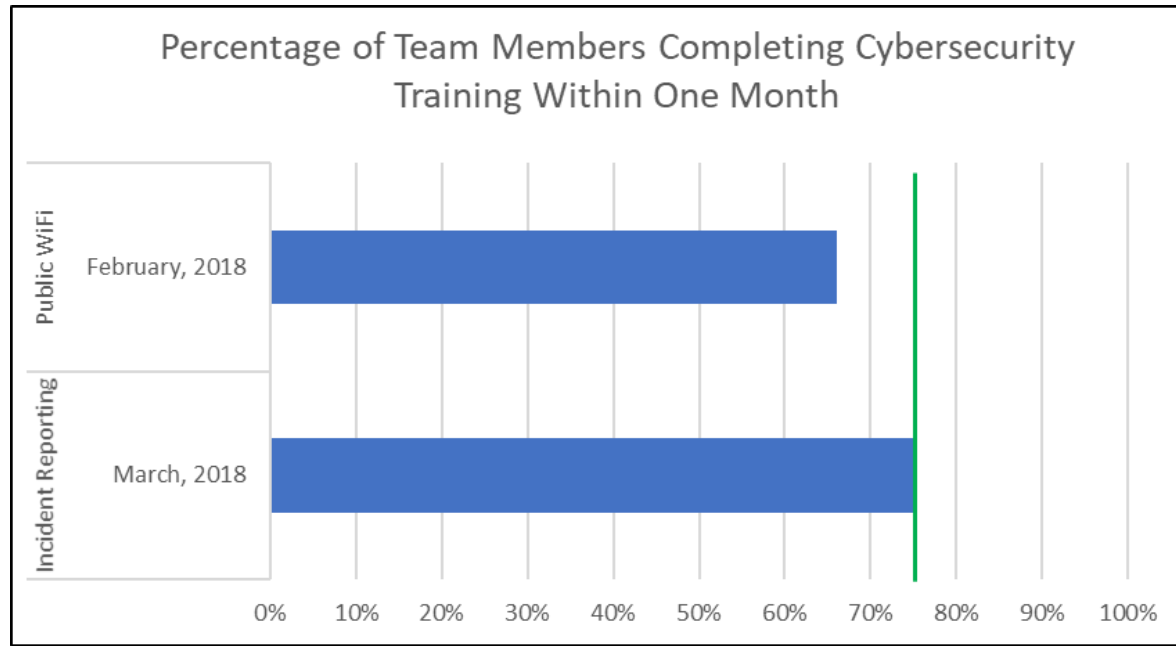


- Backups ensure that GLWA's information is safe in case of unexpected disruptions.
- Successfully backing up on the first try streamlines operations and frees up resources for other tasks.

- A service request is a request for IT work that is not preventing an employee from performing their work.
- Timely fulfilment of service requests ensure that employees have the technology resources needed to do their jobs, and increases job satisfaction.



# Information Technology



- End users are responsible for 80 percent of cybersecurity breaches.
- Well trained users are less likely to take action that could cause a breach

# Key Workers' Compensation Comparative Metrics

## For the Nine (9) Months Ending March 31, 2017 and 2018

Valued as of:	Claim Count	Incurred	Paid	Frequency Rate Calculation		Loss Rate Calculation	
				Hours	Rate *	Wages	Rate **
03.31.2018	35	\$205,144	\$68,069	1,399,222	5.0	\$46,389,076	.44%
03.31.2017	41	\$223,629	\$71,809	1,270,260	6.5	\$40,561,000	.55%
Change:	-15%	-8%	-5%	10%	-23%	14%	-20%

\* Reportable claim frequency rate per 100 full-time equivalents

\*\* Incurred losses as a percent of wages

**Conclusion: The most current nine months ending 03/31/2018 show improvement in all measurables over the comparable period last year.**

# Baseline Total Cost of Risk (TCOR) Metrics

## For the Fiscal Years Ending June 30, 2016 and 2017

	FY Ending 6.30.16	FY Ending 6.30.17
Total Costs *	\$2,652,598	\$3,523,038
Operating Revenues	\$398,131,000	\$857,557,000
T.C.O.R. (total costs per \$1,000 of revenues)	\$6.66	\$4.11
Proforma Combined 18 Months		\$4.92
Proforma 18 Months w/o fire		\$4.13

\* Sum of (a) the cost of all in-force insurance policies, (b) cost of losses that are retained, and (c) the administration costs of the risk management department and all associated contracts like third-party administration and brokerage fees.