

“MIAMI RIVER BASIN WATER QUALITY IMPROVEMENT REPORT”
Action Item Matrix Quarterly Progress Report

Fourth Quarterly Report, 2017
(October-December)

Action Item:

- 4. Monitoring and Research
 - a. Continue monthly monitoring for water quality of Wagner Creek, Miami River, and adjoining Biscayne Bay

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Action Item Status:

Miami-Dade DERM has continued to collect monthly water quality samples in the Miami River and its tributaries (including Tamiami Canal, Comfort Canal and Wagner Creek). During the Fourth Quarter of 2018 samples were collected at each of the eight stations in the River and tributaries on First Tuesday of the first full week in October, November, and December. Costs for sampling (including salaries and fringe and analysis) have been calculated at approximately \$394 per station per month. No sewage spills were reported on or around the Miami River or its tributaries during the quarter.

The Florida Department of Environmental Protection (FDEP) revised the human health-based surface water quality criteria in Chapter 62-302, F.A.C that are designed to ensure that Floridians can safely eat Florida fish and drink local tap water. Based on updated scientific information, the FDEP discontinued the Fecal Coliform standard and instead adopted E. Coli in Class III fresh water and Enterococci in Class III saline waters, and required NPDES permittees to implement the changes. To that end, DERM discontinued sampling Fecal Coliform in December, 2018 and transitioned to collecting the parameters adopted by the State. Since then, DERM has recognized the need for continuity in order to maintain comparability with long-term trends and has resumed Fecal Coliform sampling until there is enough E. Coli and Enterococcus data to characterize bacteriological contamination levels in the subject area. Therefore, no Fecal Coliform data are available for this quarter, but it will again be presented in future reports.

Figures 1 - 6 below depict where monthly results for stations in the Miami River and the vicinity exceed the single sample standard of 126 cfu/100ml for E. Coli, and 35 cfu/100ml for Enterococcus. **Figures 7 and 8** are quarterly composite of E. Coli and Enterococci results respectively, from station locations on the Miami River and its tributaries showing how frequently the results at each station exceeded the standard during the Fourth Quarter of the year. Table 1 lists the observed E. Coli and Enterococcus levels in Wagner Creek and its confluence with the Miami River (MR03) for October-December.

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Biscayne Bay Surface Water Quality Monitoring Program
Escherichia Coliform Bacteria Sample Compliance
October 2017
Miami River and Tributaries

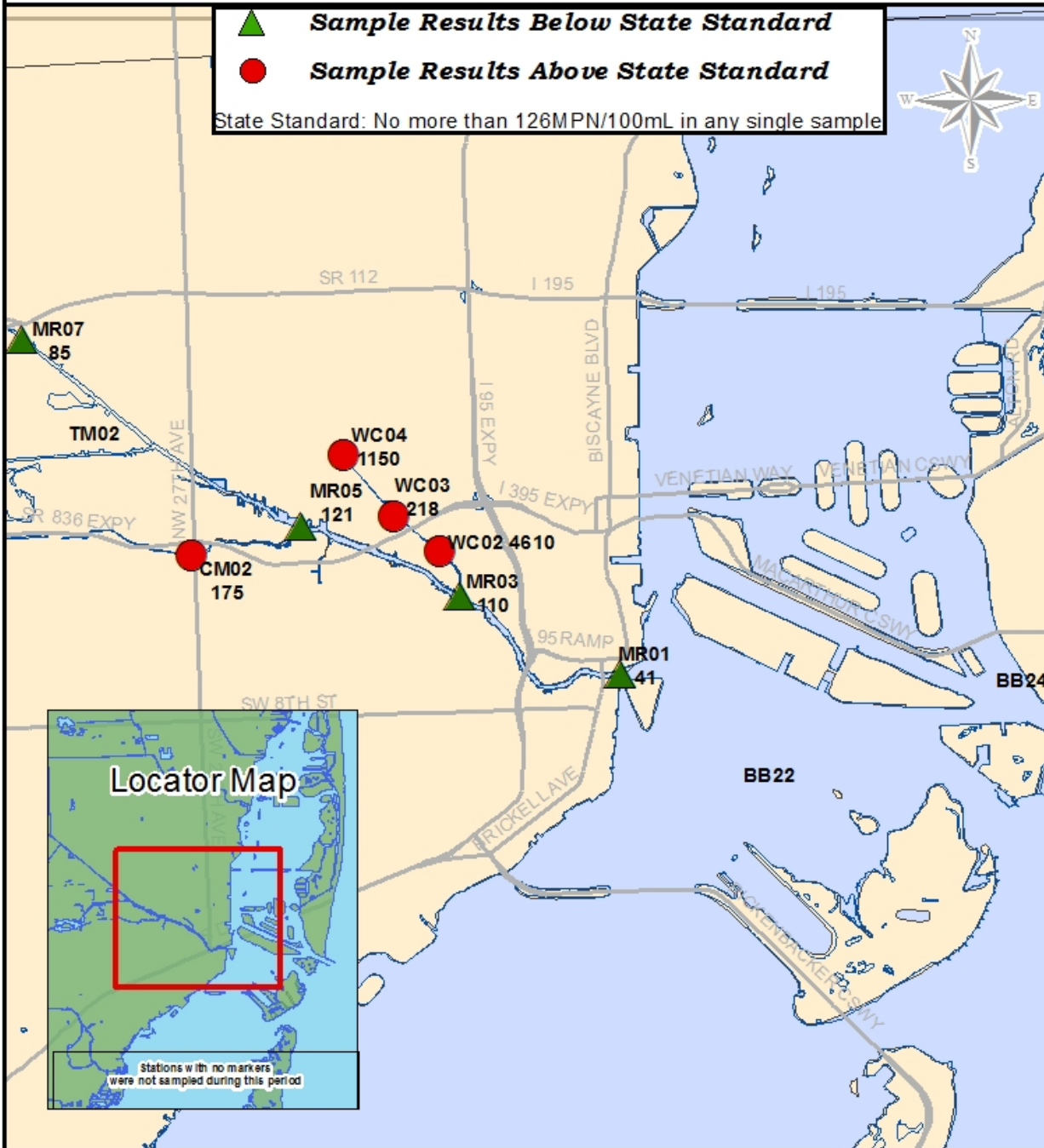


Figure 1.

Biscayne Bay Surface Water Quality Monitoring Program

Enterococci Bacteria Sample Compliance

October 2017

Miami River and Tributaries

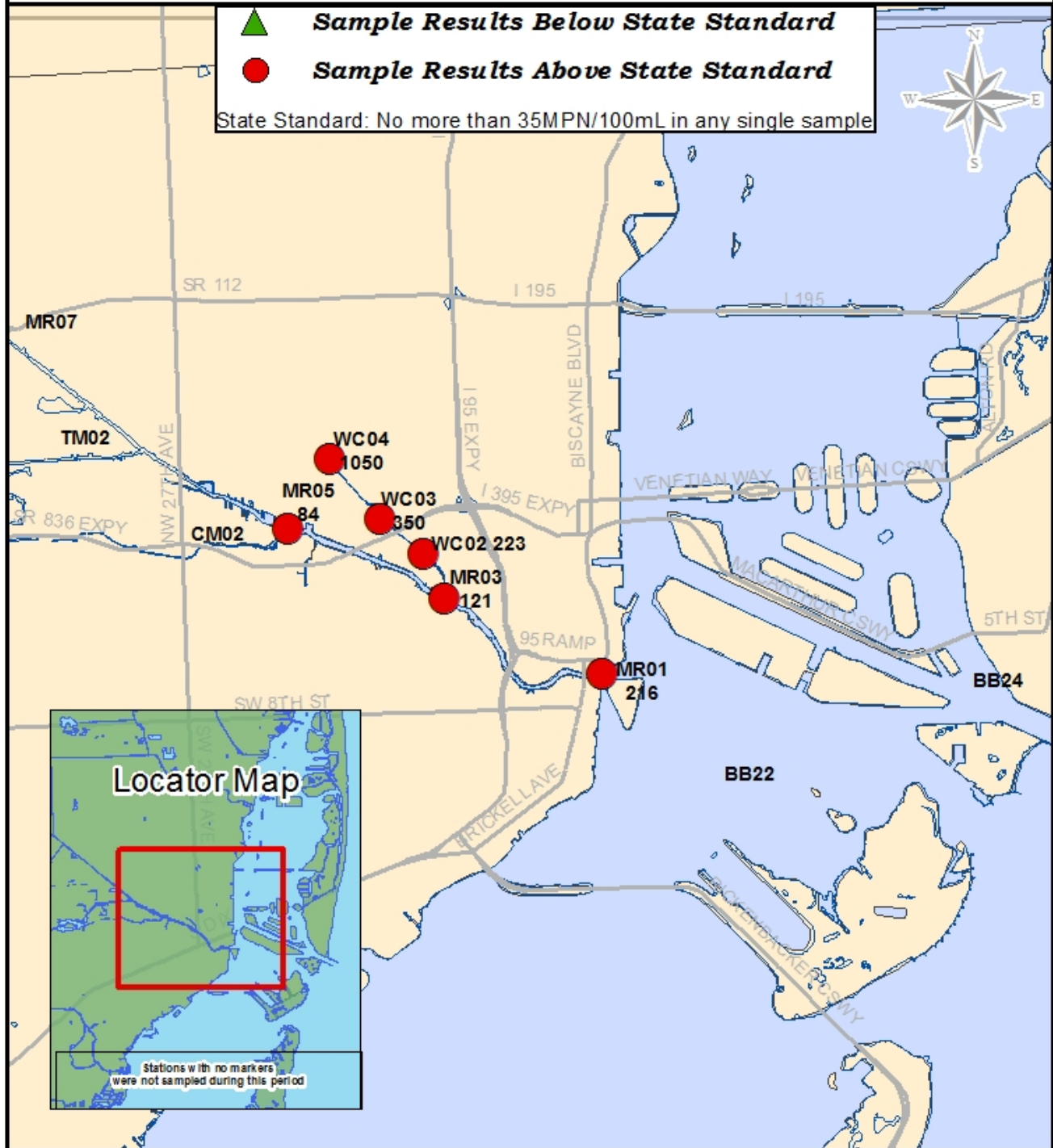


Figure 2.

Biscayne Bay Surface Water Quality Monitoring Program

Escherichia Coliform Bacteria Sample Compliance

November 2017

Miami River and Tributaries

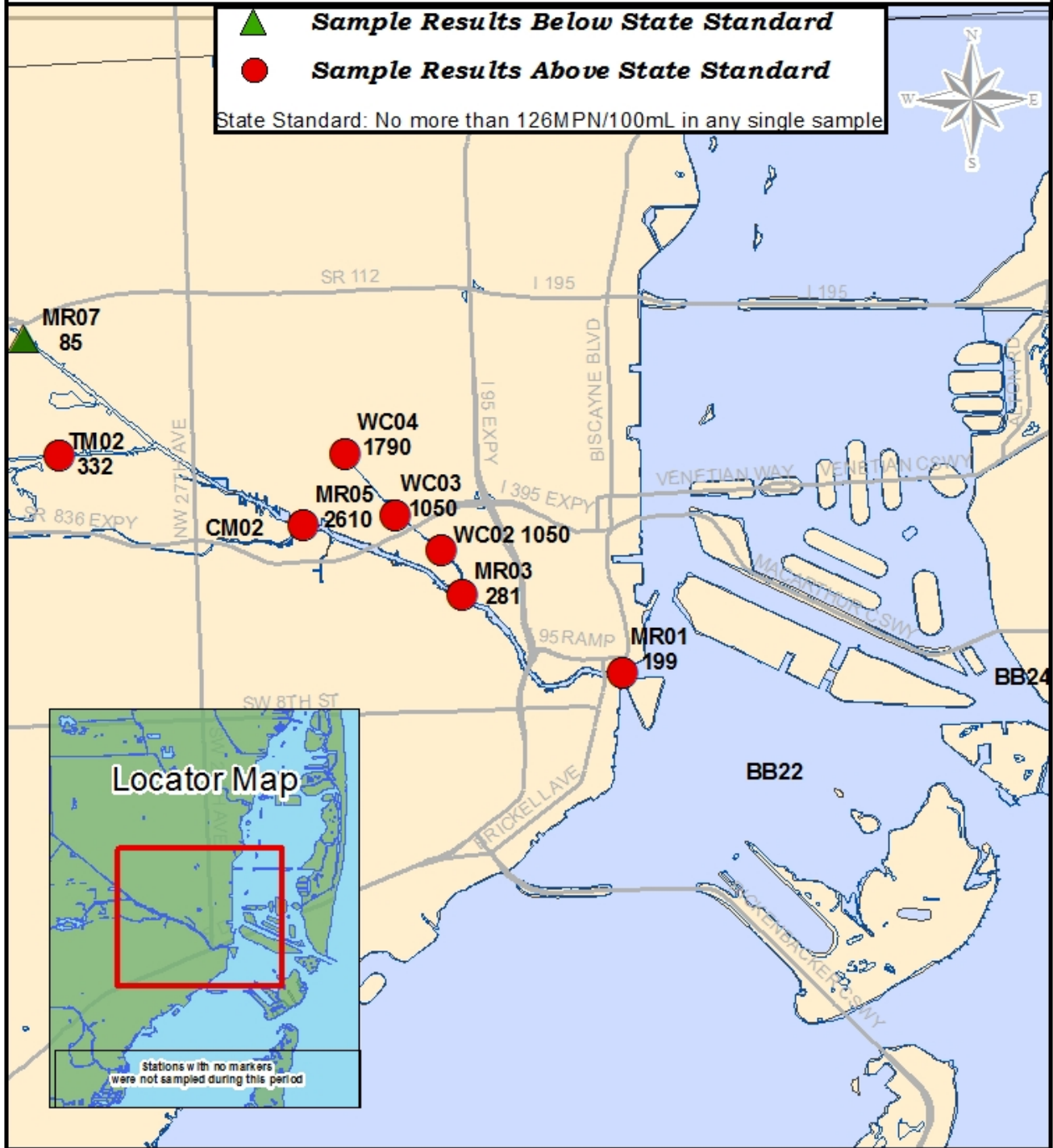


Figure 3.

Biscayne Bay Surface Water Quality Monitoring Program

Enterococci Bacteria Sample Compliance

November 2017

Miami River and Tributaries

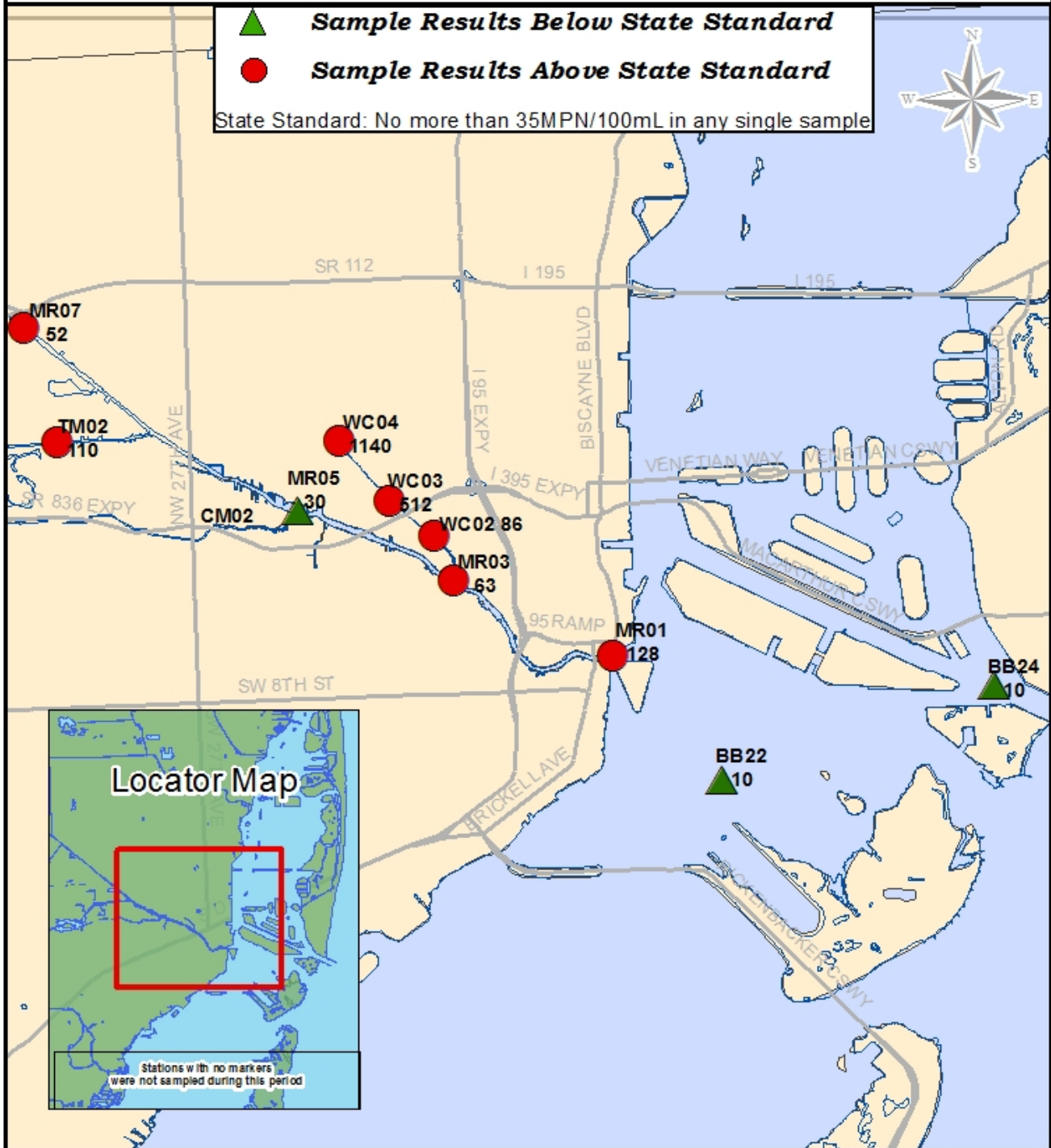


Figure 4.

Biscayne Bay Surface Water Quality Monitoring Program

Escherichia Coliform Bacteria Sample Compliance

December 2017

Miami River and Tributaries

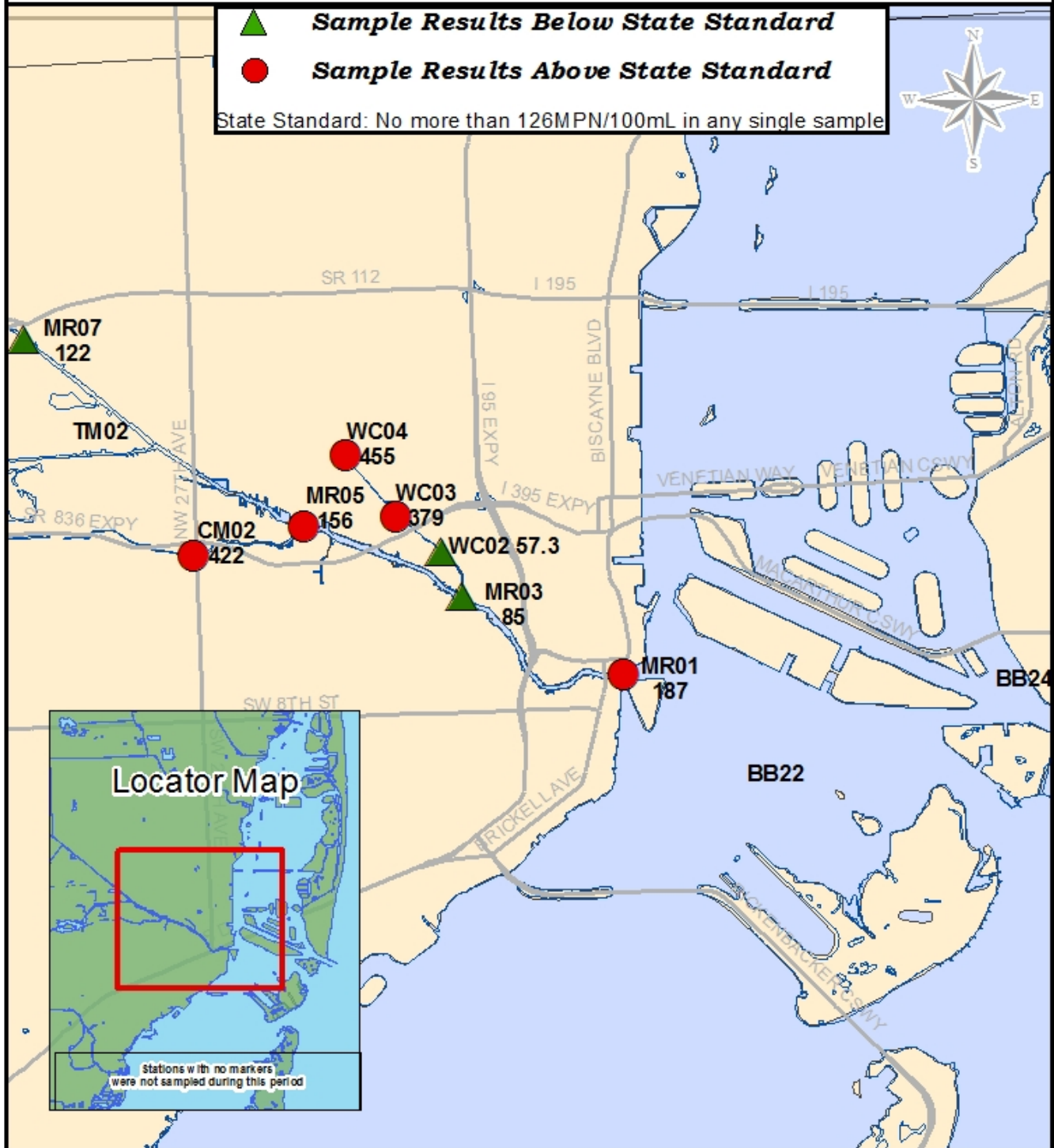


Figure 5.

Biscayne Bay Surface Water Quality Monitoring Program

Enterococci Bacteria Sample Compliance

December 2017

Miami River and Tributaries

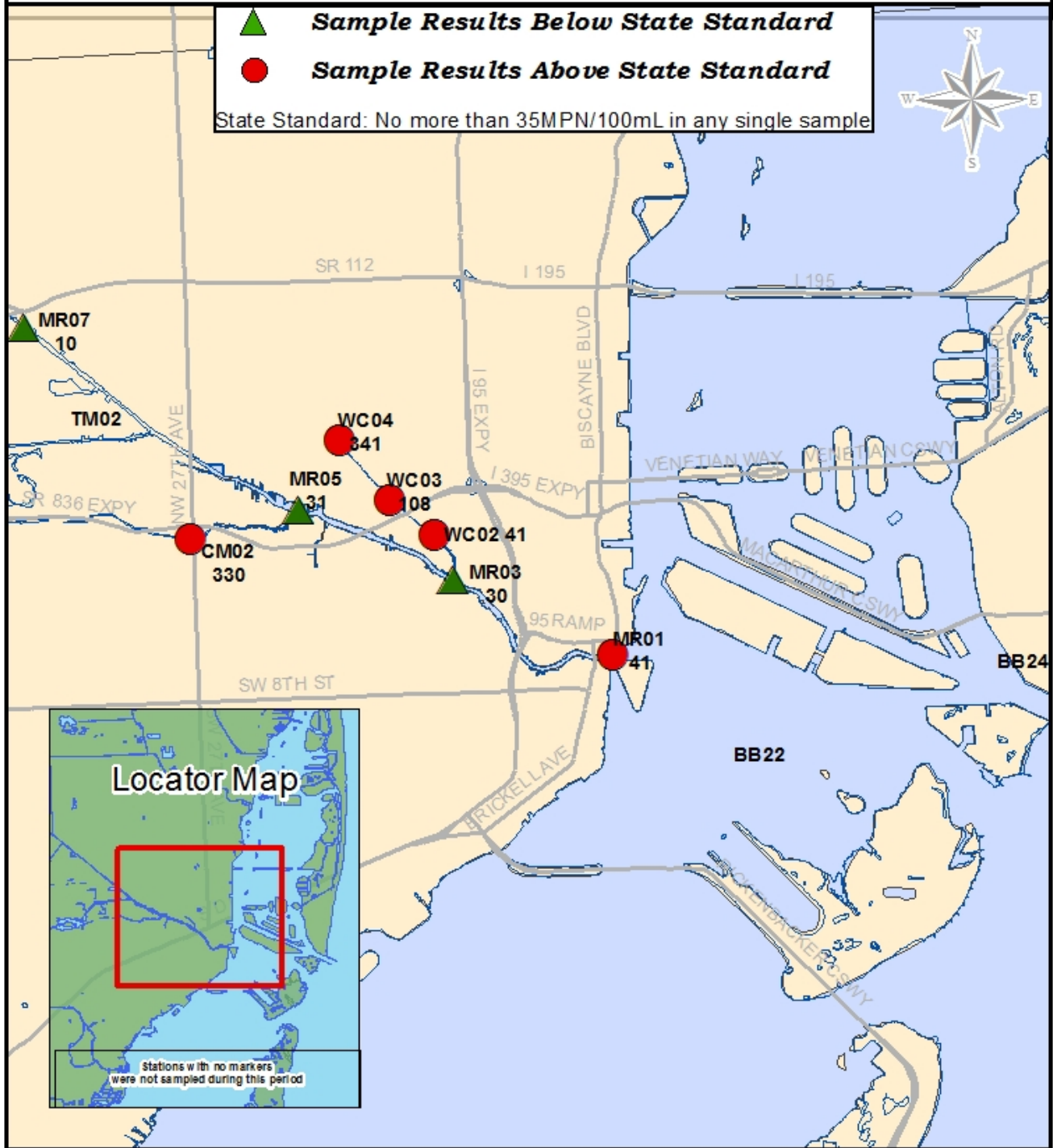


Figure 6.

Biscayne Bay Surface Water Quality Monitoring Program

Quarterly Summary of Escherichia Coliform Sample Compliance

July to September 2017

Miami River and Tributaries

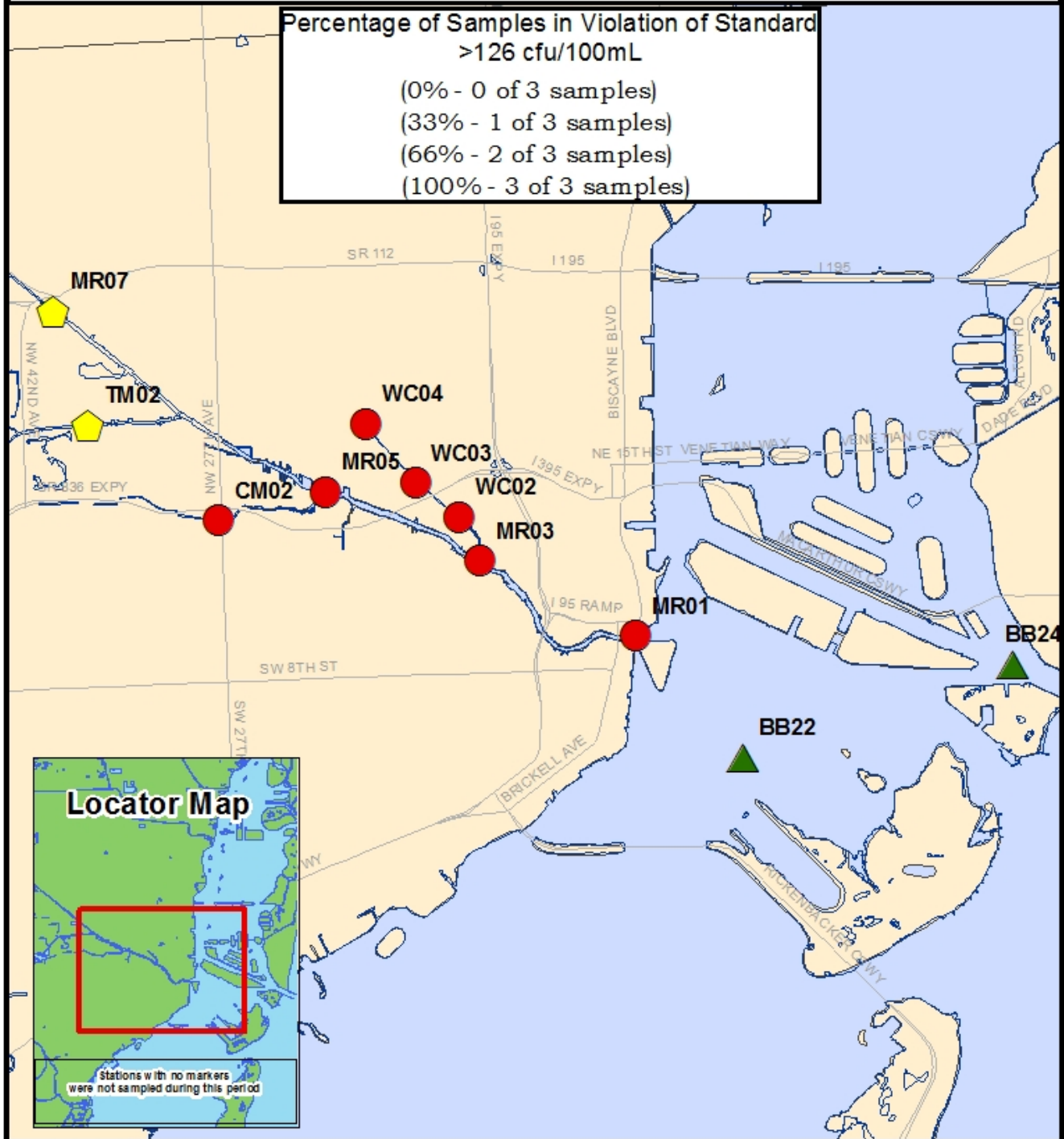


Figure 7.

Biscayne Bay Surface Water Quality Monitoring Program

Quarterly Summary of Enterococci Sample Compliance

July to September 2017

Miami River and Tributaries

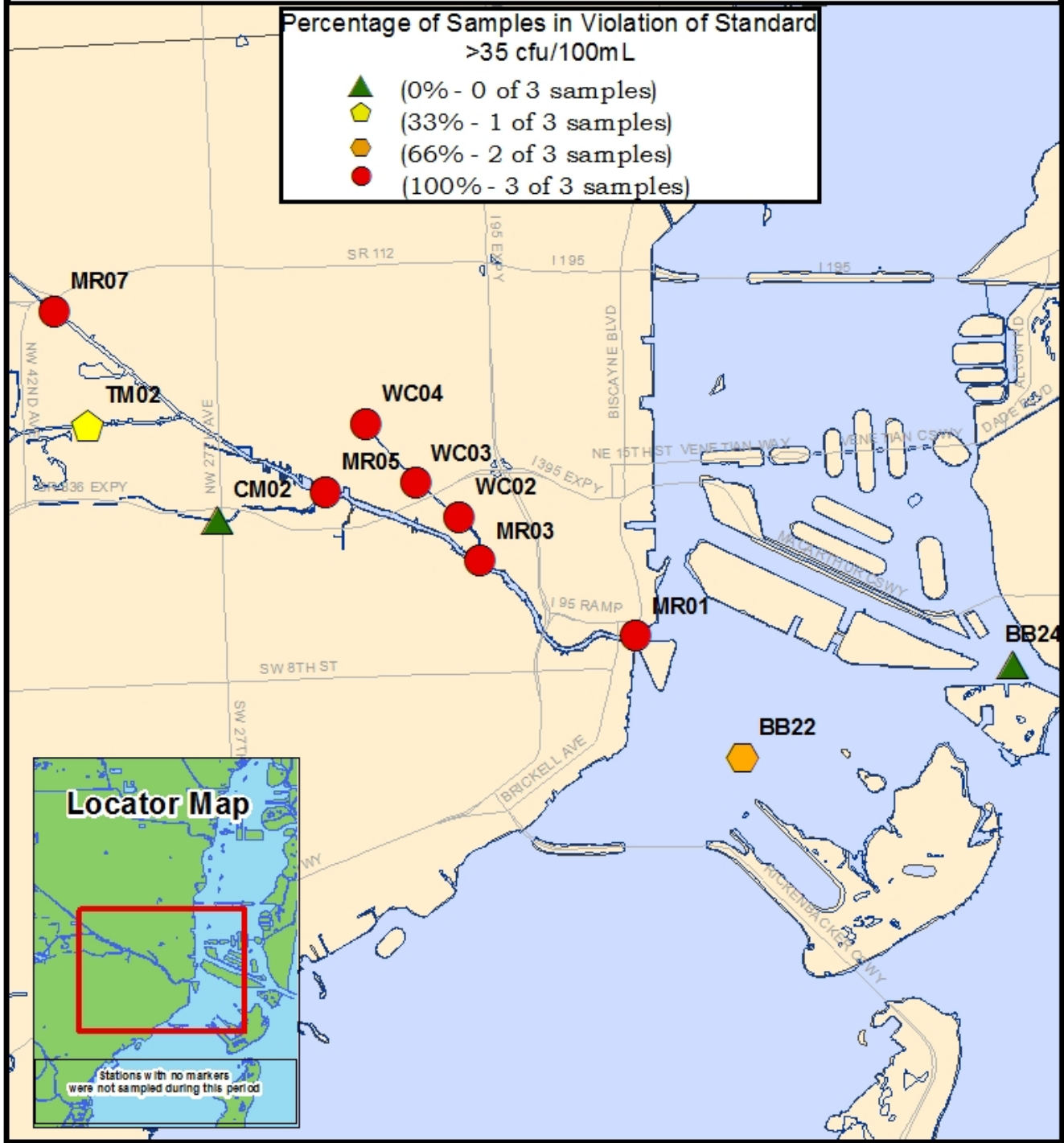


Figure 8.

Table 1.

MONTHLY FECAL COLIFORM LEVELS (cfu's/100 ml) IN WAGNER CREEK								
	MR03		WC02		WC03		WC04	
Parameter	E.Coli	Entero	E.Coli	Entero	E.Coli	Entero	E.Coli	Entero
October	110	121*	4610*	223*	218*	350*	1150*	1050*
November	281*	63	1050*	86*	1050*	512*	1790*	1140*
December	85	30	573*	41	379*	108*	455*	341*

A”*” indicates results that exceed the State’s E. Coli Standard (126 cfu/100ml) or Enterococci (35 cfu/100ml); a “0” indicates that the true value was below the method detection limit.

Fourth Quarterly Report, 2017
(October-December)

Action Item:

- 5. Management
 - d. Establish standardized water quality tracking for key characteristics

Lead Agency: Miami-Dade County DERM

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Action Item Status:

This report presents selected results of the water quality monitoring that occurred in the Fourth Quarter (October-December) of 2017. Due to the extensive nature of the database, it is not feasible to track each parameter collected at each station for the period of record. Therefore, representative parameters have been selected to achieve the objective of this Action Item. Current water quality trends will be tracked by plotting the actual sample results of several key parameters (see Charts 1-12 for graphs of Ammonia Nitrogen, Total Phosphate, Coliform species, and Turbidity data) throughout the river.

All currently monitored stations in the river were included with each parameter plotted on 3 separate graphs each representing the lower river, upper river, and Wagner Creek (See maps presented under action item 4.a for station locations). Data are plotted in time series from the previous ten-year (2007-2017) period, except for Enterococcus which only has 3 months of data available. For further comparison, the target values developed under Action Item 4.f are plotted, and where applicable, the existing state or county standard for each parameter is shown.

Chart 1.

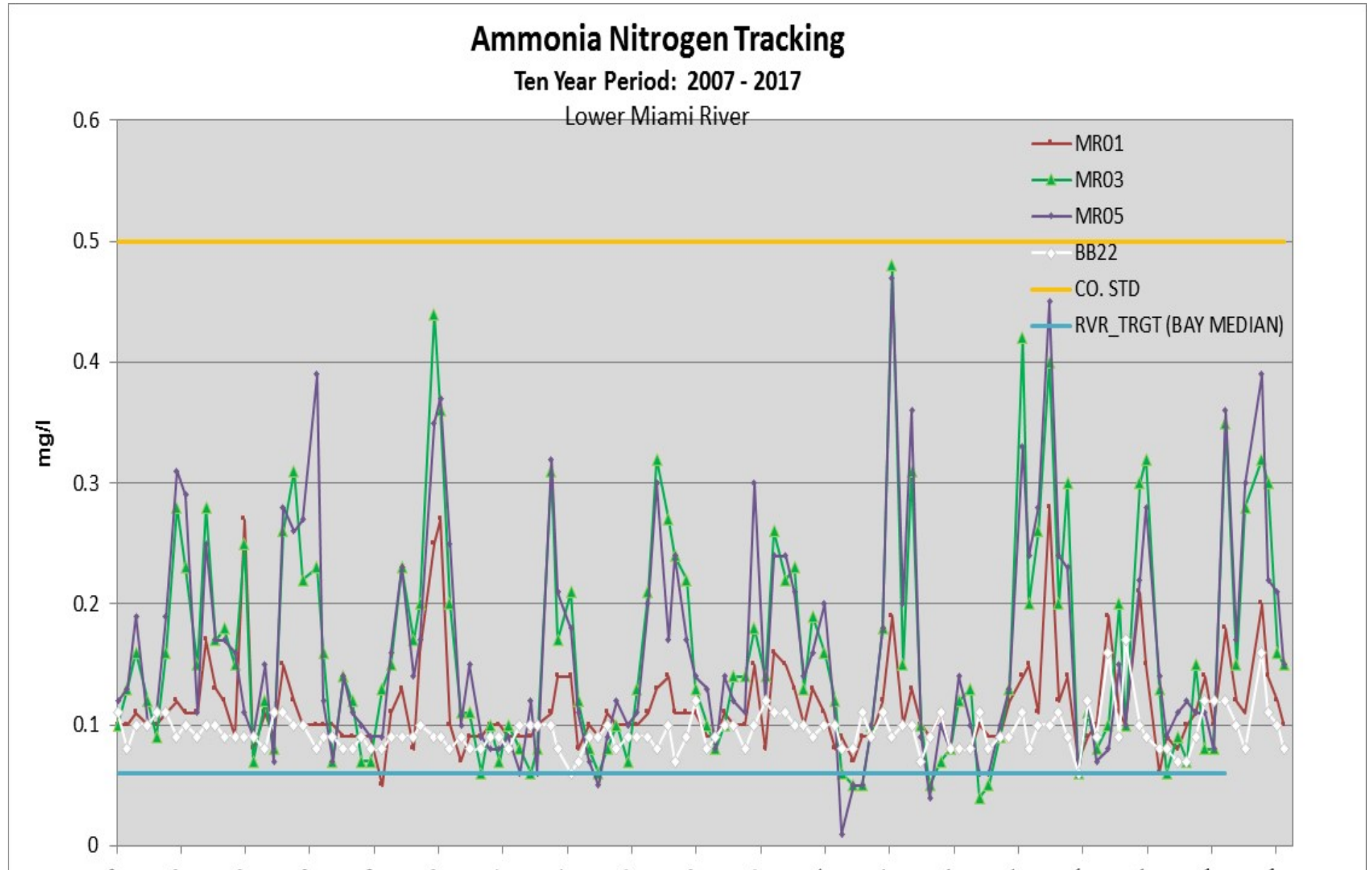


Chart 2.

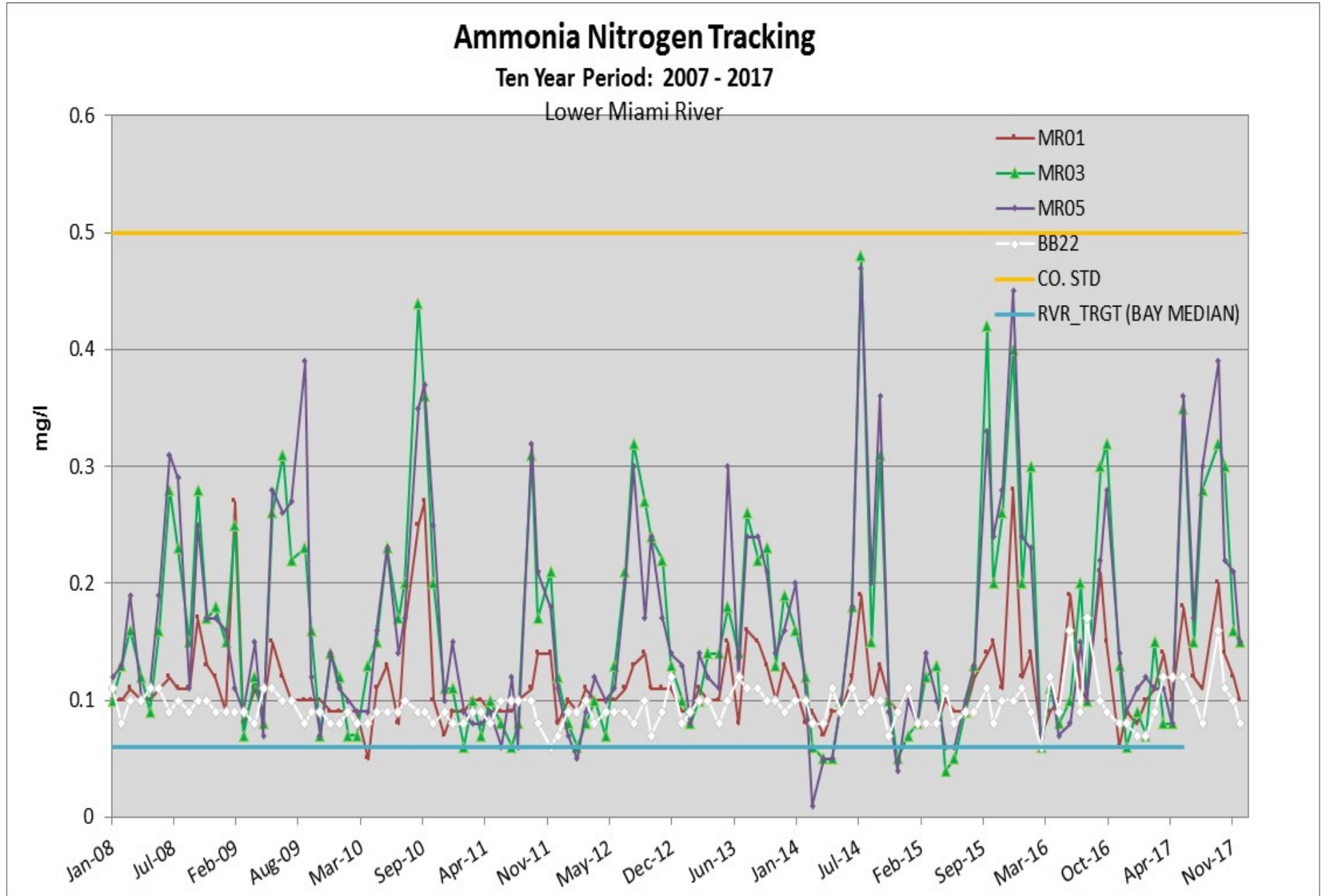


Chart 3

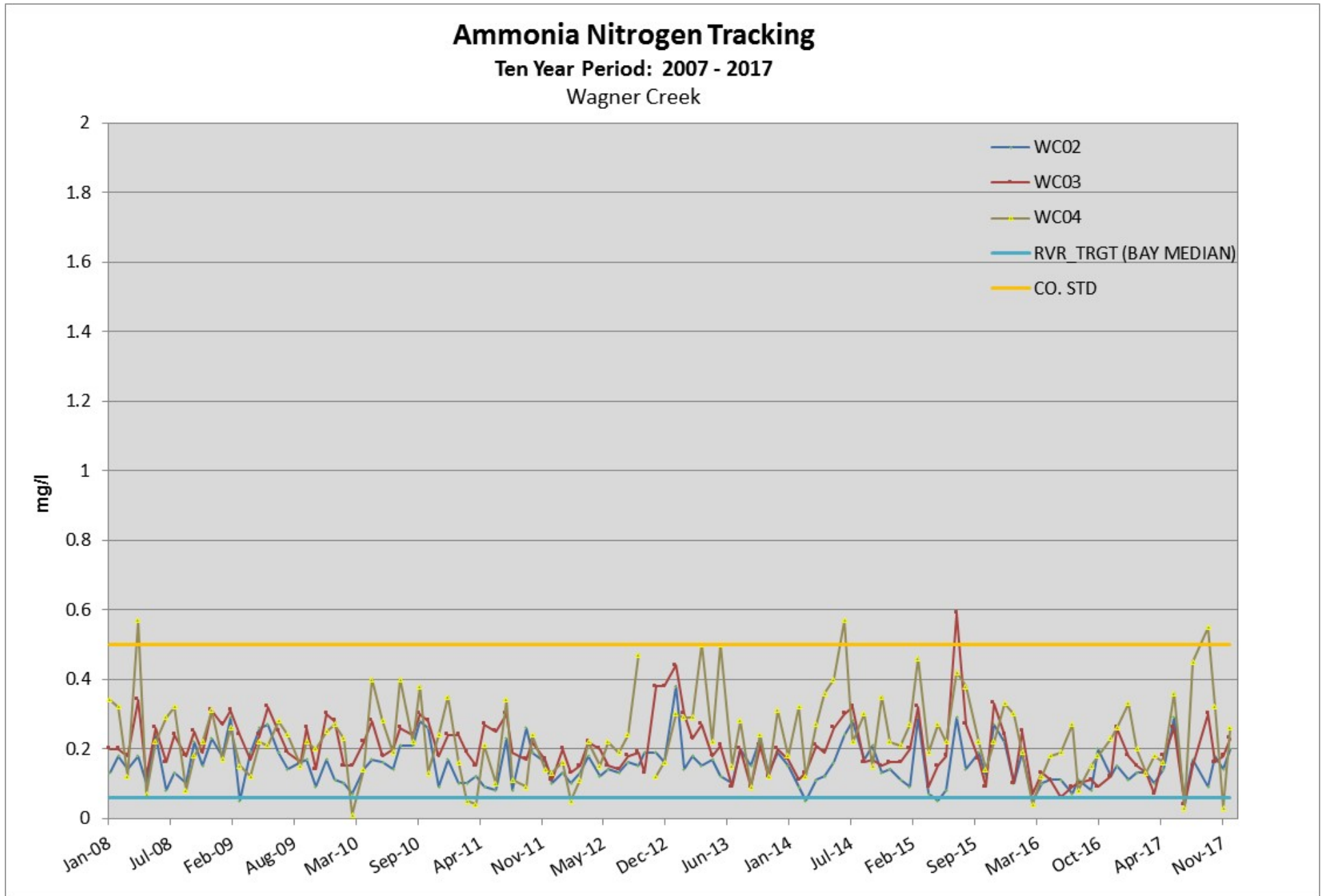


Chart 4.

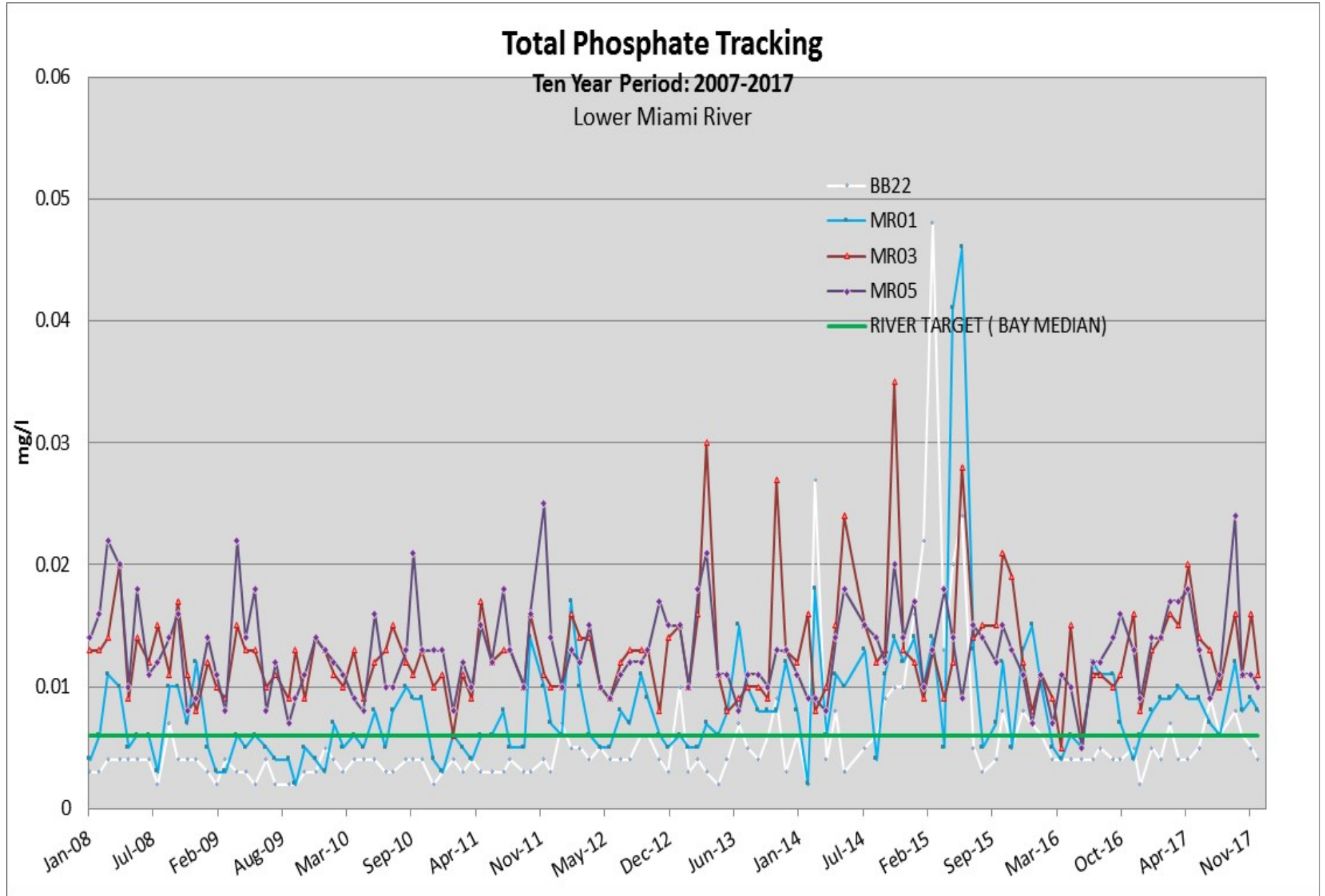


Chart 5.

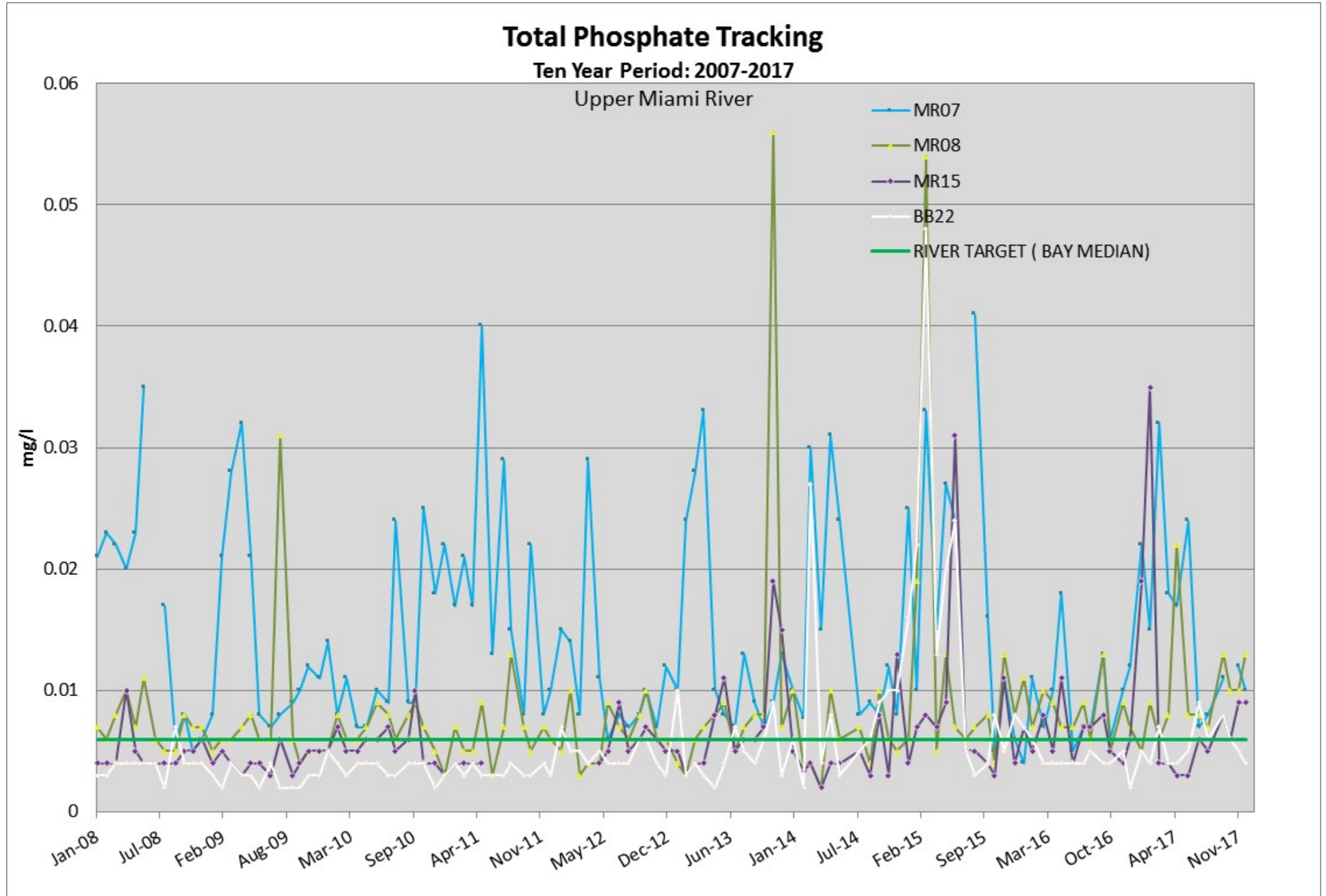


Chart 6.

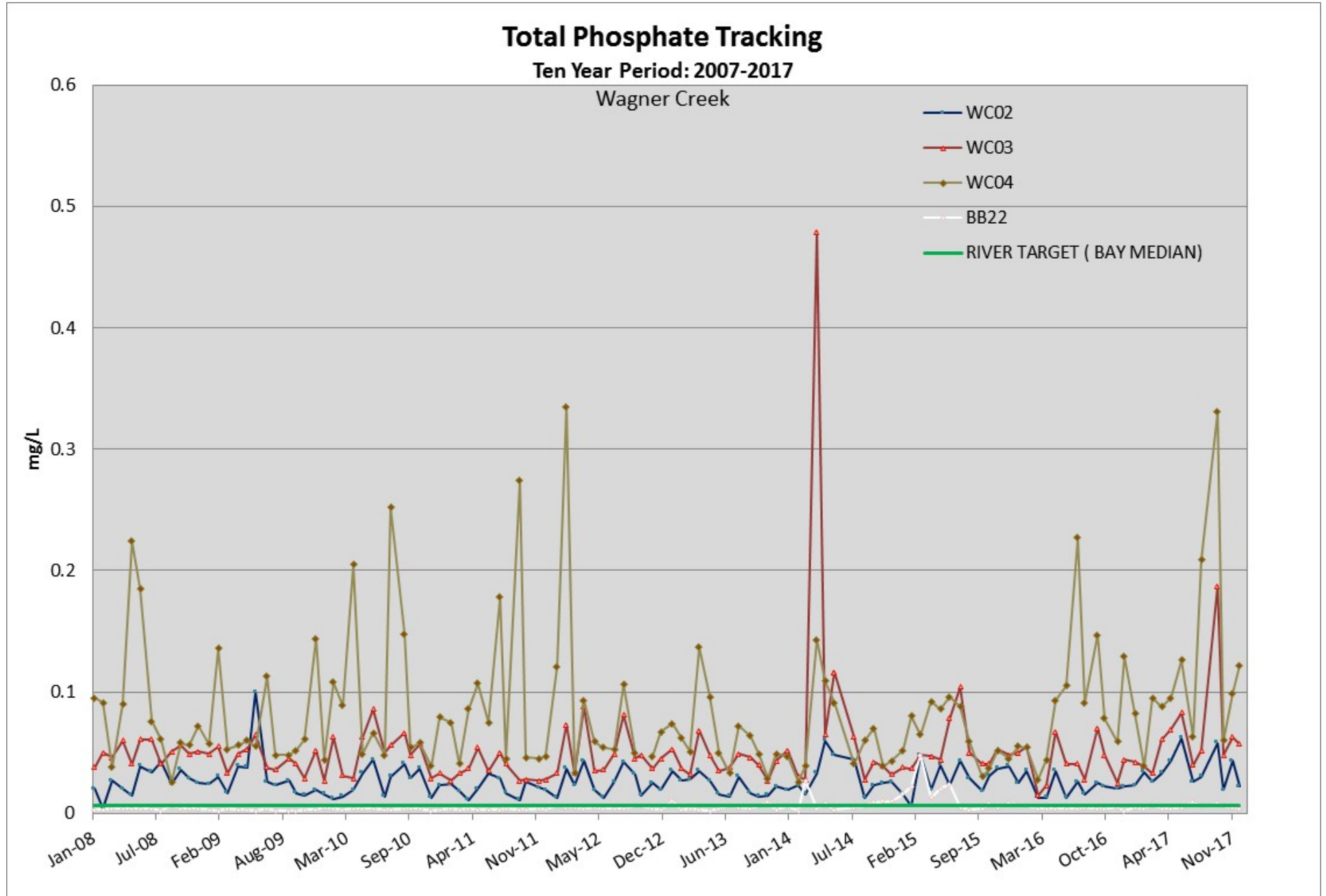


Chart 7.

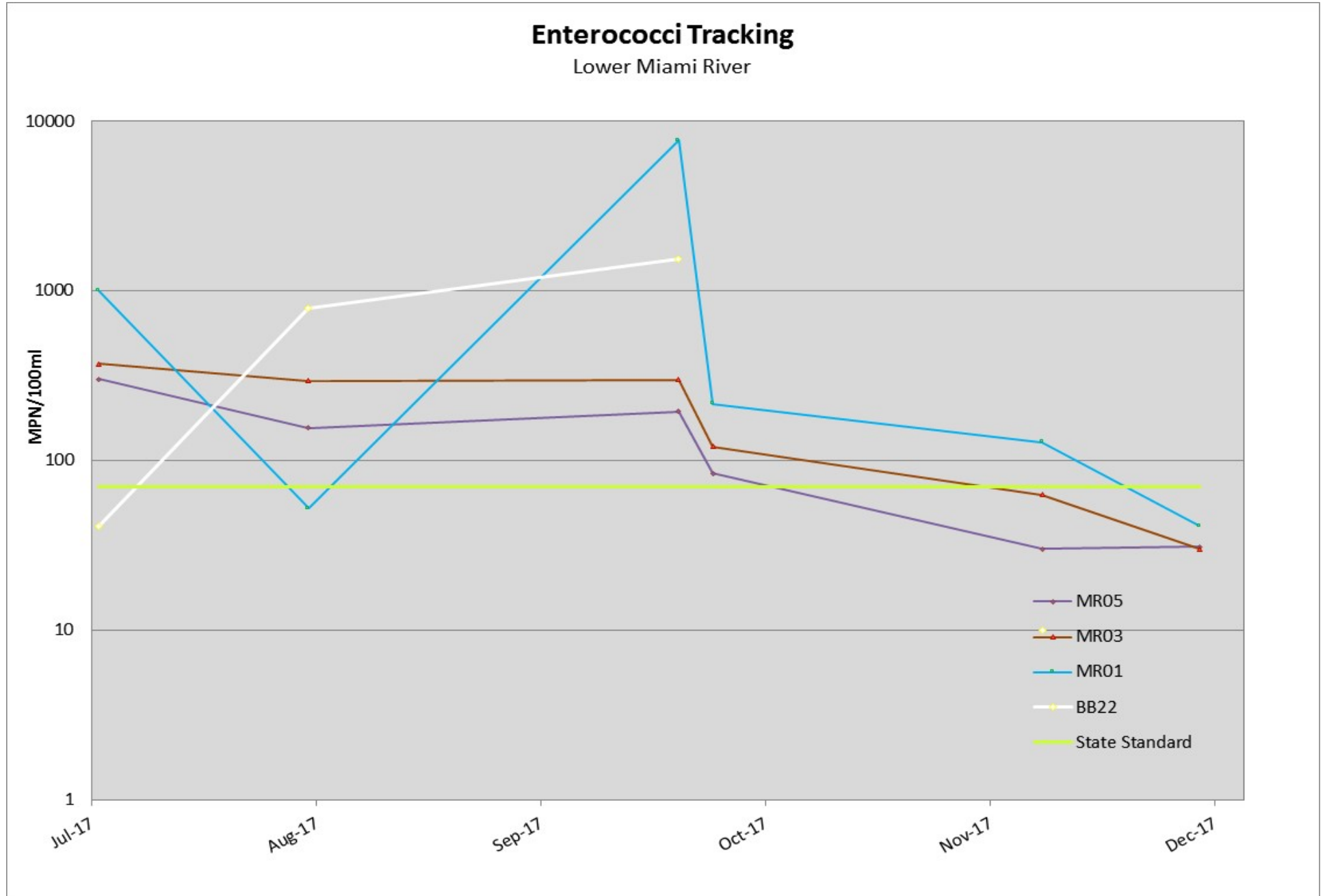


Chart 8.

Enterococci Tracking Upper Miami River

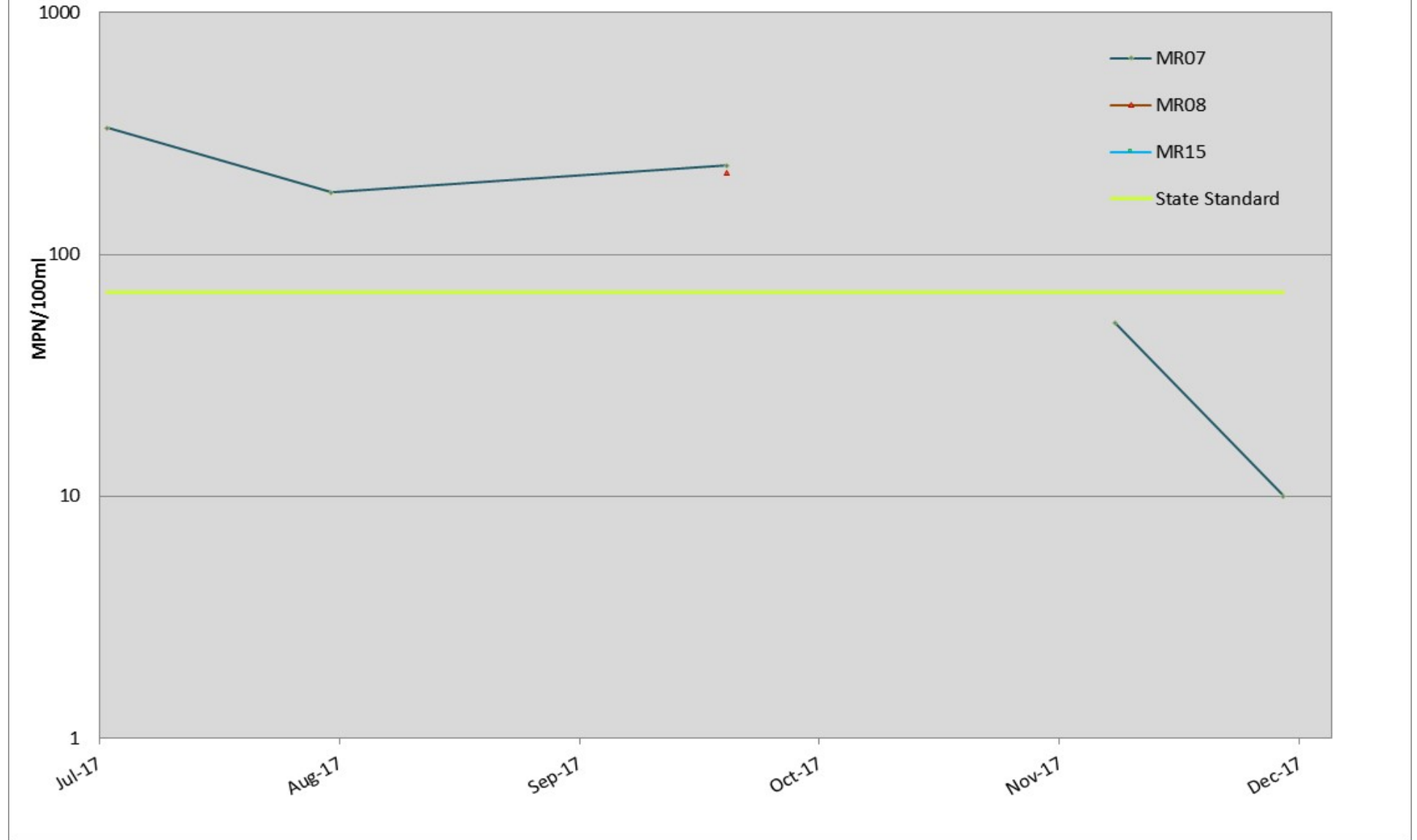


Chart 9.

Enterococci Tracking Wagner Creek

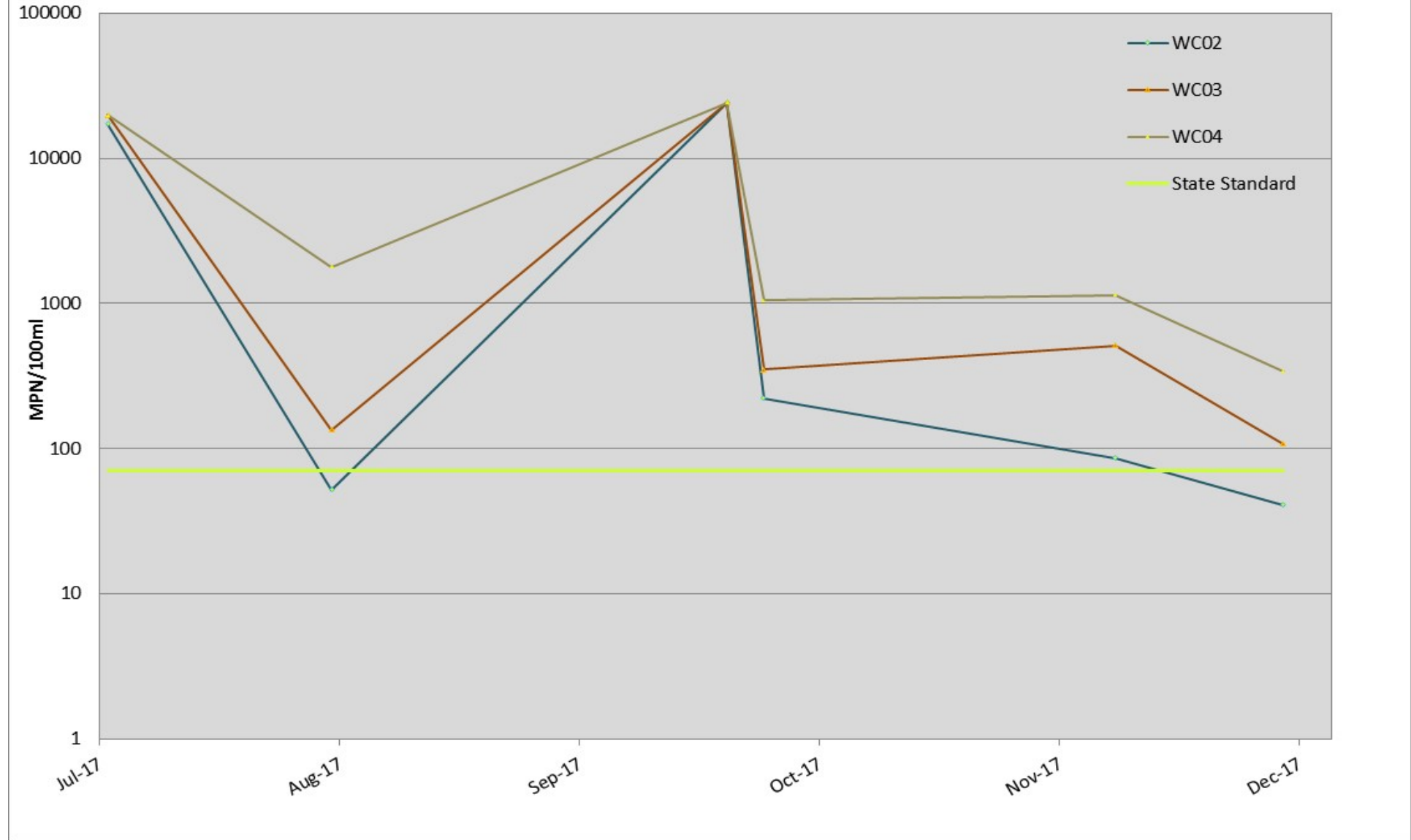


Chart 10.

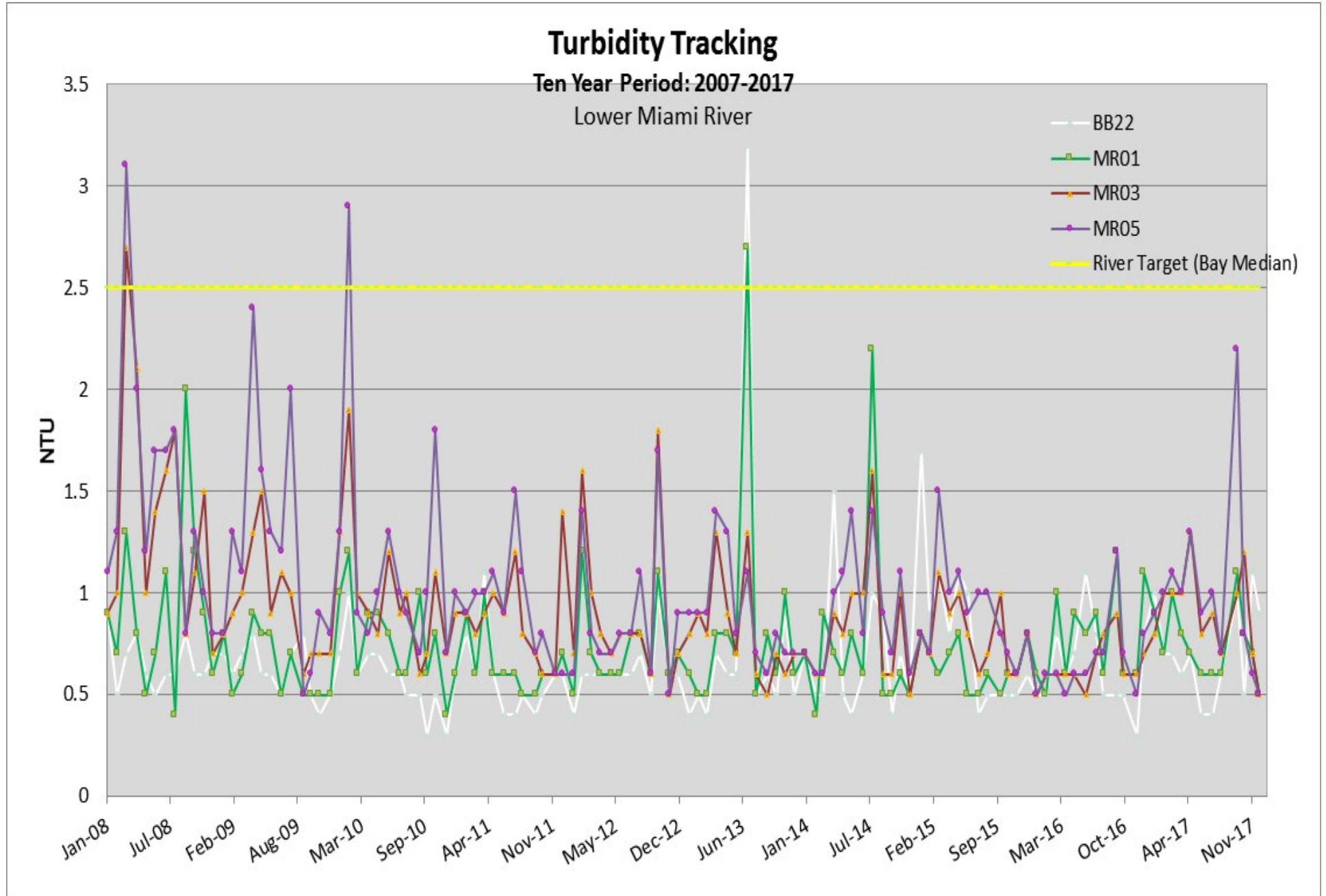


Chart 11.

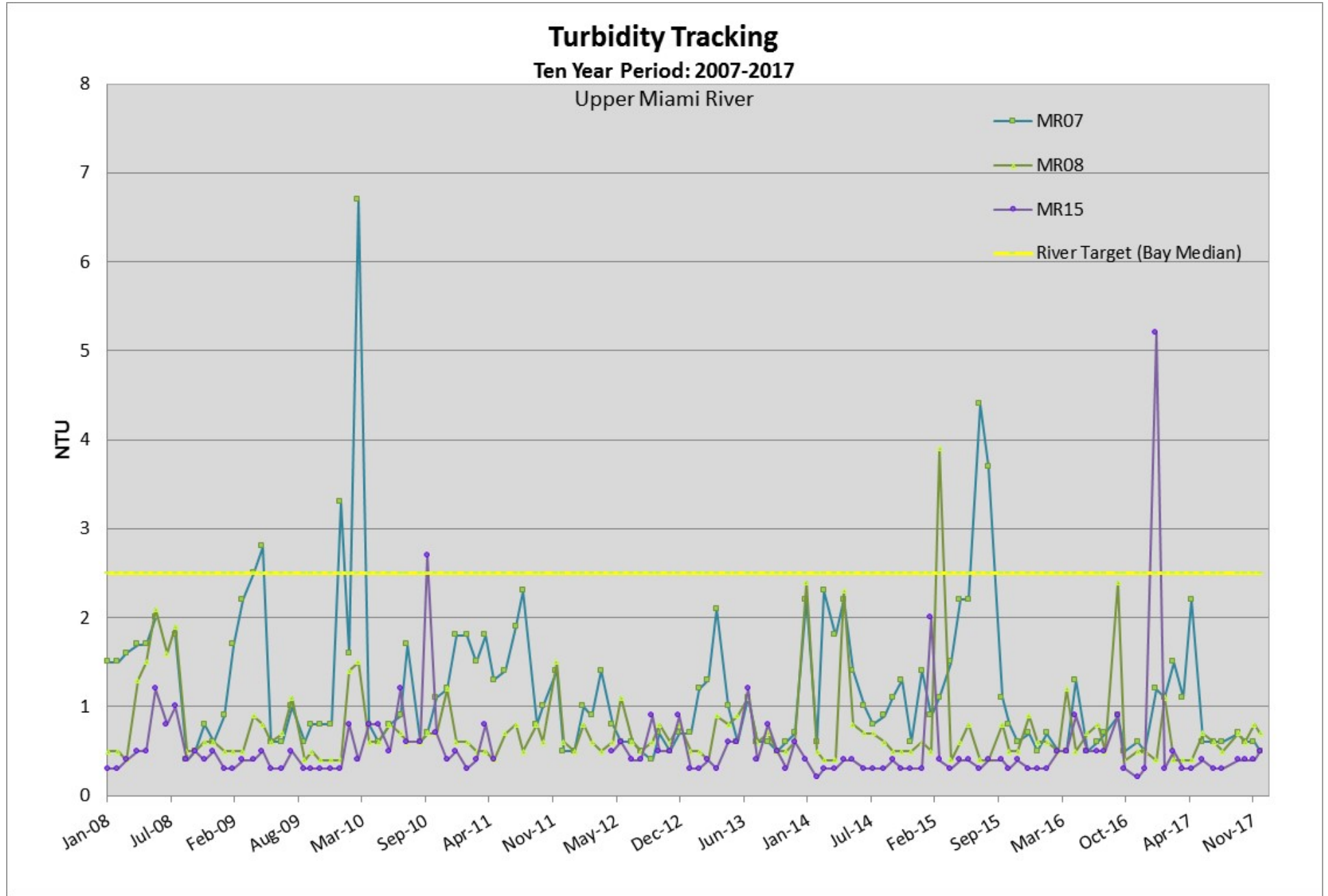


Chart 12.

