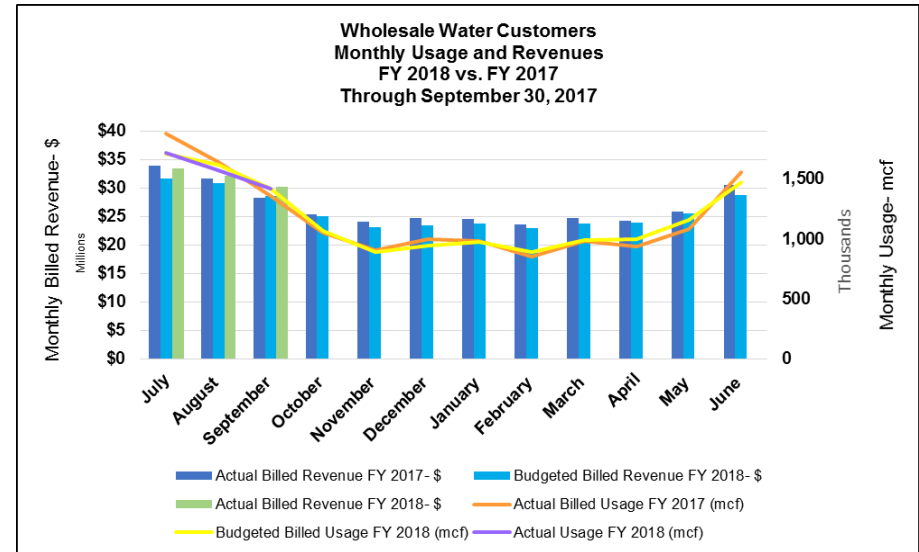
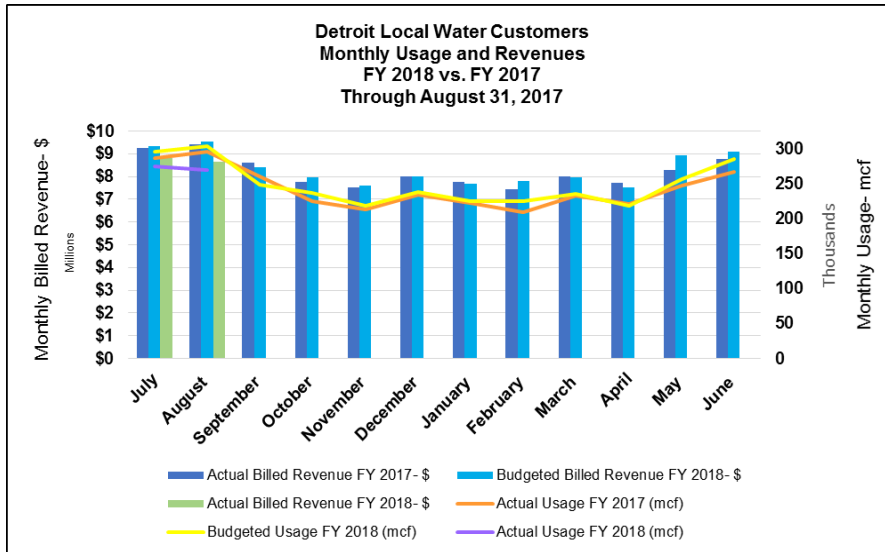


# Great Lakes Water Authority

*Key Performance Indicators and  
Effective Utility Management (EUM) Metrics  
November 8, 2017*



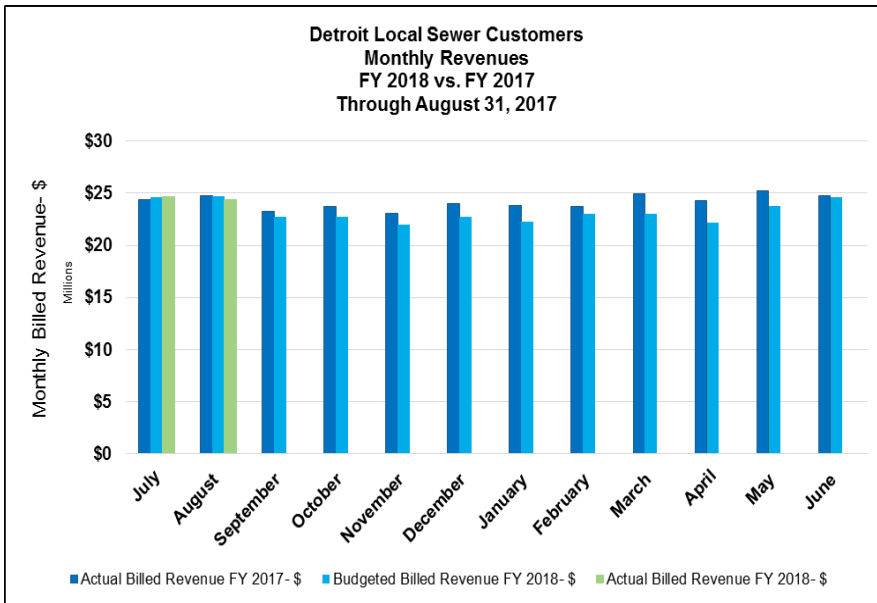
# Financial Viability – Reliability of Water System Revenue Projections



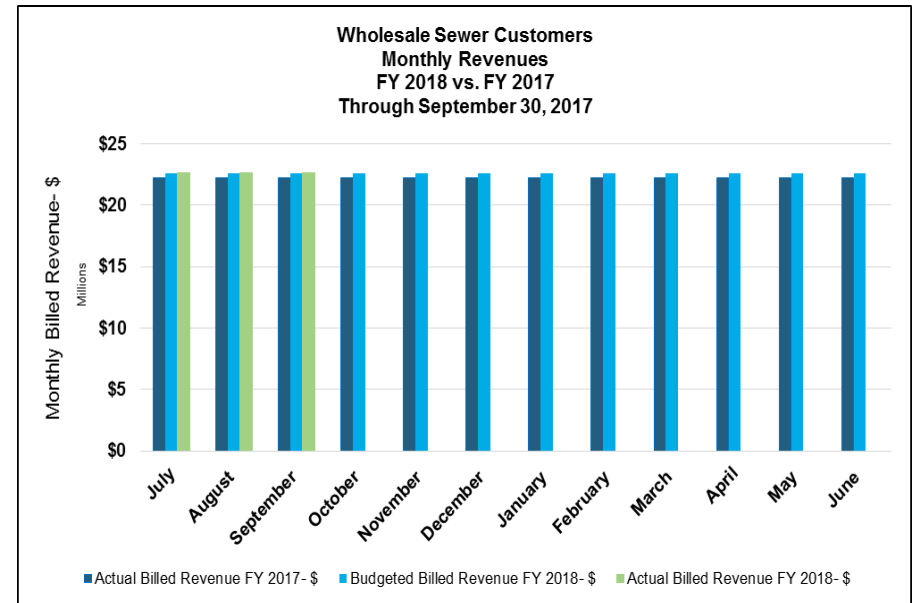
Detroit Local Water System billed revenues for FY 2018 are stable with actual billings at 92.6% of budget and actual usage at 90.9% of budget through August 2017. Billed revenue for FY 2018 was 0.4% lower compared to the same period in FY 2017.

Wholesale Water System billed revenues for FY 2018 are stable with actual billings at 104.9% of budget and actual usage at 99.3% of budget through September 2017. Billed revenue for FY 2018 was 2.0% higher compared to the same period in FY 2017.

# Financial Viability – Reliability of Sewer System Revenue Projections

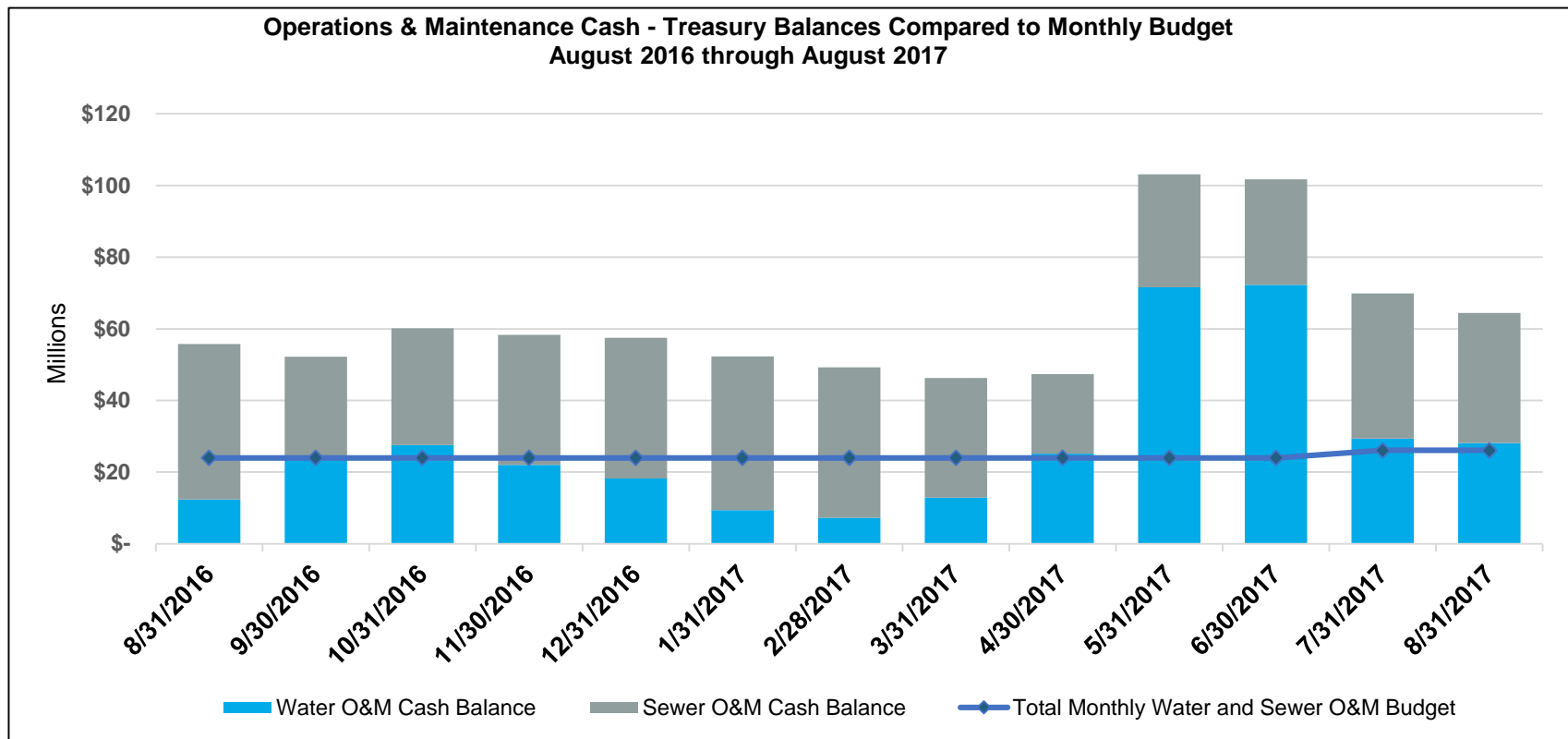


Detroit Local Sewer System billed revenues for FY 2018 are stable with actual billings at 99.2% of budget and actual usage at 93.1% of budget through August 2017. Billed revenue for FY 2018 was 0.4% lower compared to the same period in FY 2017.



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 September 2017. Billed revenue for FY 2018 was 1.9% higher compared to the same period in FY 2017.

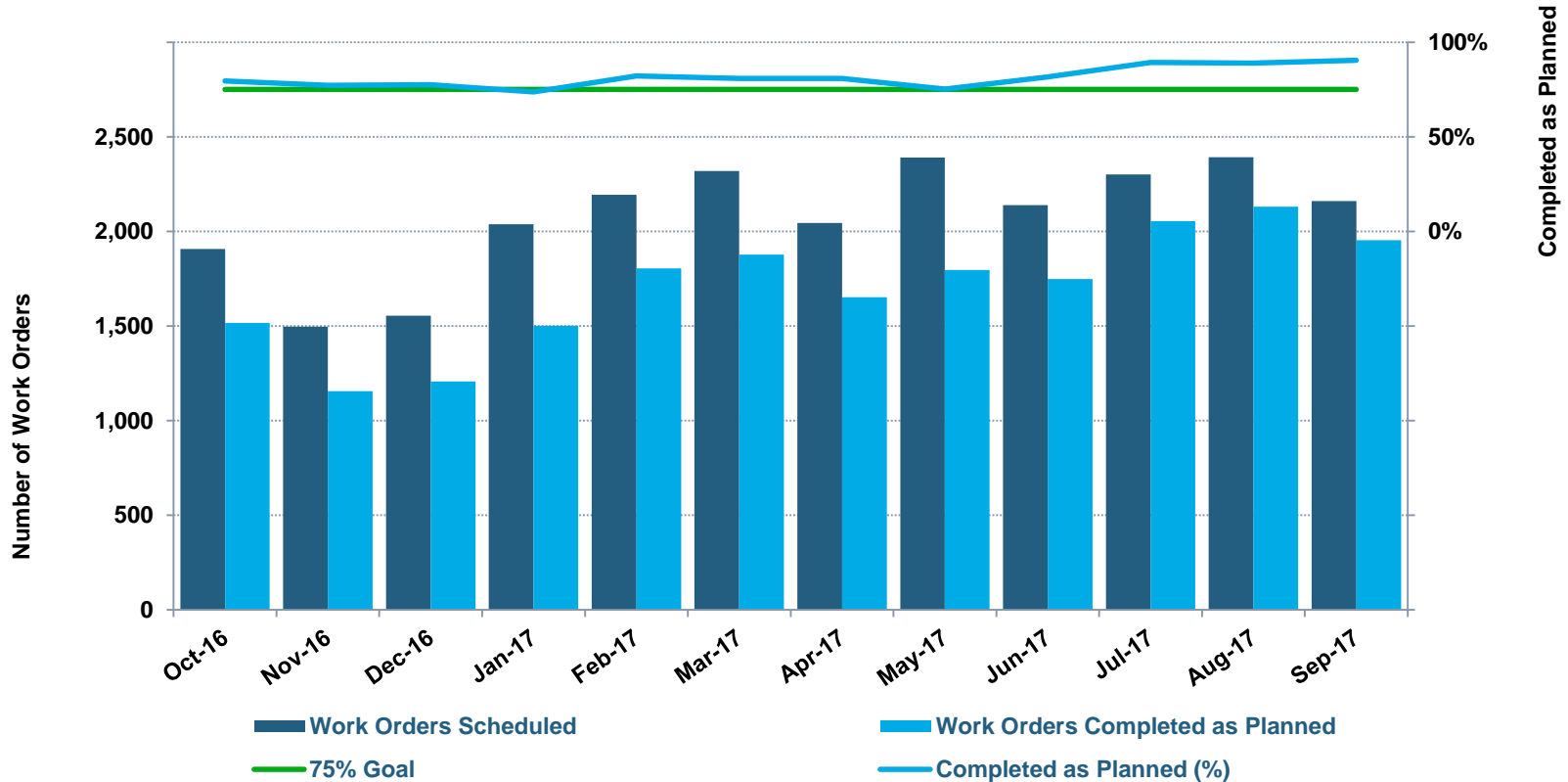
# Financial Viability – Revenue Stability and Appropriate O&M Cash Reserves



- Cash balances are appropriate to fund monthly budgeted Operations & Maintenance (O&M) with an average ratio of O&M cash to budget of 2.93x for water and 2.37x for sewer.
- Variability in cash balances in May and June 2017 is due to the settlement timing of inter-fund receivables/payables through December 2015 and continued refinement of cash management practices.

# Infrastructure Strategy and Performance – Wastewater Maintenance Management

Preventative Maintenance Work Orders Completed as Planned  
October 2016 to September 2017

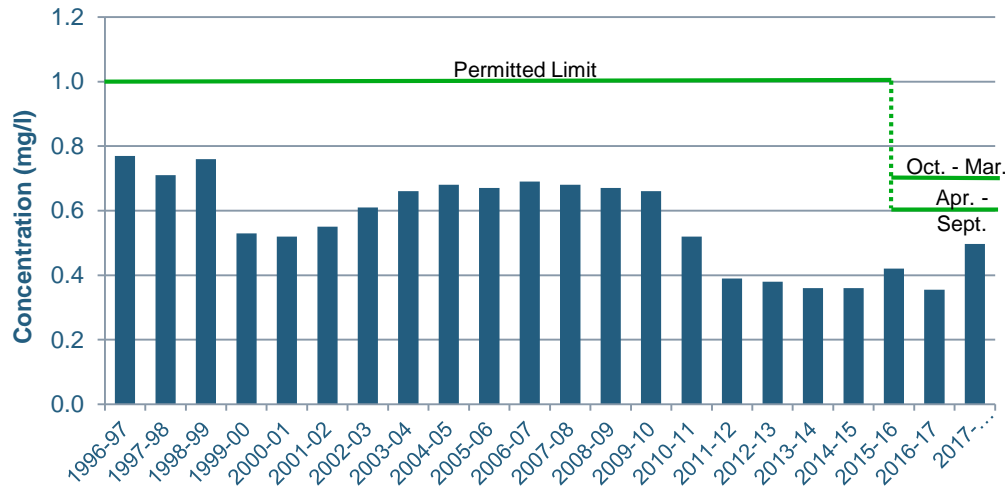


- Timely preventative maintenance extends asset useful life and minimizes unplanned downtime.

- Unplanned downtime can lead to permit non-compliance and negative environmental impacts.

# Product Quality – Wastewater Regulatory Compliance

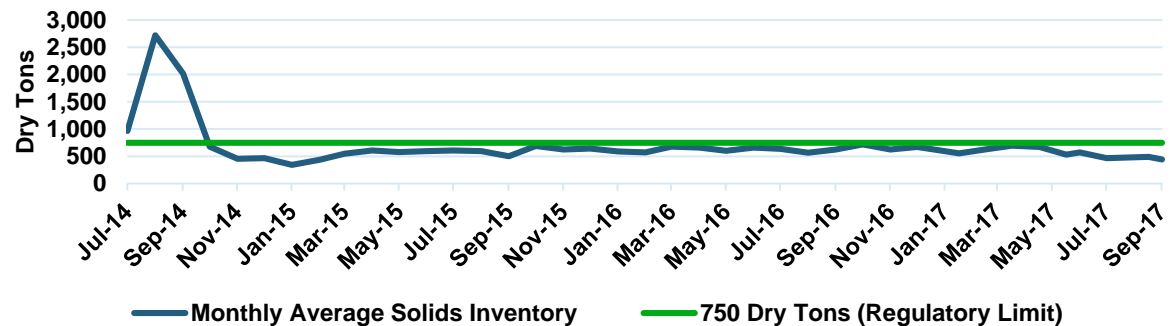
Effluent Phosphorus Concentration  
1996 to 2017



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

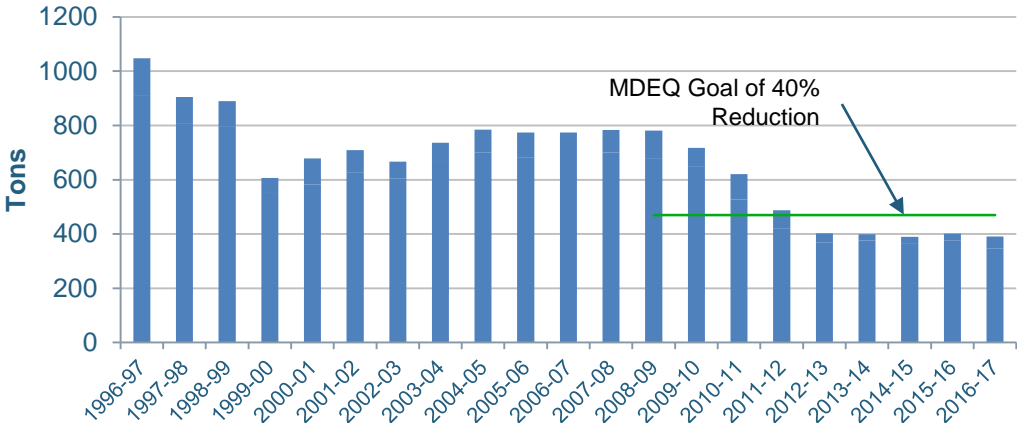
- Solids inventory is a measure of process performance and is regulated by the State.
- Having consistently tracked below 750 dry tons since Oct. 2014 is noteworthy.

Monthly Solids Inventory  
July 2014 to September 2017



# Community Sustainability – Watershed Health

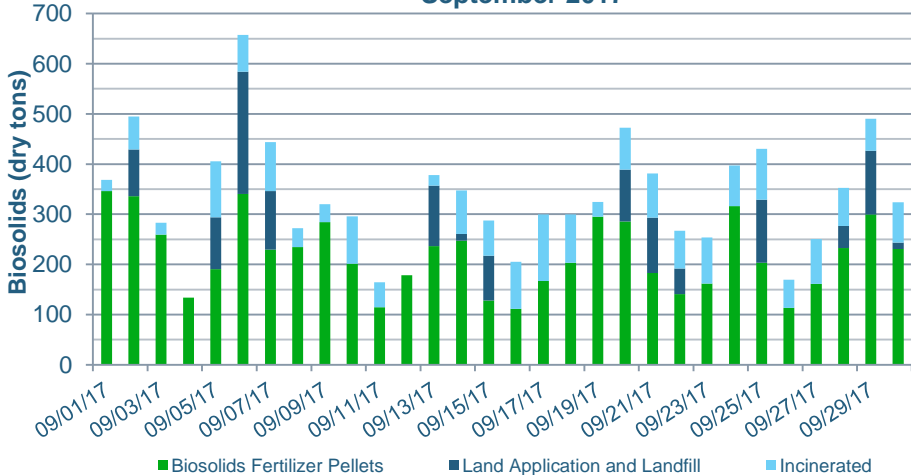
Effluent Phosphorus Loading  
1996 to 2017



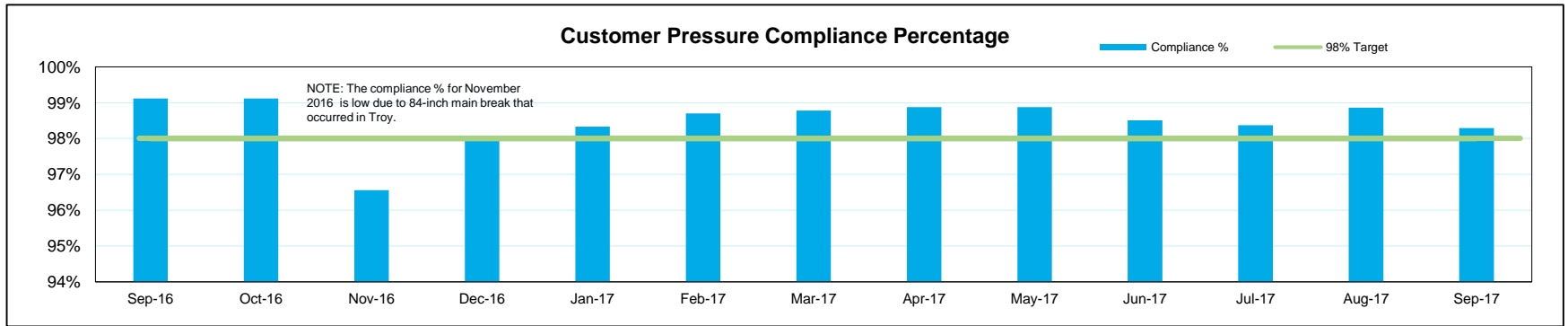
- The State and Federal regulators have a goal of 40% reduction in phosphorus loading in the Western Lake Erie Basin.
- GLWA has surpassed the State and Federal goal.

- 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.

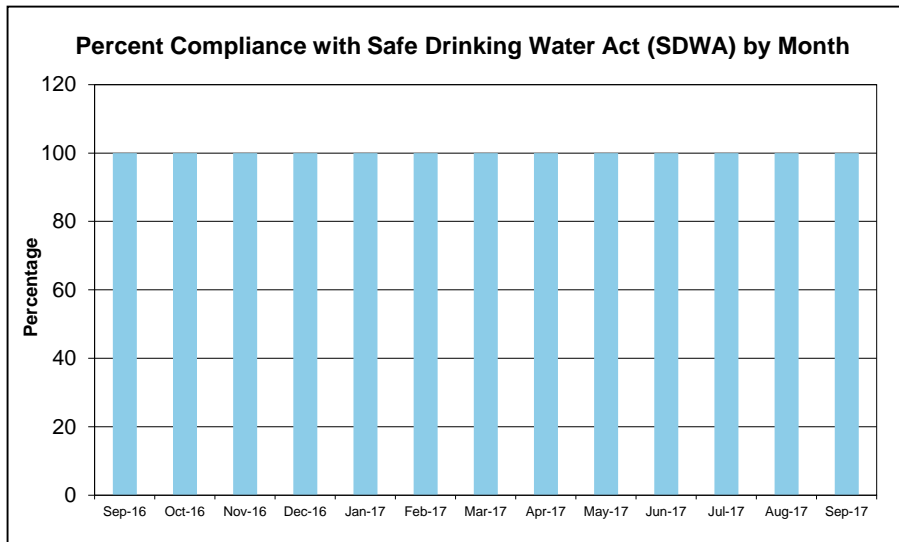
Biosolids Handling by Method  
September 2017



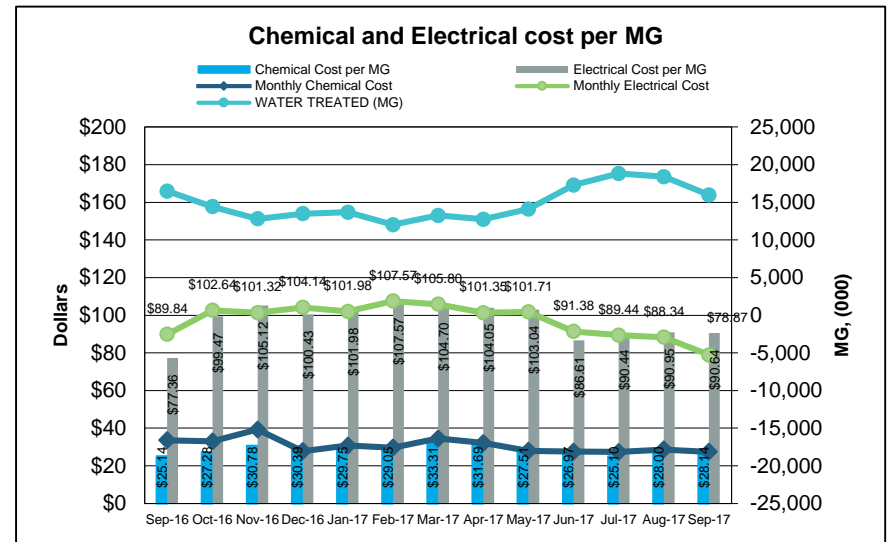
# Water & Field Services



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



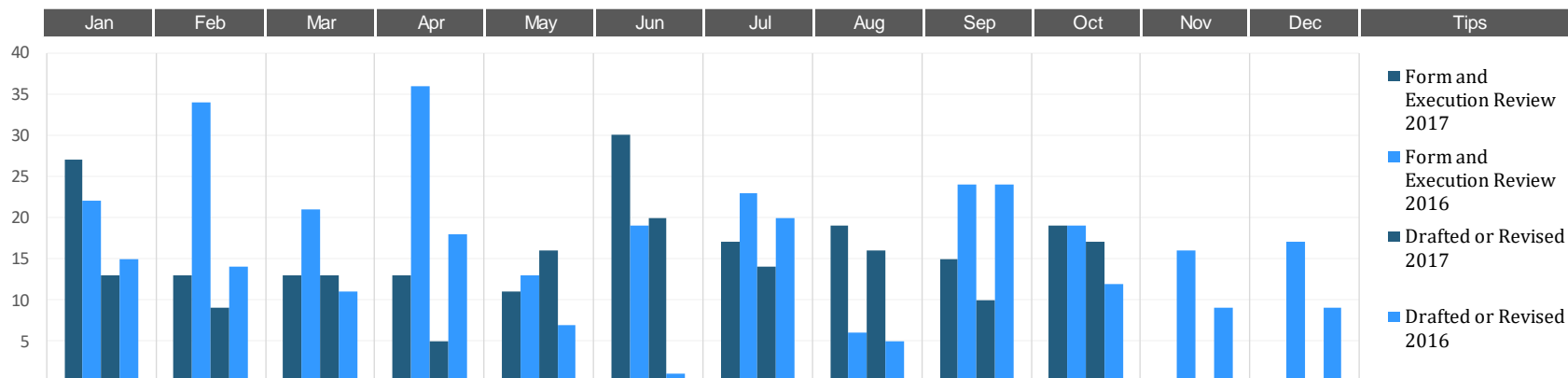
**Product Quality:** GLWA's goal is to surpass Safe Drinking Water Act requirements and this slide indicates compliance for the month.



**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 Contract Review



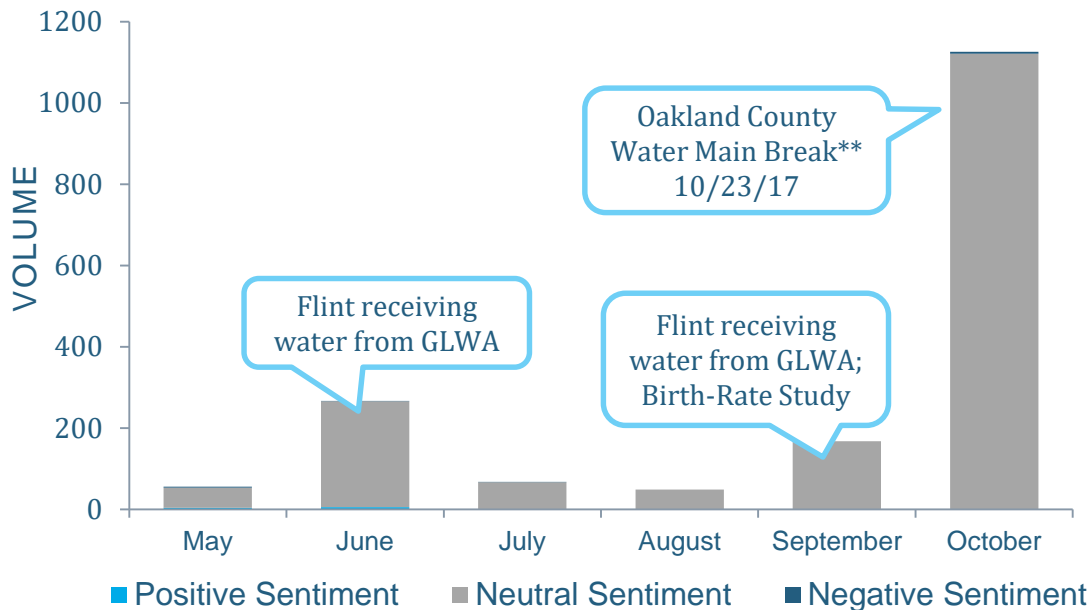
Expenses	Jan	Feb	Mar	Apr	May	Jun*	Jul	Aug	Sep	Oct	Nov#	Dec	Total	Trend
Form and Execution Review 2017	27.00	13.00	13.00	13.00	11.00	30.00	17.00	19.00	15.00	19.00			177.00	
Form and Execution Review 2016	22.00	34.00	21.00	36.00	13.00	19.00	23.00	6.00	24.00	19.00	16.00	17.00	250.00	
Drafted or Revised 2017	13.00	9.00	13.00	5.00	16.00	20.00	14.00	16.00	10.00	17.00			133.00	
Drafted or Revised 2016	15.00	14.00	11.00	18.00	7.00	1.00	20.00	5.00	24.00	12.00	9.00	9.00	145.00	

General Counsel reviews all contracts as to form and execution. In addition, General Counsel will negotiate and/or revise certain contracts. The monthly statistics in these areas reflect the pace and complexity of an organization’s business, as well as the demands on its legal staff. In 2016, General Counsel reviewed approximately 66% more contracts than it did in 2015. Contracts drafted or revised increased by 26% over 2015 levels, which while a smaller percentage, is still significant. Given Authority initiatives underway, it is not clear whether 2016 numbers are an anomaly or whether operational changes will be required to accommodate a sustained increase in contract volume and activity. To sustain current resource level model in 2017, contract reviews and revisions should decrease substantially from 2016 levels. NOTE: These statistics do not include contract drafting related to Flint’s decision to continue as a long-term GLWA customer.

# Traditional Media Summary

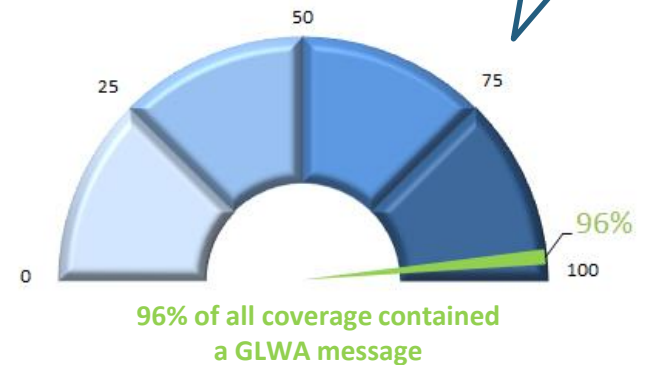
Mentions of the Great Lakes Water Authority (GLWA) were at an all-time high in October due to a transmission main break in Oakland County and the resulting boil water advisory for 11 communities. Also driving coverage was a federal judge ordering Flint City Council to choose a long-term source of drinking water and subsequent articles on the judge stating the Council's proposed two-year extension with the GLWA was not the long-term plan he had ordered. Early coverage of the boil water advisory focused on the areas affected. Articles then shifted to the repairs and the extension of the boil water advisory into the weekend, due to crews discovering a leak during pressure testing. Over the weekend and into Monday, articles focused on various communities having the boil water advisory lifted.

**GLWA TRADITIONAL MEDIA VOLUME & SENTIMENT**



**\*\*Sentiment during the October Boil Water Advisory remained primarily neutral (above 90%) throughout the entire 7-day event.**

**MESSAGE PULL THROUGH\***



**MEDIA VOLUME: 234**

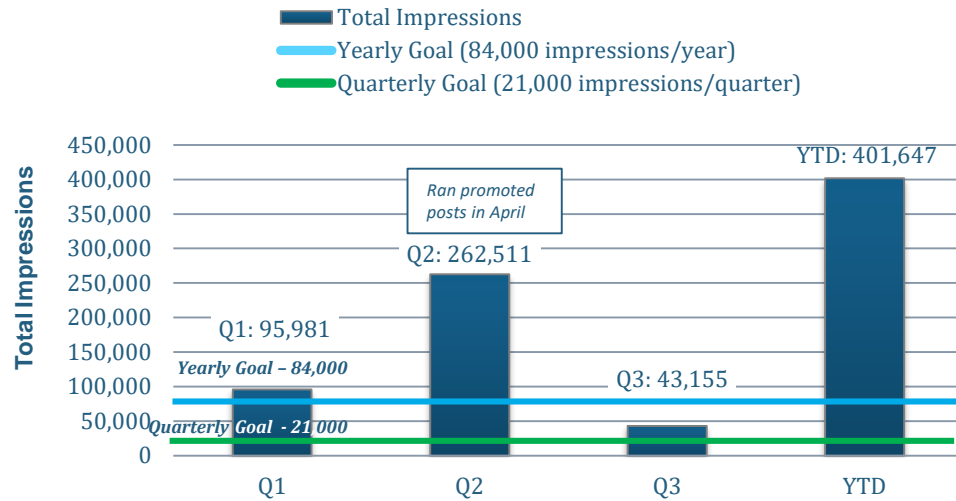
**CURSORY MENTIONS: 5**

**CONTAINED GLWA MESSAGE: 220**

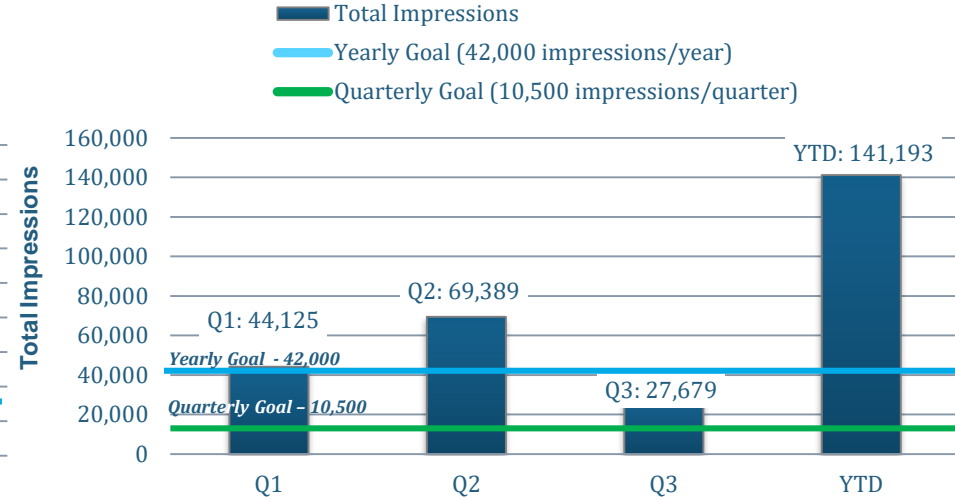
\*Message pull through includes quotes or comments from a GLWA spokesperson, a quote from a GLWA press release or underlying theme of GLWA providing safe and clean water.

# Social Media Summary

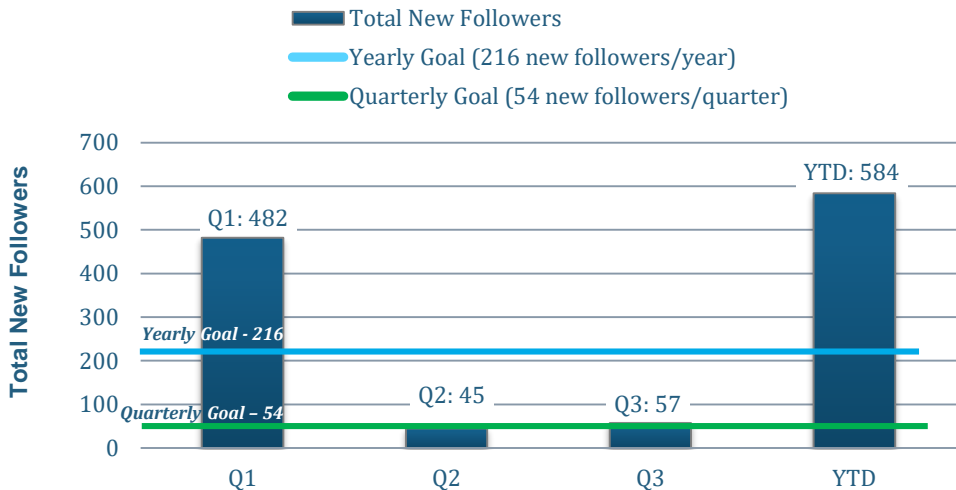
## Facebook - Total Impressions Quarterly



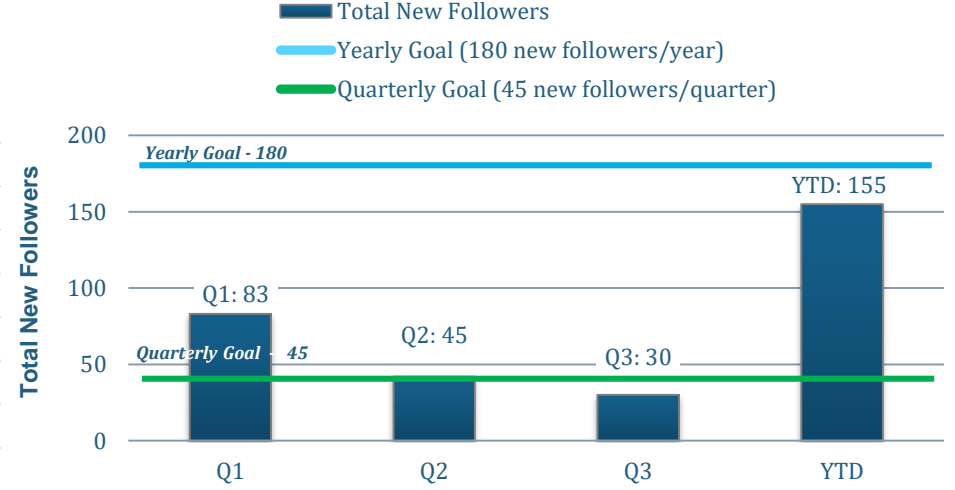
## Twitter - Total Impressions by Quarter



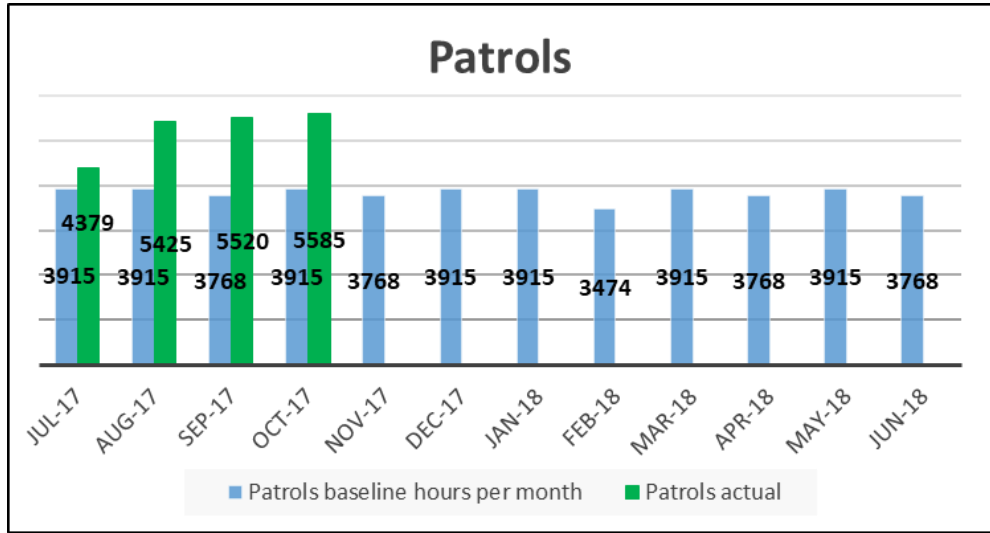
## Facebook - Total New Followers Quarterly



## Twitter - Total New Followers Quarterly



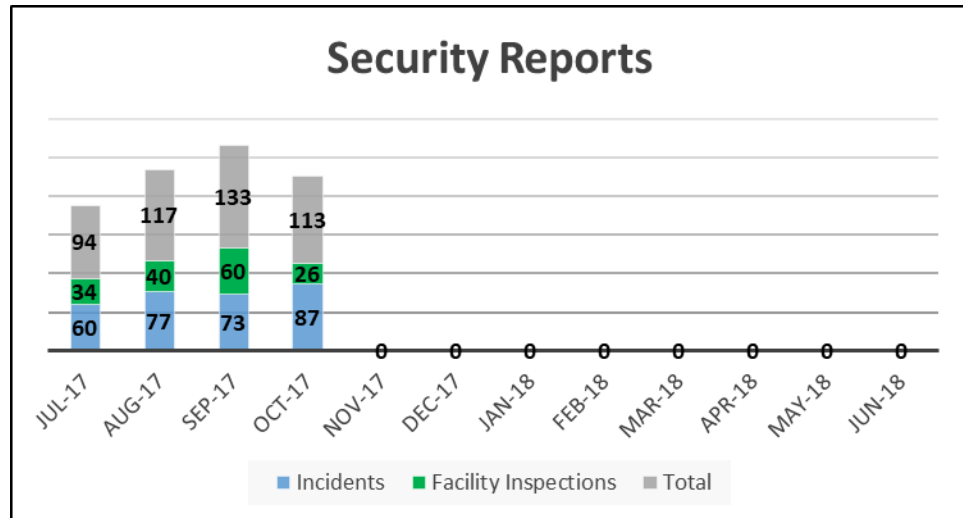
# Security & Integrity



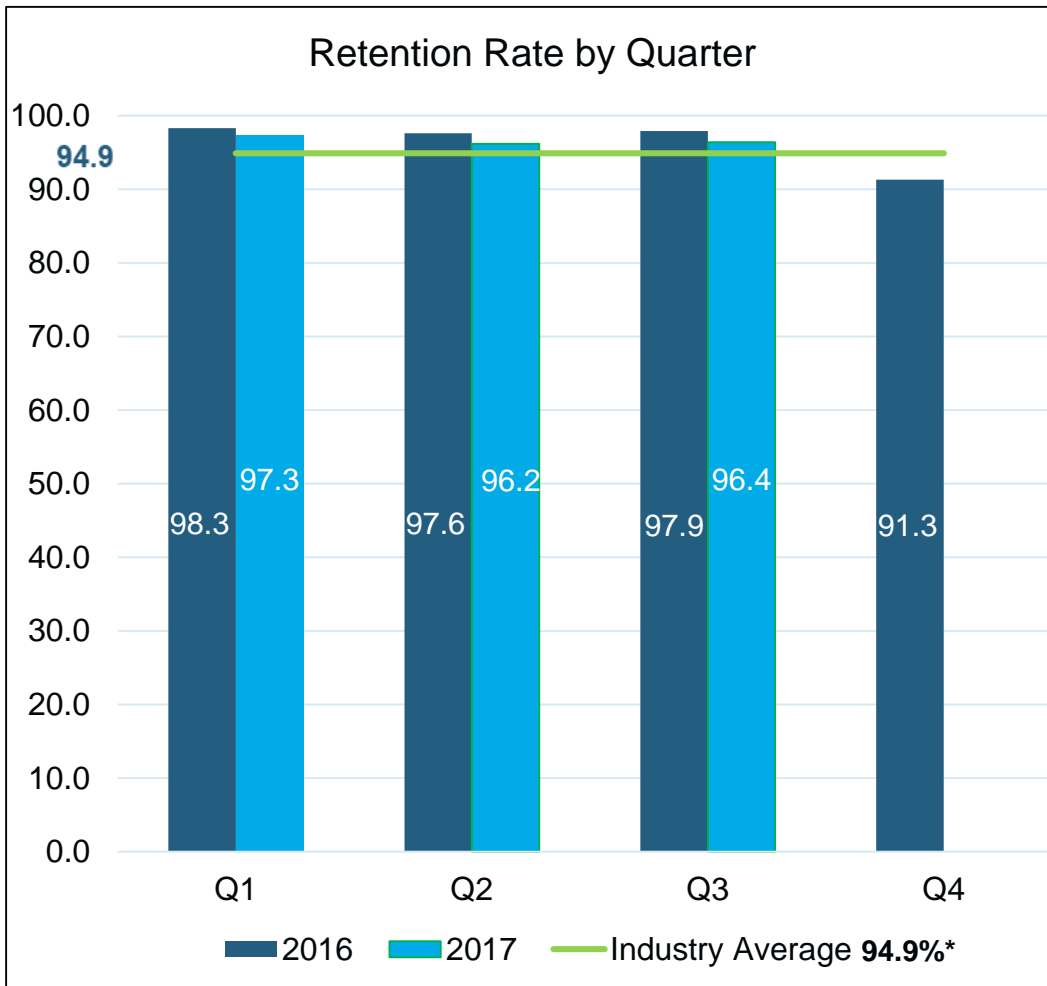
- Patrols are an indication of the level of services rendered by the staff of the Security & Integrity Group.

*\*Baseline patrol hours have been recalculated to include additional staff that have patrol responsibility. It now reflects 3915 hours for a 31-day month, with a 30-day month being 3786*

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



# Organizational Development



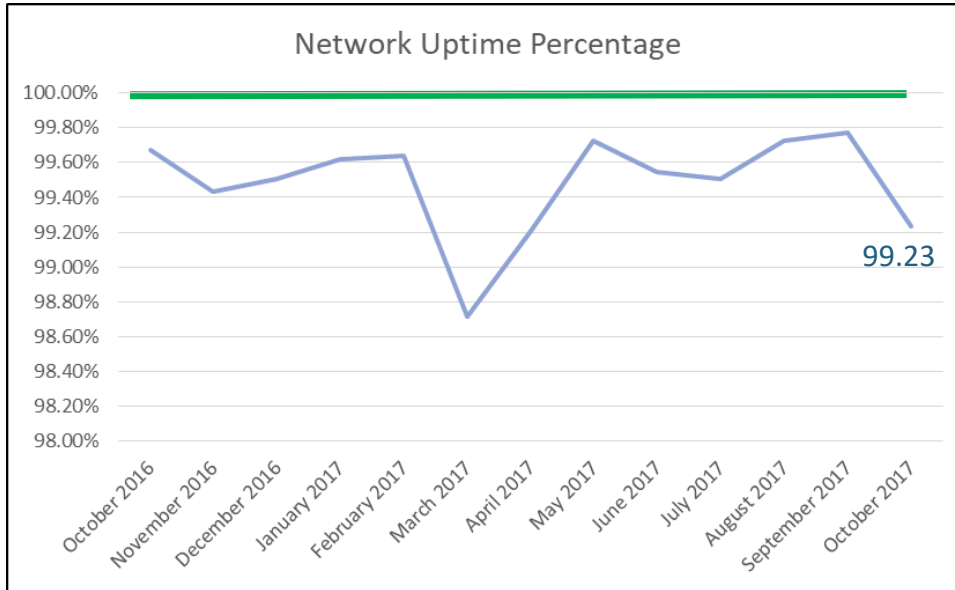
- Retention leads to decreased training costs, increased productivity, and cross training and development.

\*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

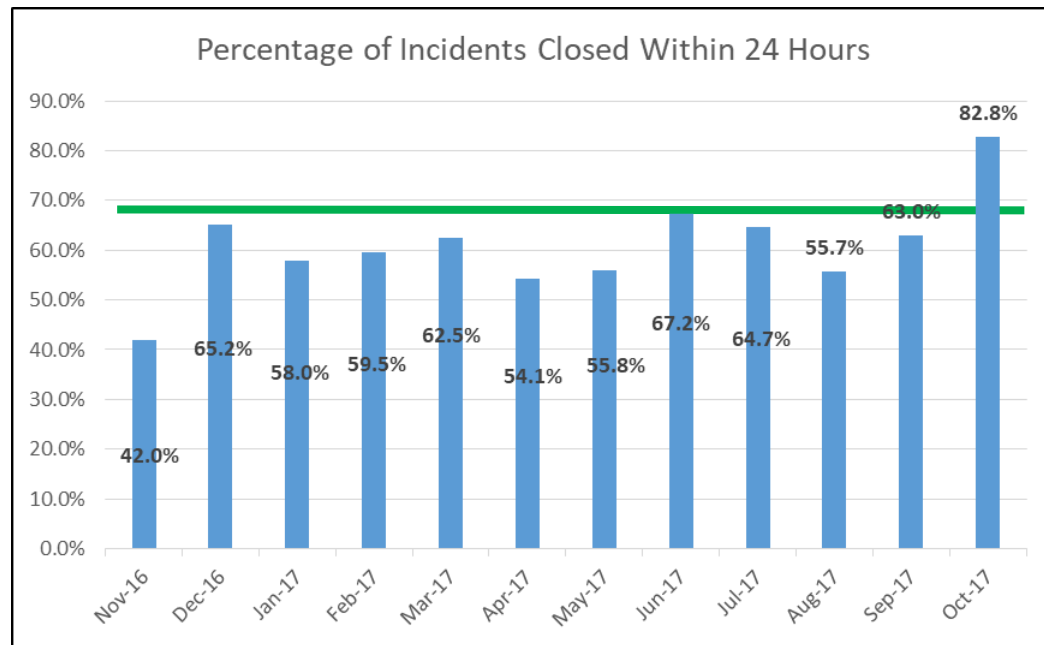
Information Updated: 10/4/17

# Information Technology



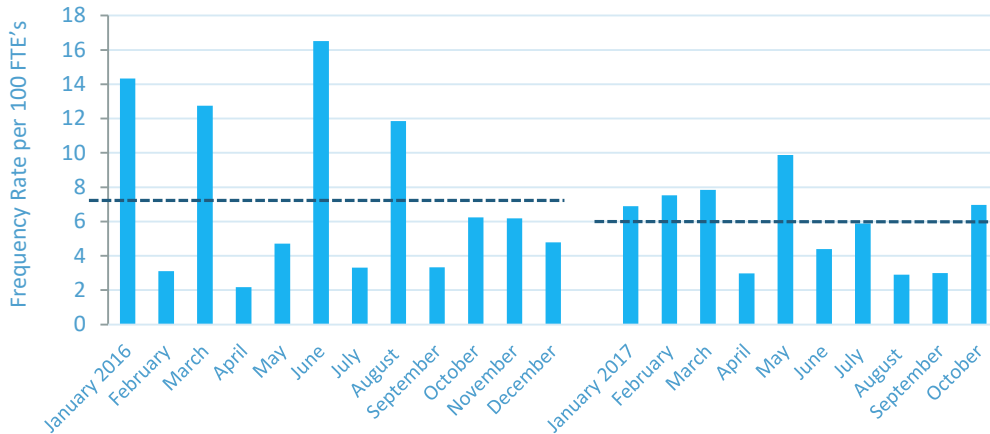
- GLWA has 59 network-connected sites, including offices, plants, pump stations and other facilities.
- Network connectivity allows employees to access the applications needed to do their work and connects plants and pump stations to the intranet to report operational data

- 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%.



# Key Workers' Compensation Metrics

Workers' Compensation Monthly Frequency Experience  
Total Reportable Cases per 100 Full Time Equivalents (FTE's)



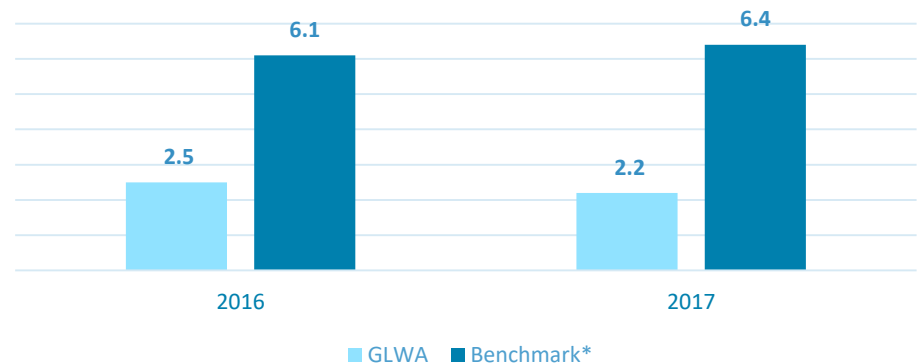
One measure of workplace risk mitigation efforts is the number of claims relative to hours worked (the exposure base). The horizontal lines represent an average frequency rate of 6.9 in 2016 and 5.8 for year-to-date 2017; a favorable improvement.

The improvement is the result of nominal claim counts holding relatively constant year-over-year, while total hours worked are rising as the labor force grows.

GLWA's recordable claim frequency rate has declined year-over-year while, at the same time, the Bureau of Labor Statistics rate for our industry has ticked up.

\*Benchmark based on Bureau of Labor Statistics for non-fatal injury and illness incident rates per 100 full-time equivalents for local government, Michigan, Utilities, Water/Sewage and Other Systems.  
<https://data.bls.gov/iirc/calculate.do>

Workers' Compensation Frequency Experience  
Total Recordable Cases per 100 Full Time Equivalents (FTE's)  
GLWA Rate vs. Benchmark Rate



# GREAT LAKES WATER AUTHORITY

## 24 x 7 OCCUPATIONAL INJURY TRIAGE PROGRAM METRICS

Period: January 1, 2017 – September 30, 2017  
(October date not yet available)

### 1. Total Call Volume & Mix Including Follow Up Calls:

			<u>Referred</u>	<u>Self Care</u>
ON TIME CALLS (within 24 hours)	41	83.7%	41.5%	<b>58.5%</b>
LATE CALLS (> 24 hours)	8	16.3%	<b>75.0%</b>	25.0%
Total # of Calls YTD:	49	100.0%		

### 2. Stay-At-Work Rate Calculation

On Time Calls w/Self Care	24	
Late Calls w/Self Care	2	
Less: Follow Up Calls Ultimately Referred	(4)	
Total Stay at Work w/Self Care	22	(A)
Total # of Calls	49	
Self Referred Before Triage	(4)	
Adjusted Total # of Calls	45	(B)
Stay at Work Rate:	48.9%	(A)/(B)

### 3. Estimated Savings:

Total Stay at Work w/Self Care	22
x Average Medical Only Cost (estimated)	\$435
= Estimated Medical Charges Avoided	\$9,570
+ Per Claim Med Only Charges Avoided x \$140 ea.	\$3,080
+ MBR Fees Avoided (assumes 1 bill/claim at \$8.50 ea.)	\$187
= Total Estimated Cost Avoidance:	\$12,837
- Total Costs (sum of Jan- Sep 2017 invoices)	-\$3,983
= Net benefit of program YTD (positive ROI)	\$8,854

