

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

Fourth Quarterly Report, 2021  
(October-December 2021)

**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 2021 samples were collected at each of the eight (8) stations in the River and tributaries on First Tuesday of the first full week in October and 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. Figures 1 -3 below depict where monthly results for stations in the Miami River and the vicinity exceed the single sample standard of 130 cfu/100ml for Enterococcus—the applicable indicator for saline locations. Figure 4 is a quarterly composite of Enterococci results from station locations on the Miami River and its tributaries showing how frequently the results at each station exceeded the standard during the Third Quarter of the year. Table 1 lists the observed Enterococcus values, as well as E. Coli levels, in Wagner Creek and its confluence with the Miami River (MR03) for October-December.

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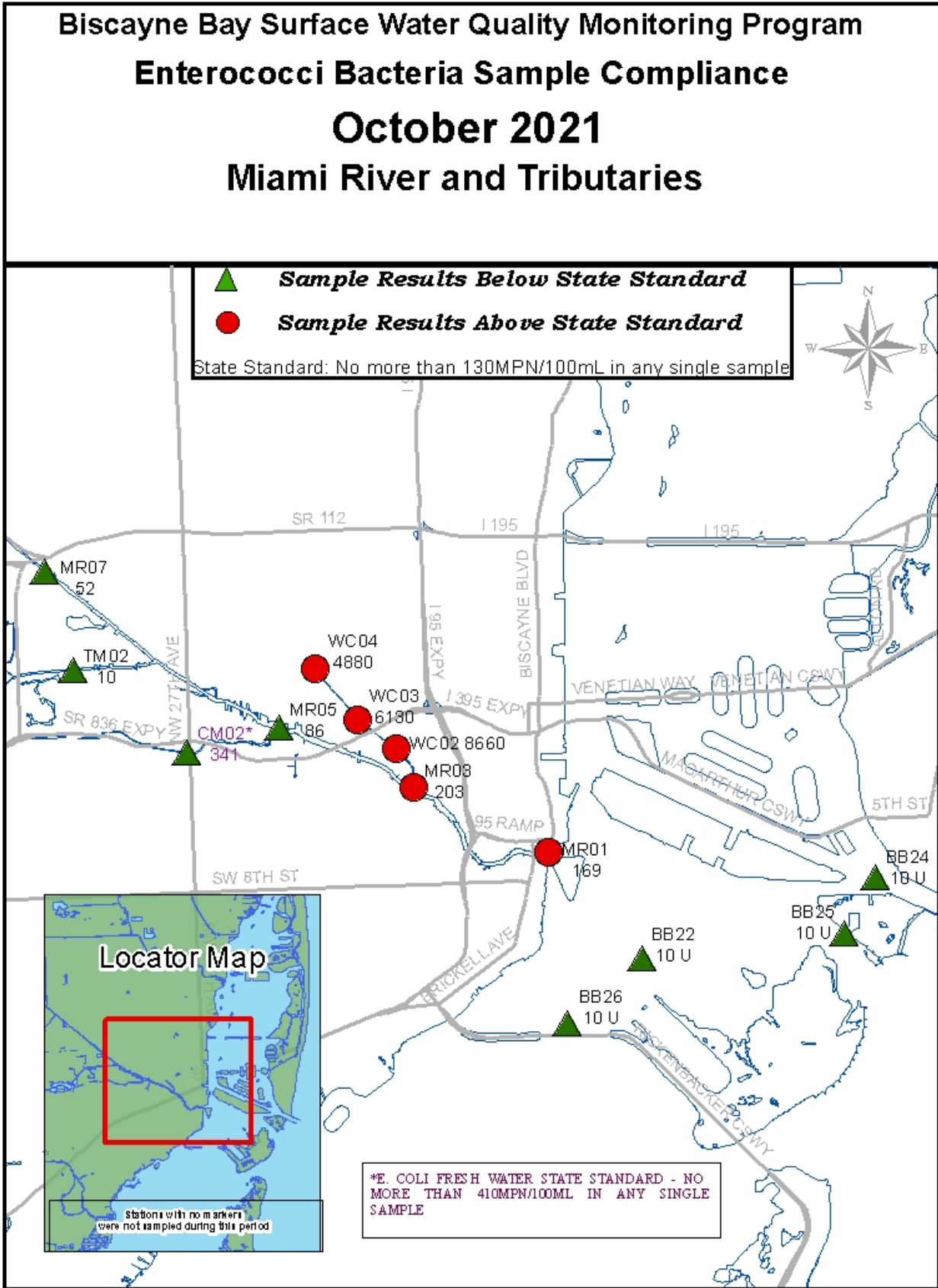


Figure 1.

# Biscayne Bay Surface Water Quality Monitoring Program

## Enterococci Bacteria Sample Compliance

### November 2021

#### Miami River and Tributaries

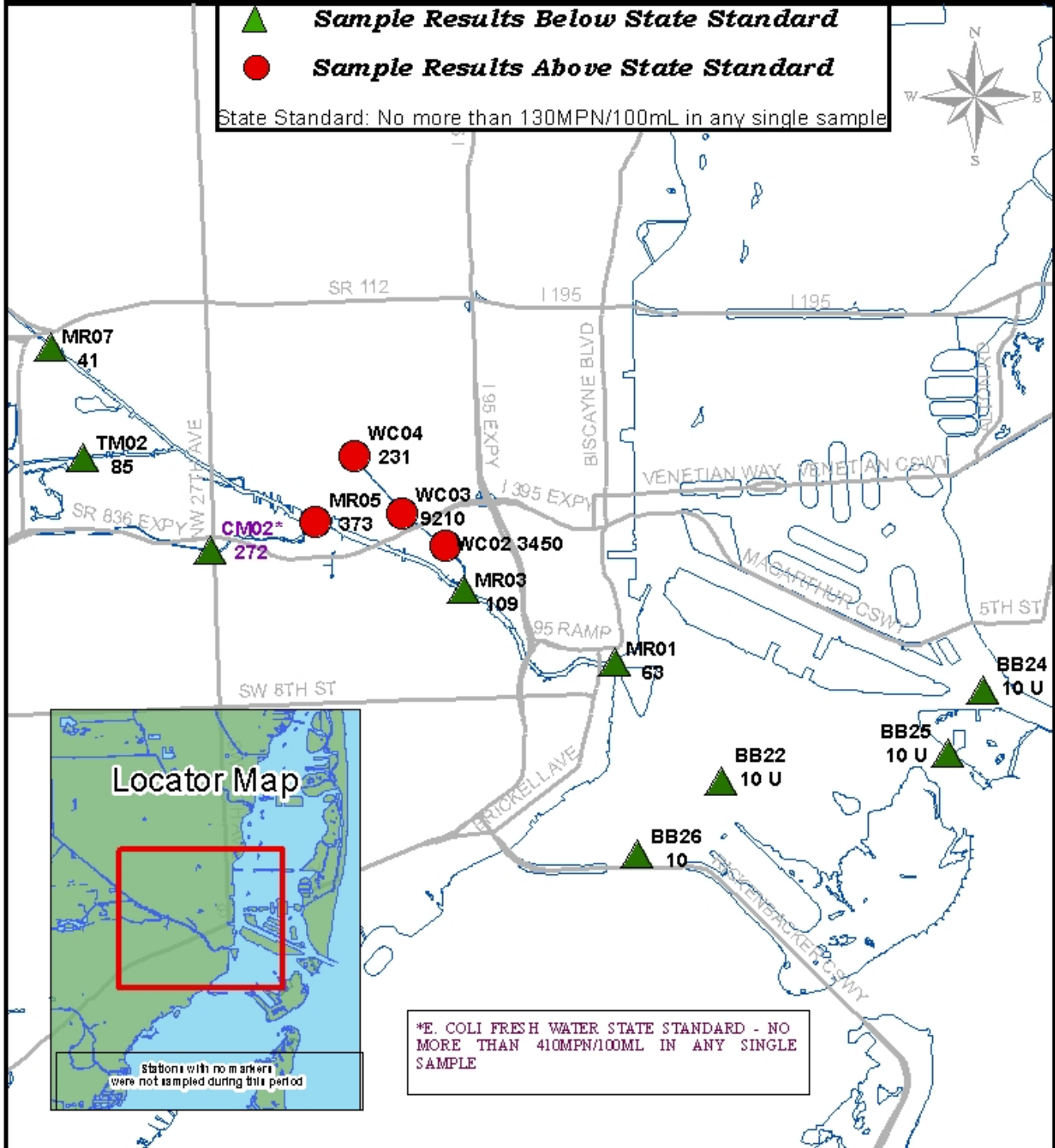


Figure 2.

# Biscayne Bay Surface Water Quality Monitoring Program

## Enterococci Bacteria Sample Compliance

### December 2021

#### Miami River and Tributaries

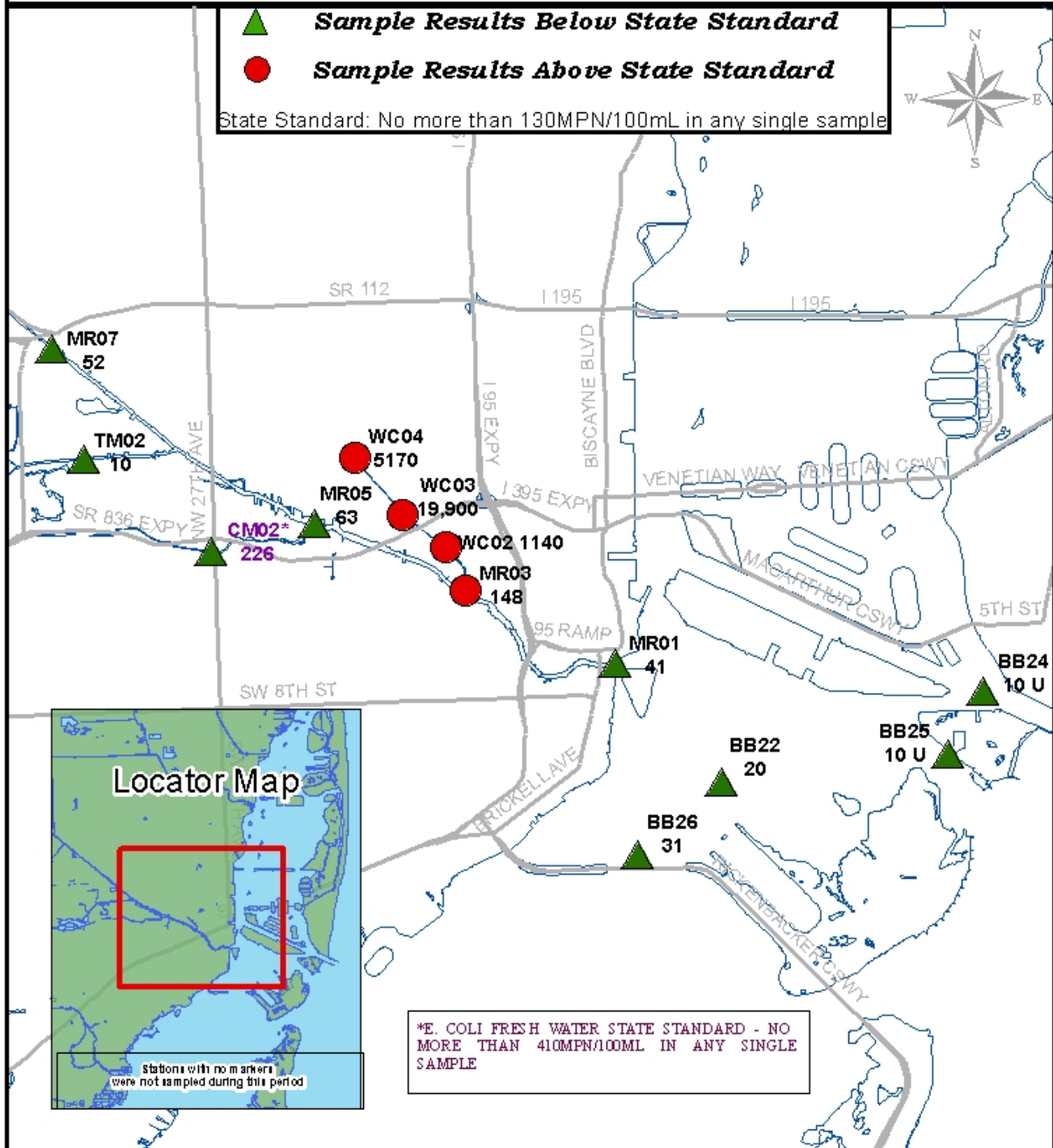


Figure 3.

# Biscayne Bay Surface Water Quality Monitoring Program

## Quarterly Summary of Enterococci Sample Compliance

### October to December 2021

### Miami River and Tributaries

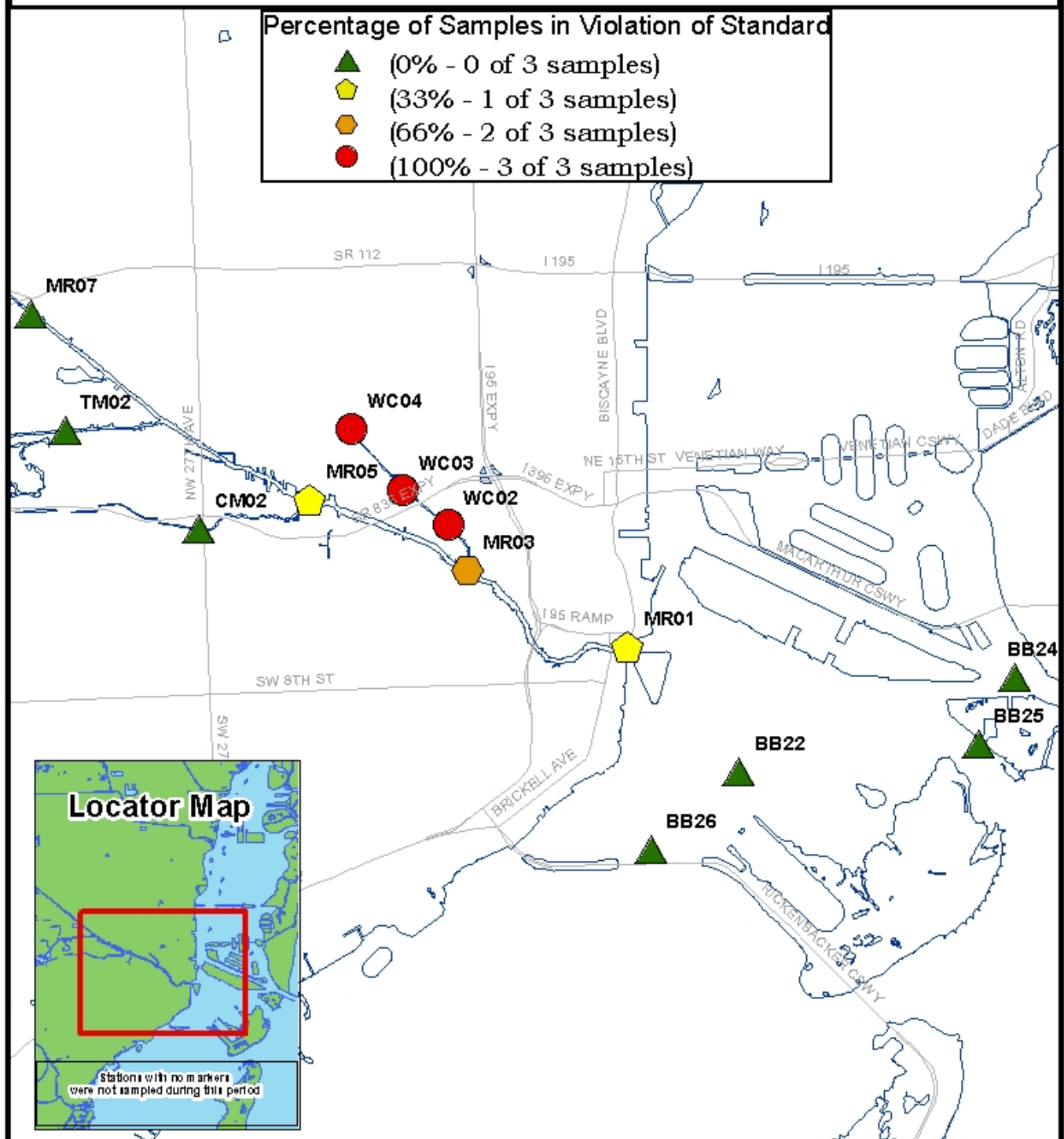


Figure 4.

**Table 1.**

MONTHLY INDICATOR BACTERIA LEVELS (cfu's/100 ml) IN WAGNER CREEK								
	MR03		WC02		WC03		WC04	
Parameter	Entero	E.Coli	Entero	E.Coli	Entero	E.Coli	Entero	E.Coli
October	203*	218	8660*	8160*	6130*	2600*	4880*	8660*
November	109	262	3450*	2310*	9210*	8160*	231*	443*
December	148*	209	1140*	594*	19900*	24196*	5170*	24196*

A "\*" indicates results that exceed the State's E. Coli Standard (410 cfu/100ml) or Enterococci (130 cfu/100ml); a "0" indicates that the true value was below the method detection limit.

**Fourth Quarterly Report, 2021**  
(October-December 2021)

**Action Item:**

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

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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 2021 for Bacteriological parameters, Ammonia, Total Phosphorus, and Turbidity. 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 1-14 for graphs of Ammonia Nitrogen, Total Phosphorus, Bacteriological Indicator 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 (2011-2021) period, except for Enterococcus and Escherichia Coli which only have 4 years 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.

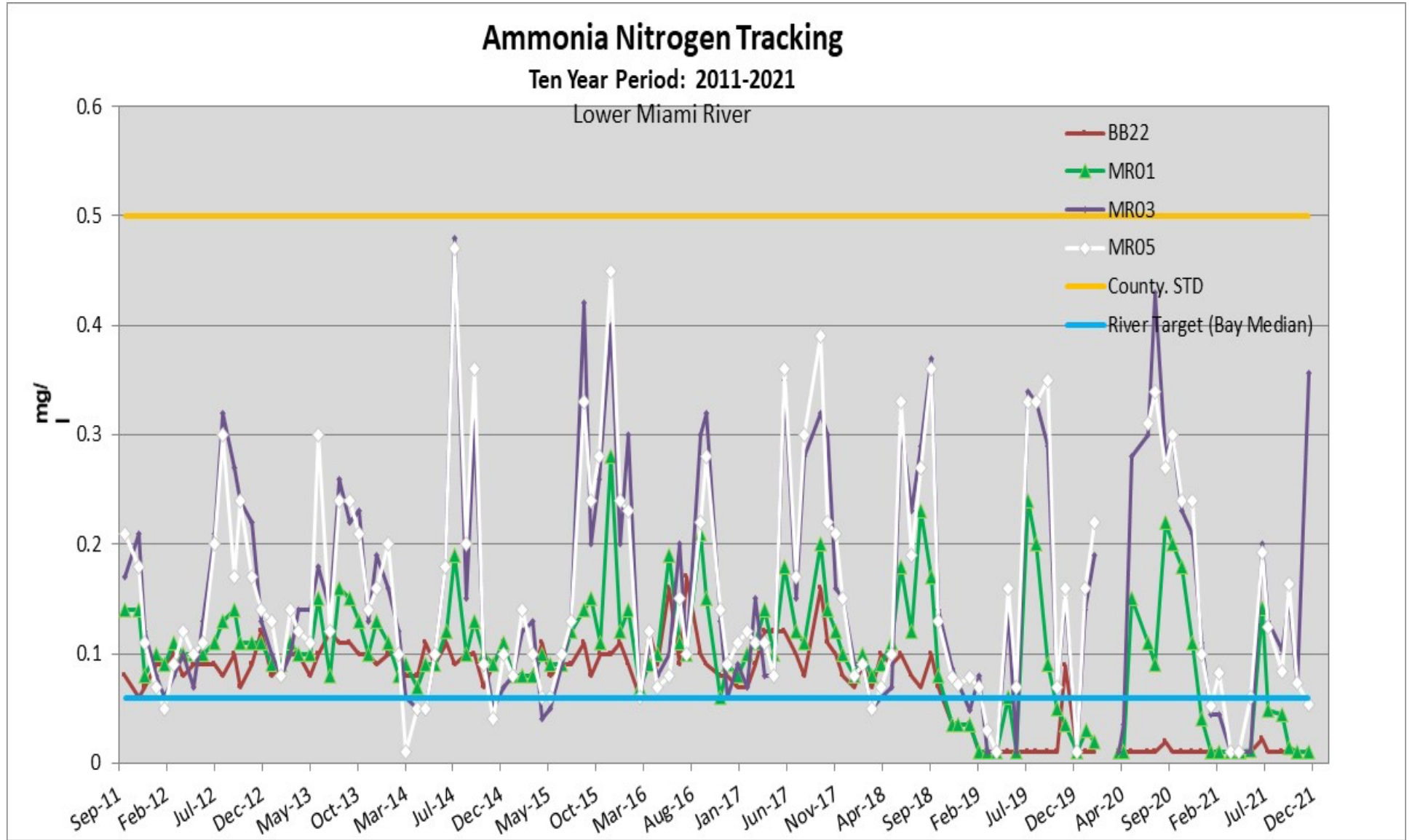




Chart 2.

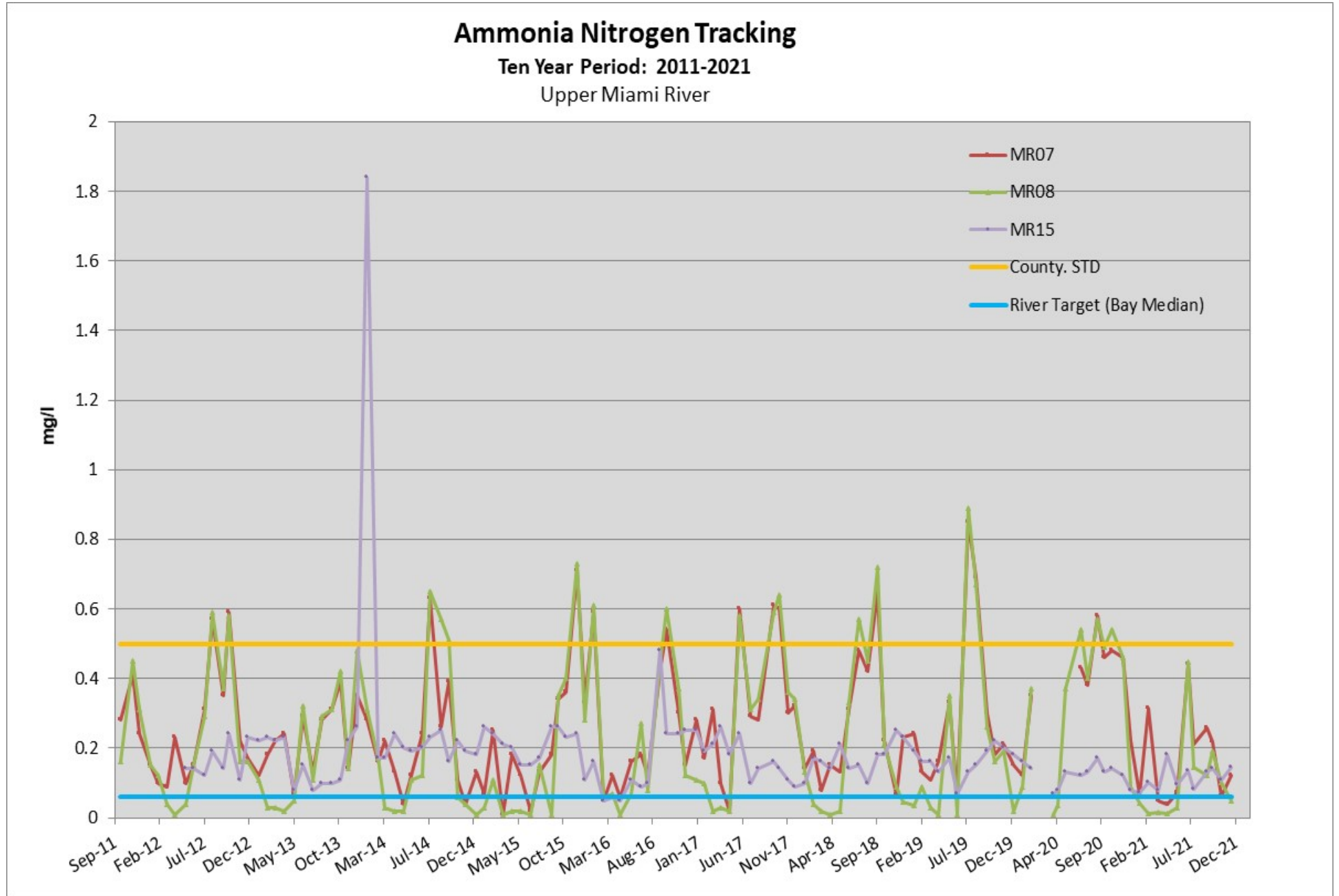


Chart 3

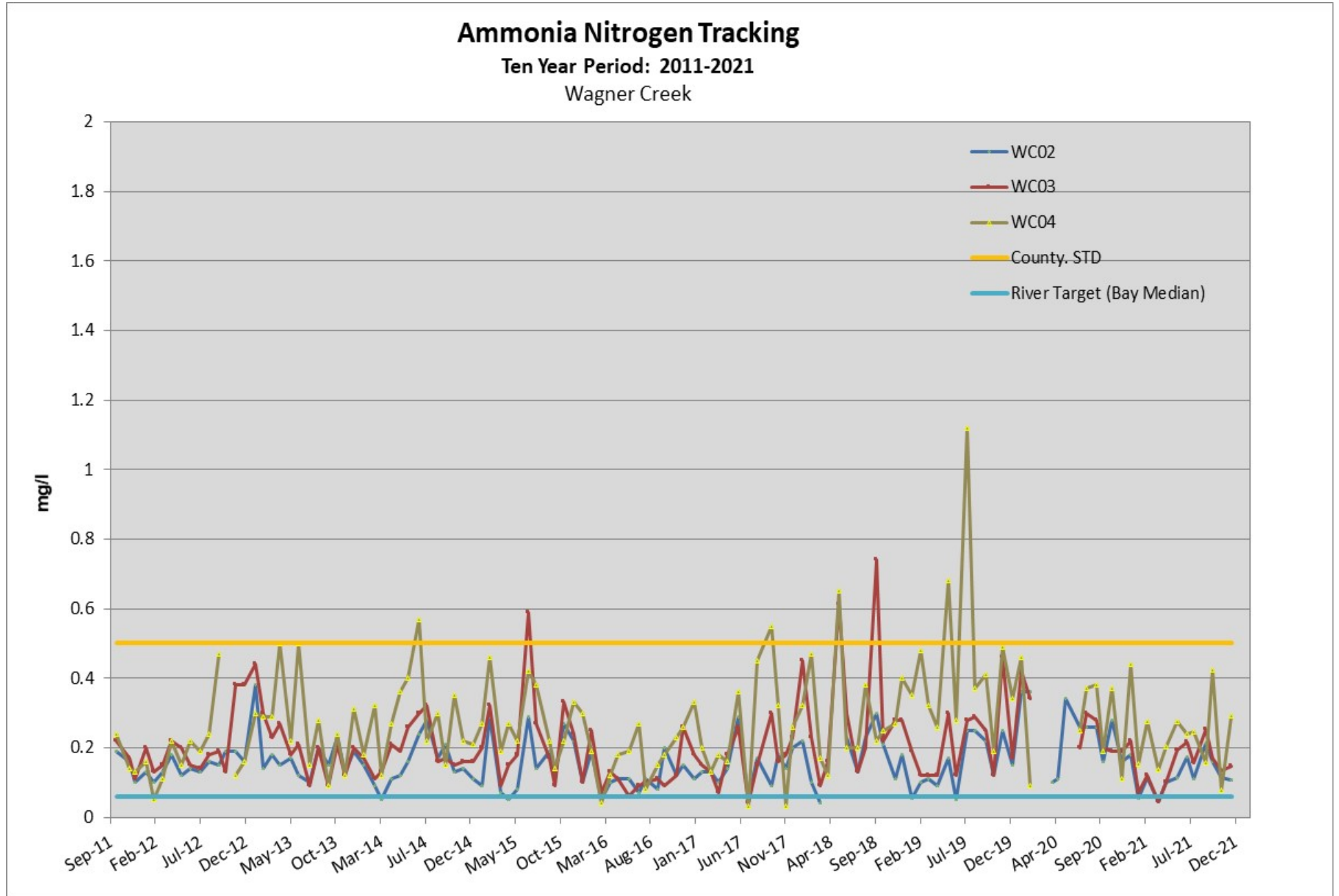


Chart 4.

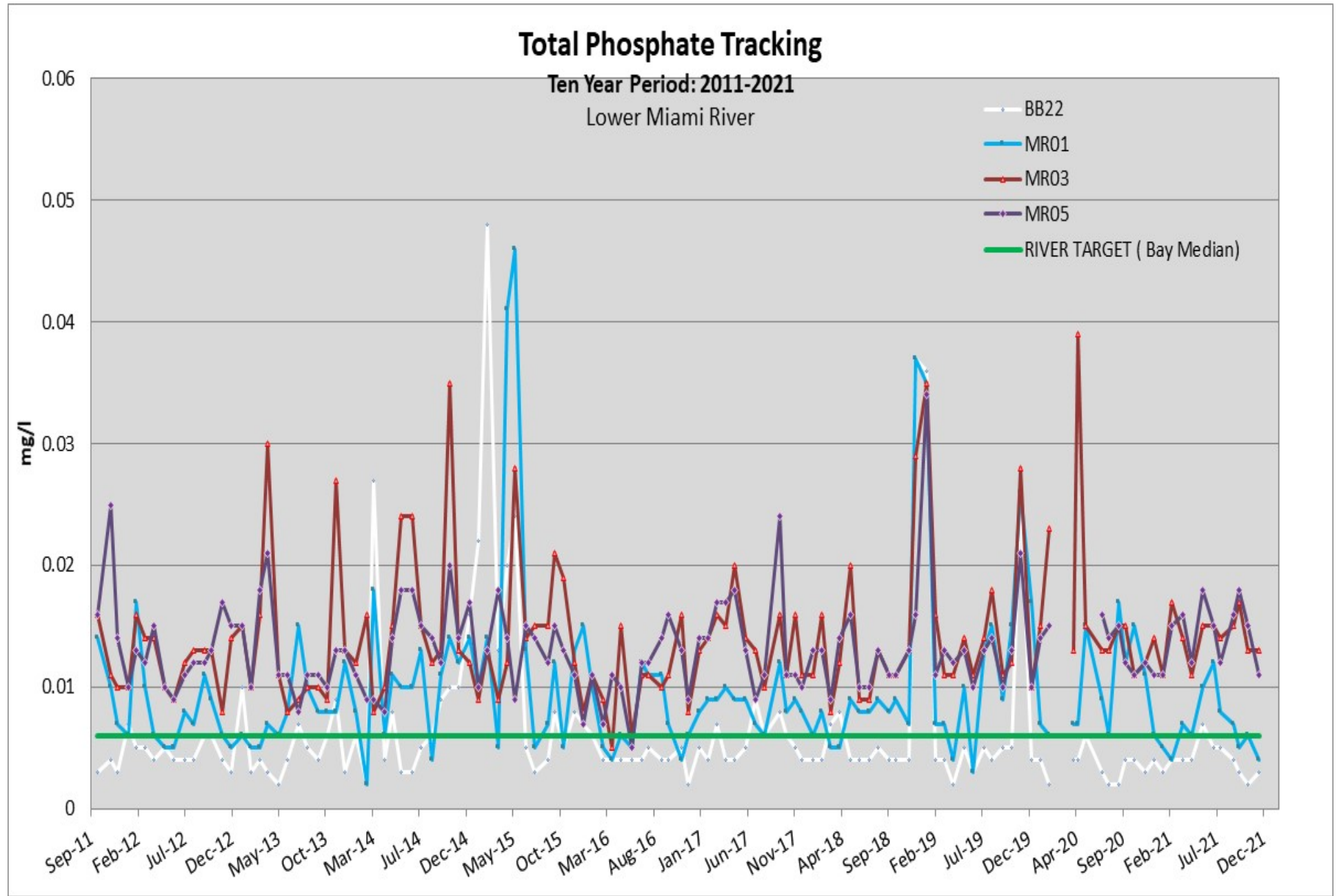


Chart 5.

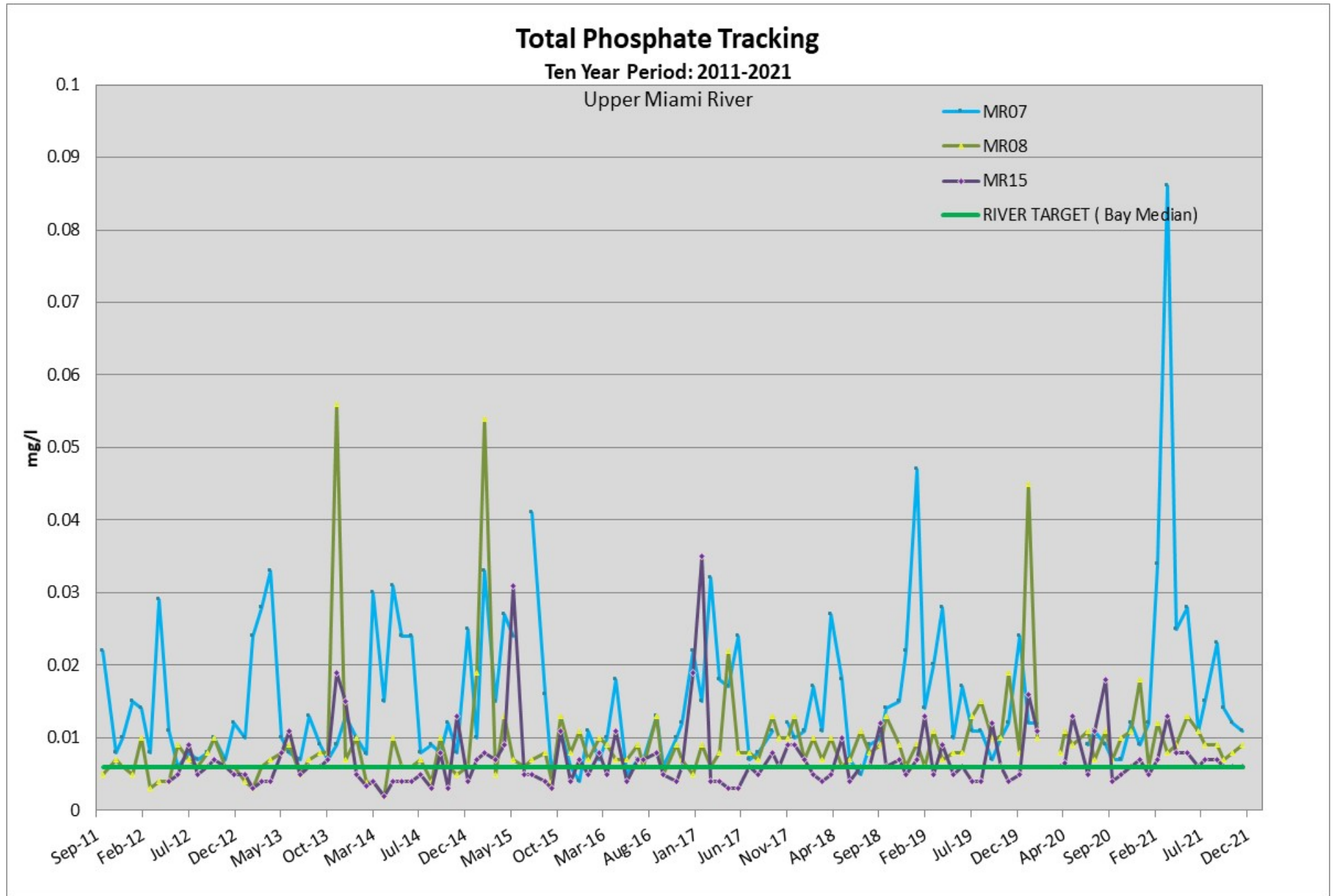


Chart 6.

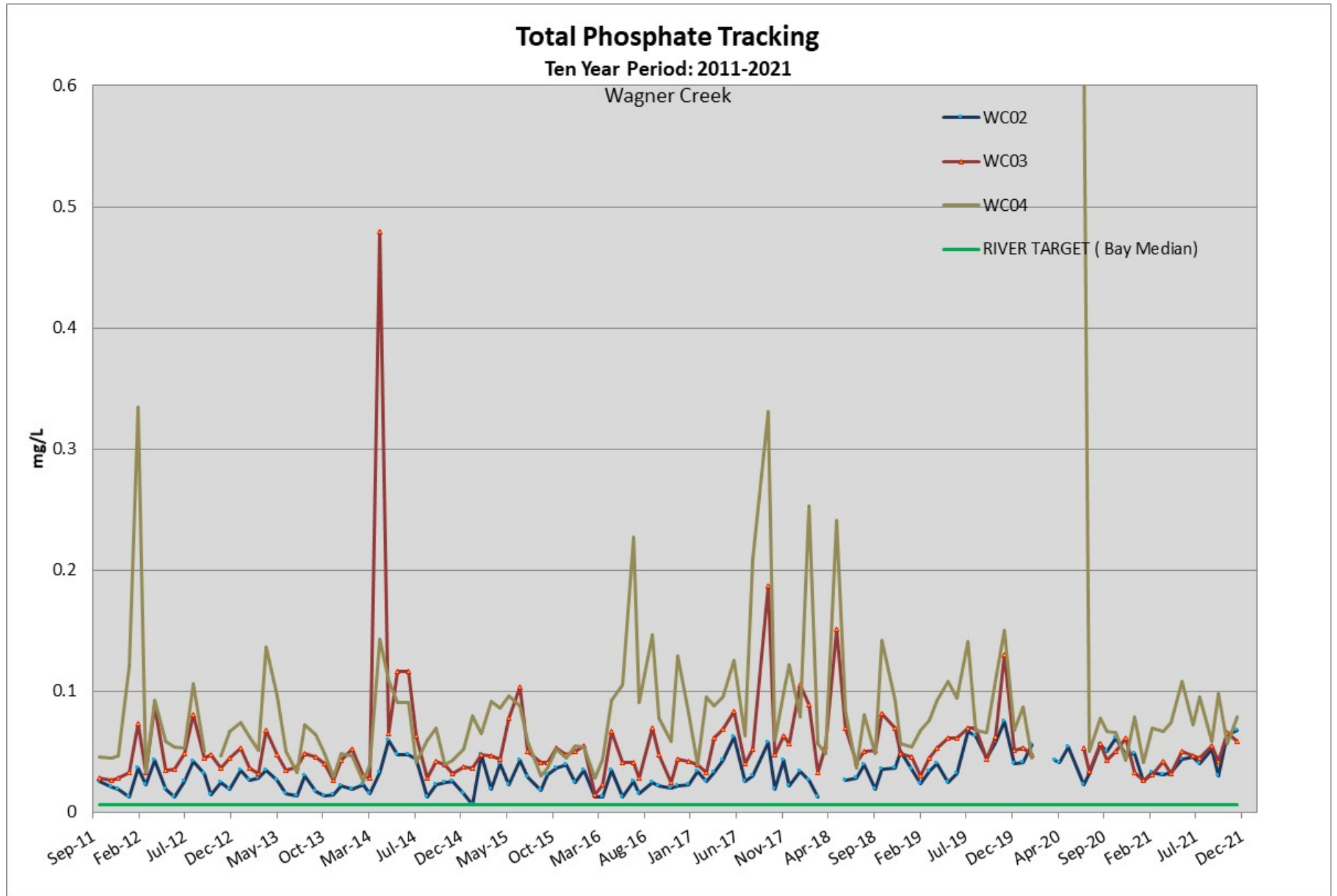


Chart 7.

### Enterococci Tracking Lower Miami River

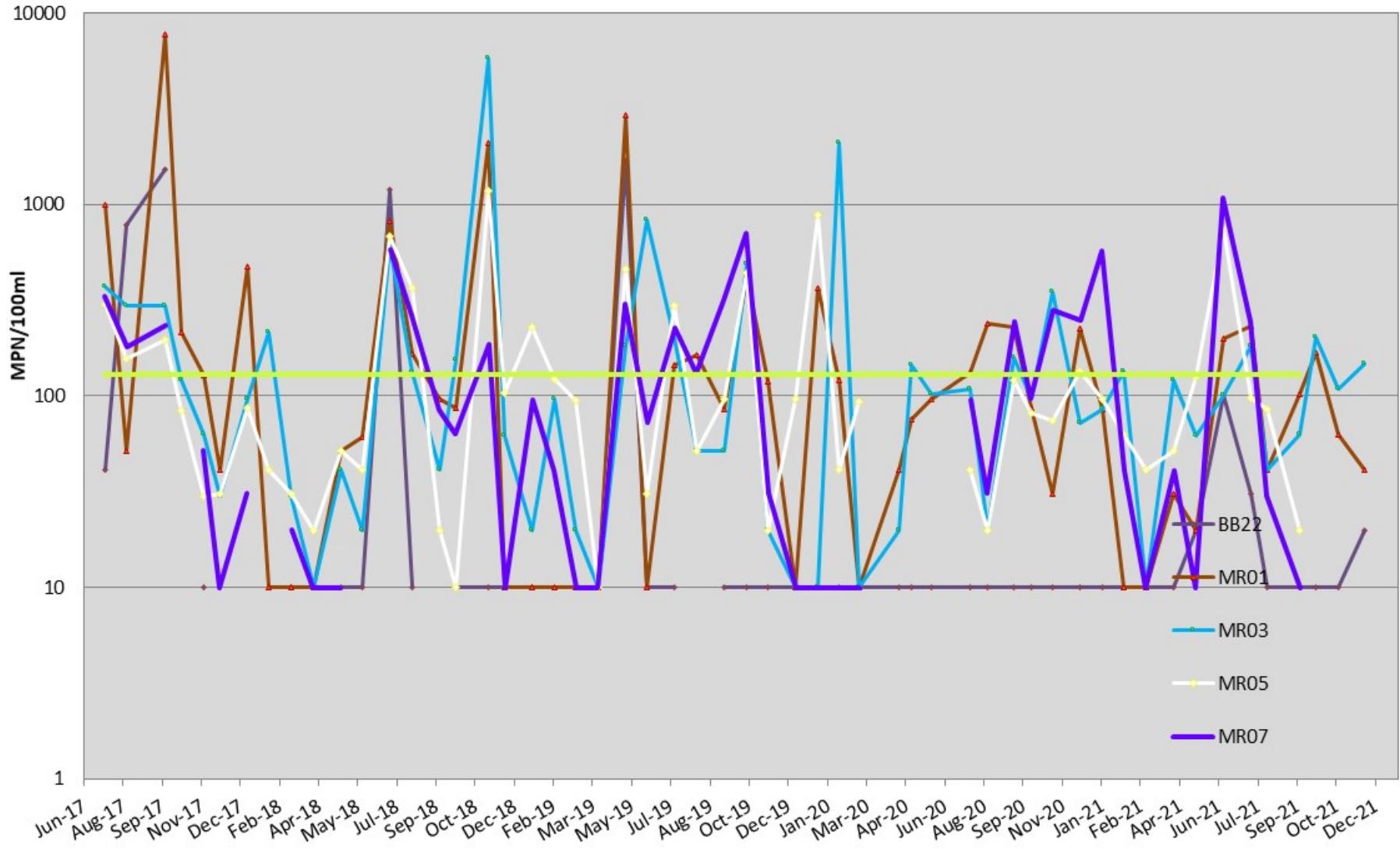


Chart 8.

### Enterococci Tracking Wagner Creek

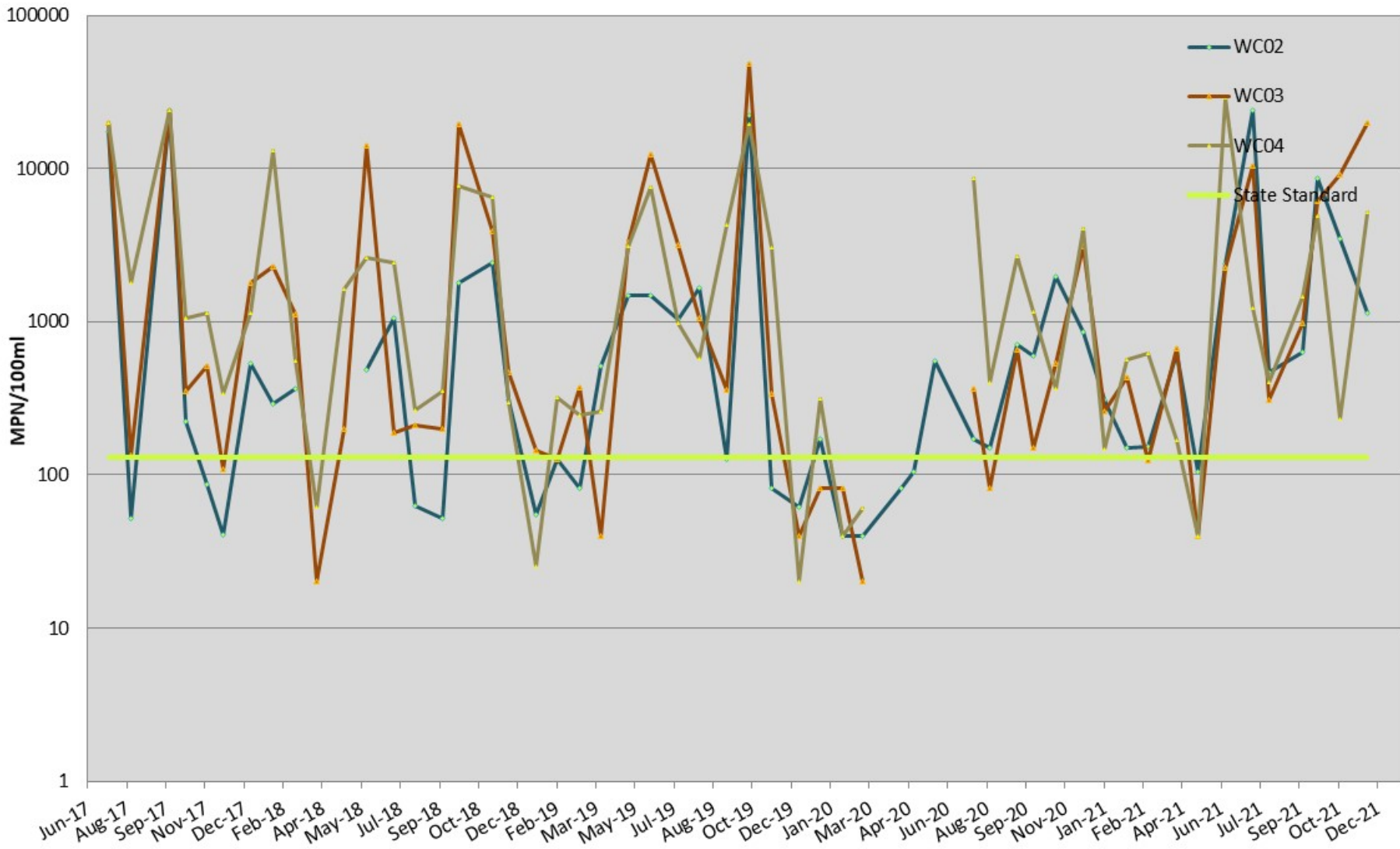


Chart 9.

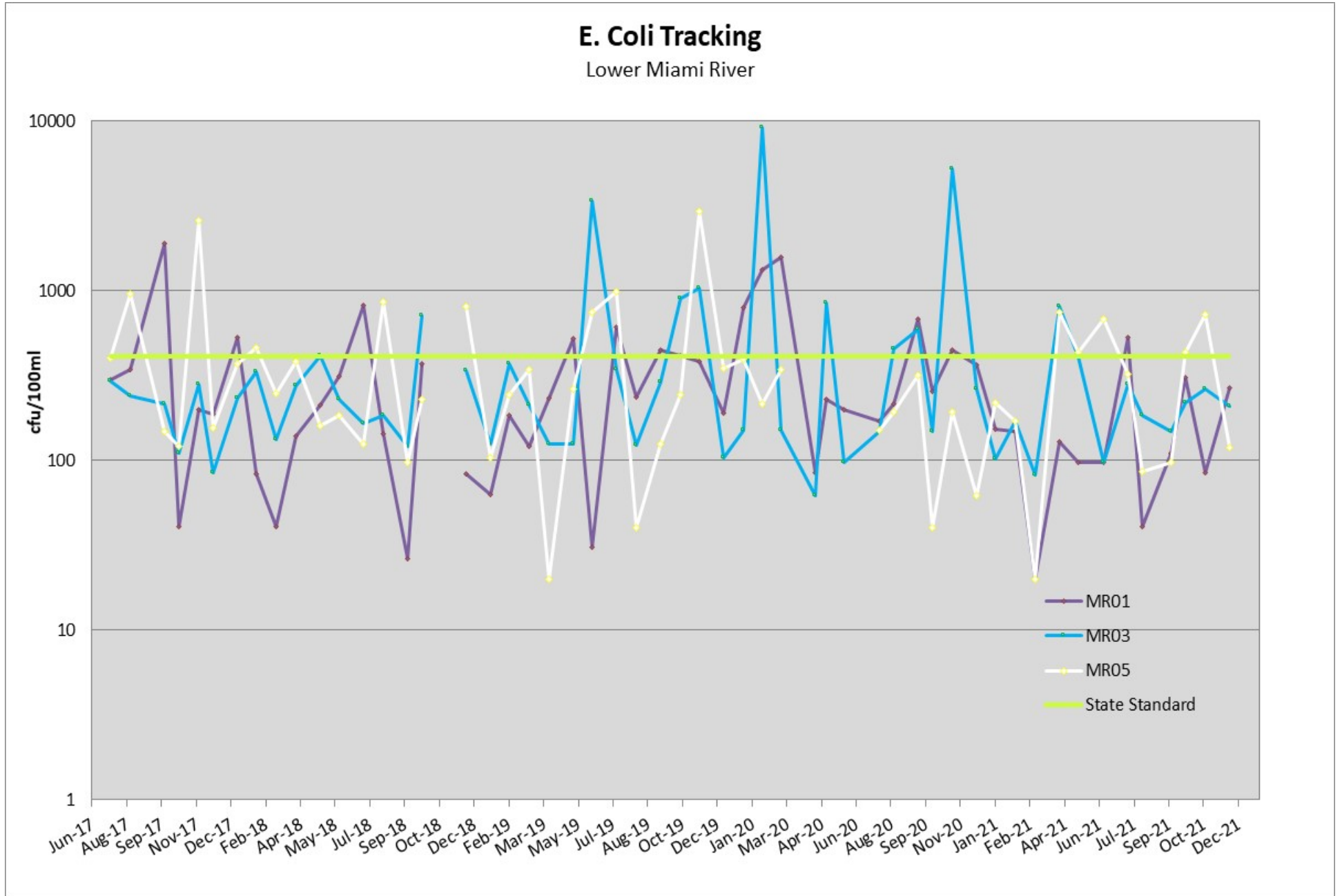




Chart 10.

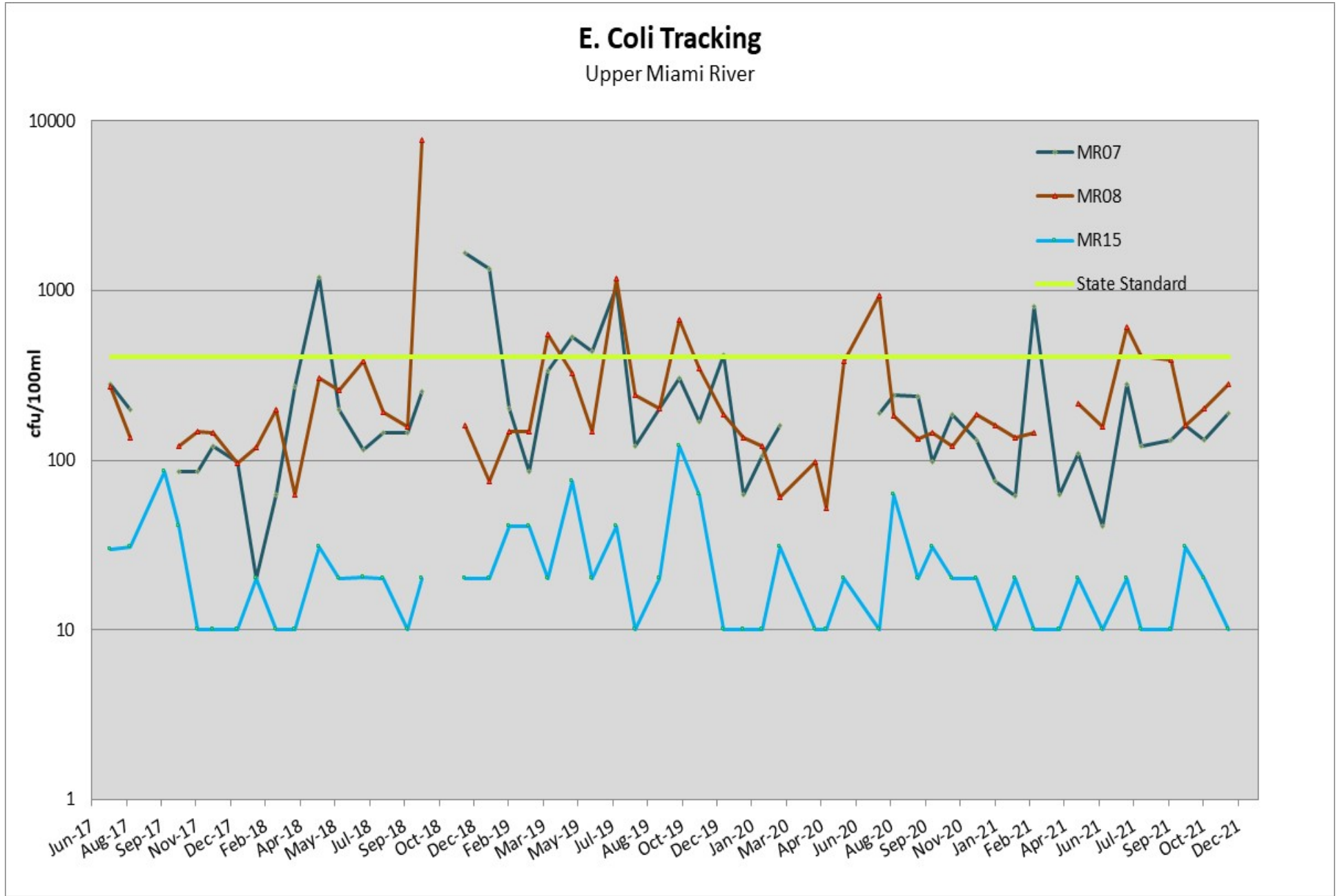


Chart 11.

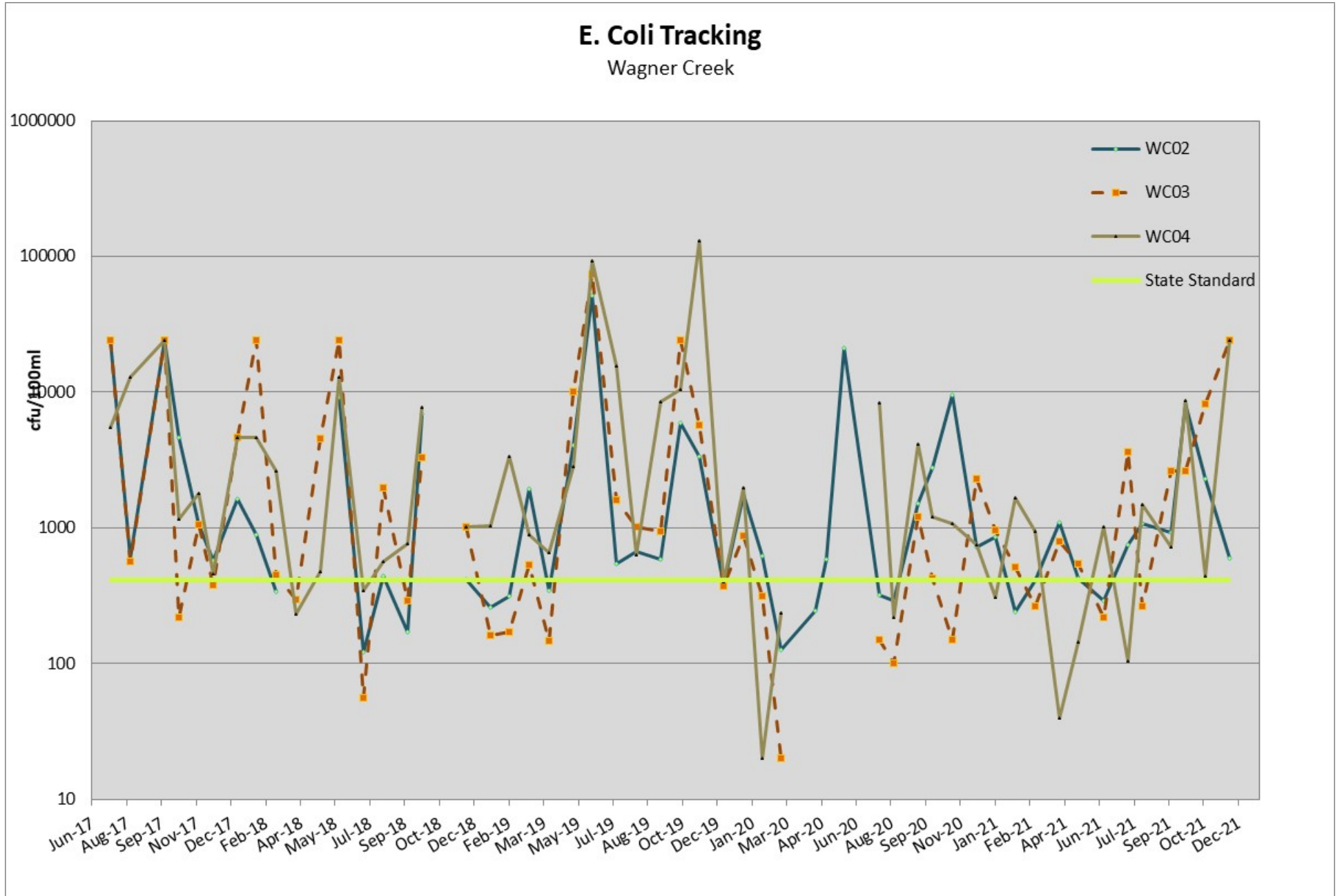


Chart 12.

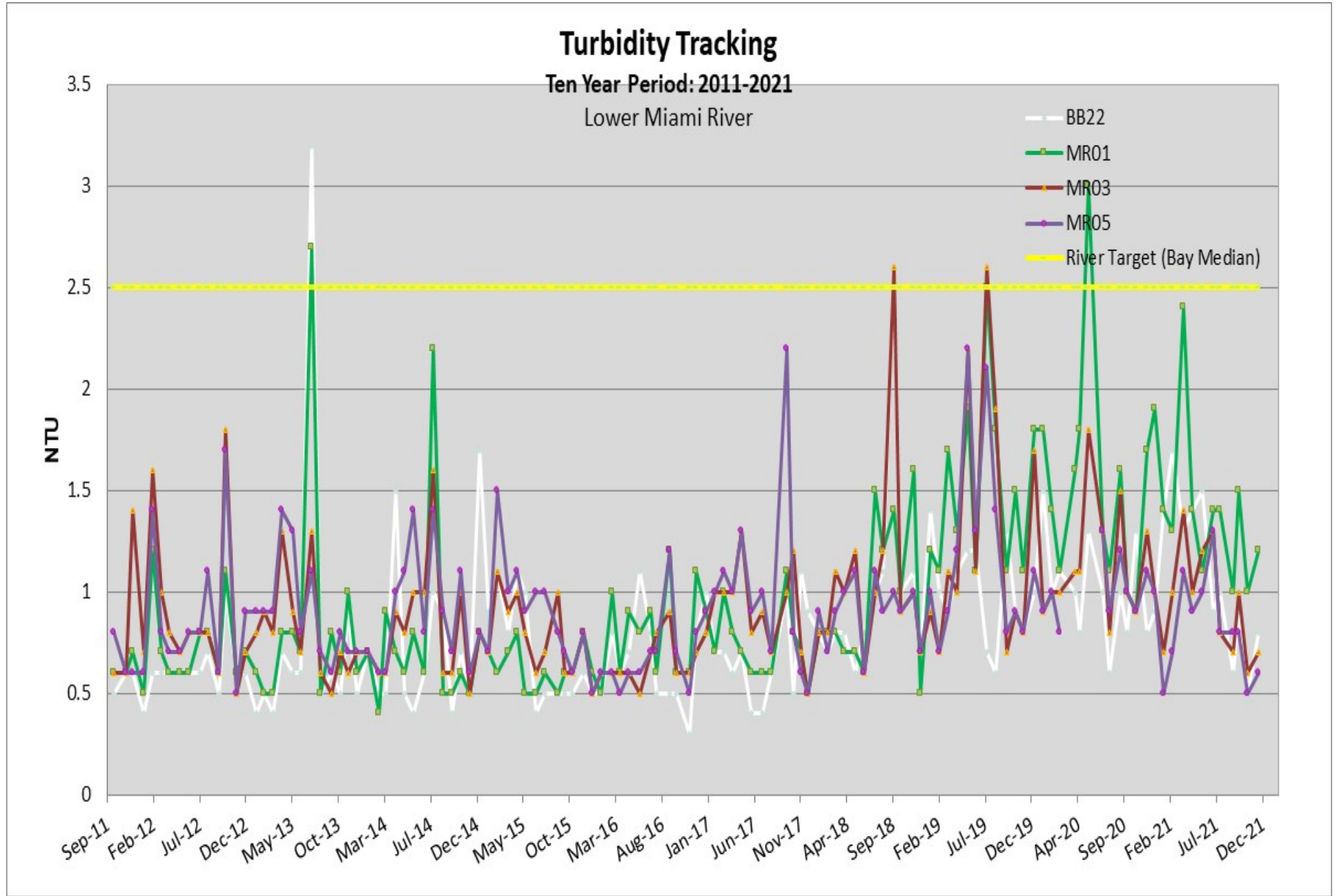


Chart 13.

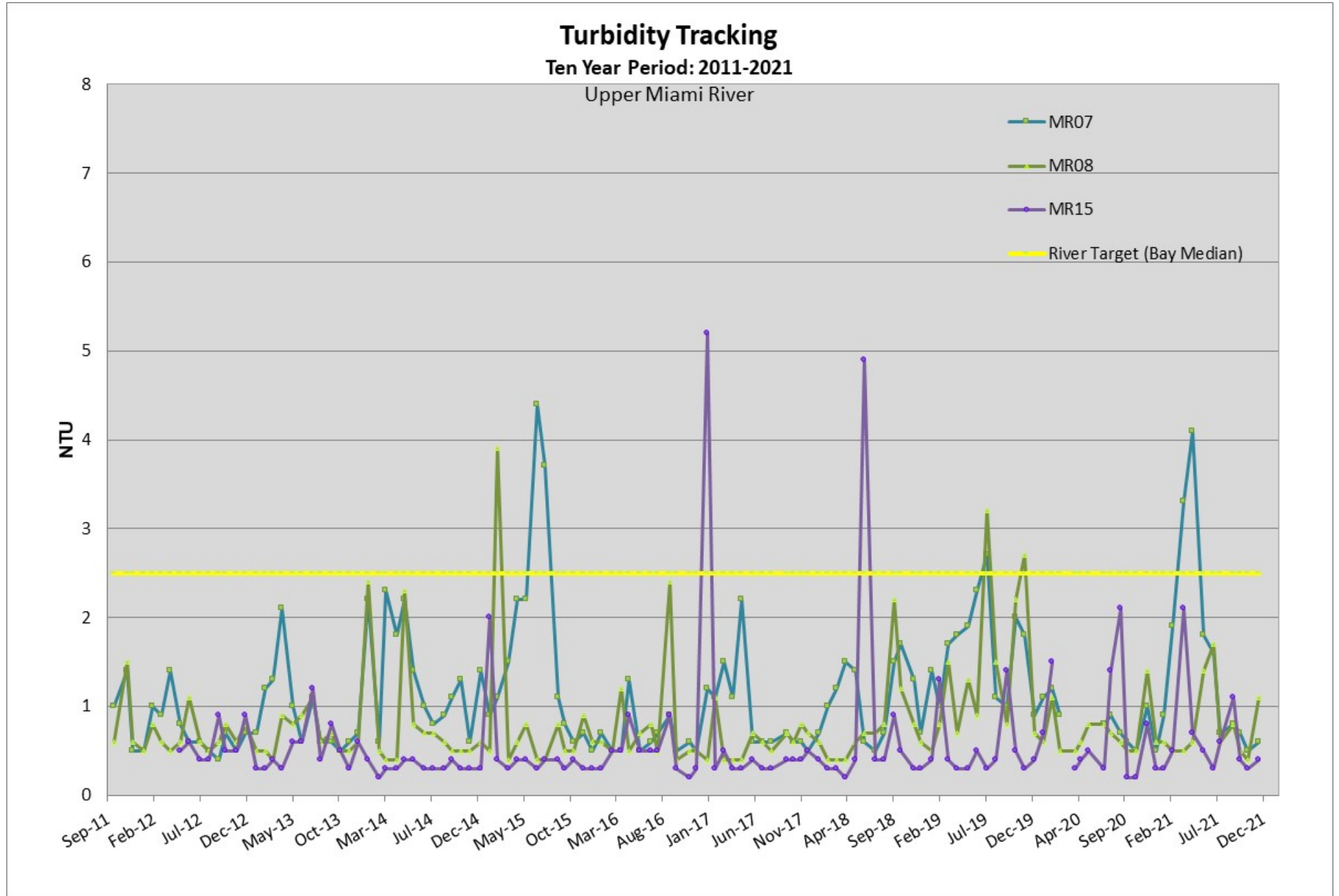


Chart 14.

