

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

First Quarterly Report, 2021
(January-March 2021)

Action Item:

4. Monitoring and Research

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

Lead Agency: Miami-Dade County Regulatory and Economic Resources, Division of Environmental Resources Management (DERM)

Contact Name Pamela Sweeney or Omar Abdelrahman, DERM

Address 701 NW 1st Court
Miami, FL 33136

Telephone (305) 372-6594 or (305) 372-6872

Fax (305) 372-6649

E-mail Pamela.sweeney@miamidade.gov
abdelo@miamidade.gov

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 first 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 January and February and March. However, the RER-DERM lab is currently not operating at full capacity as it is undergoing renovation. As such, data for certain parameters in February and March are not available for this report. 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 June 2017 and transitioned to collecting the parameters adopted by the State.

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 First 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 January-March.

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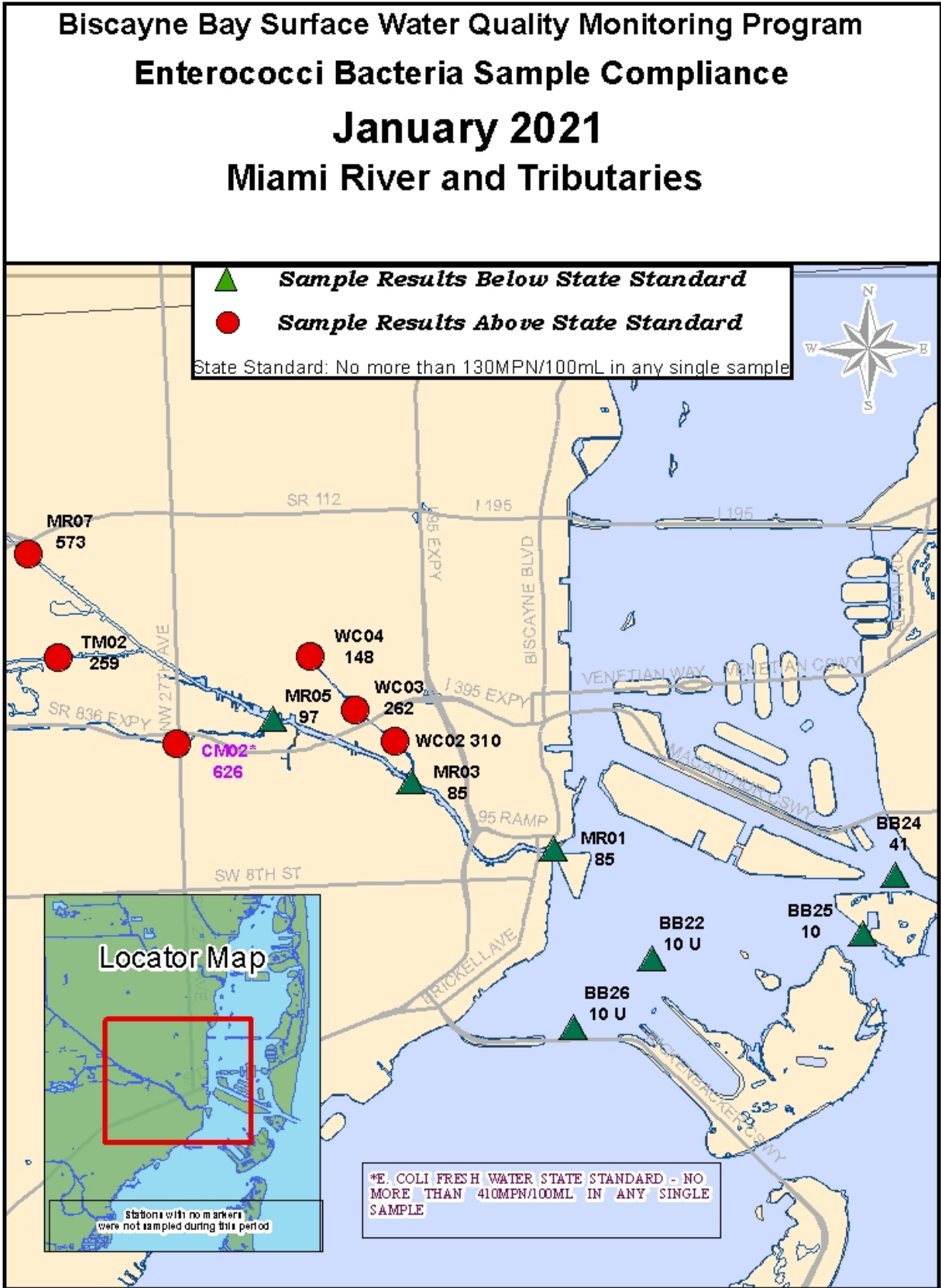


Figure 1.

Biscayne Bay Surface Water Quality Monitoring Program

Enterococci Bacteria Sample Compliance

February 2021

Miami River and Tributaries

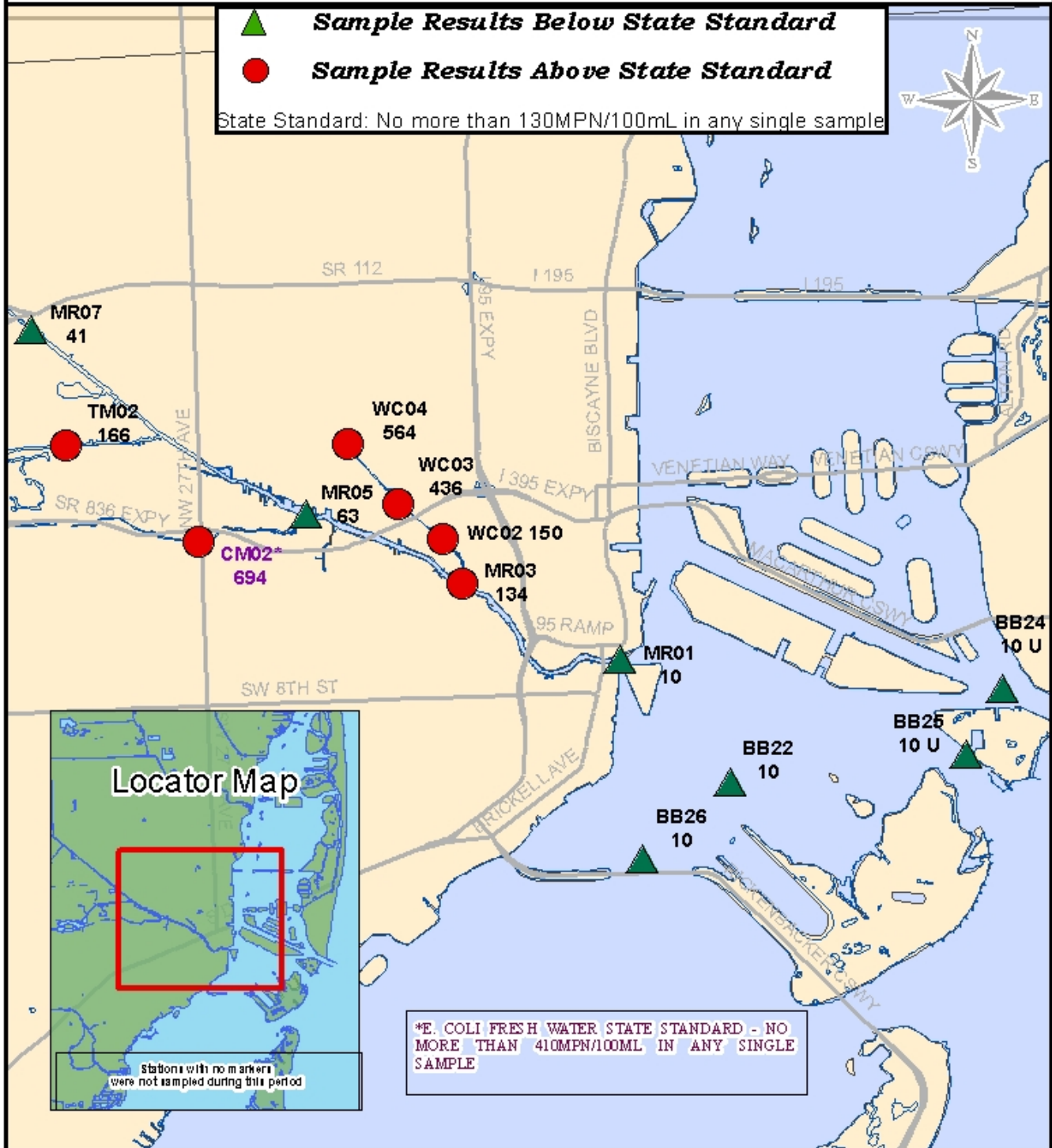


Figure 2.

Biscayne Bay Surface Water Quality Monitoring Program

Enterococci Bacteria Sample Compliance

March 2021

Miami River and Tributaries

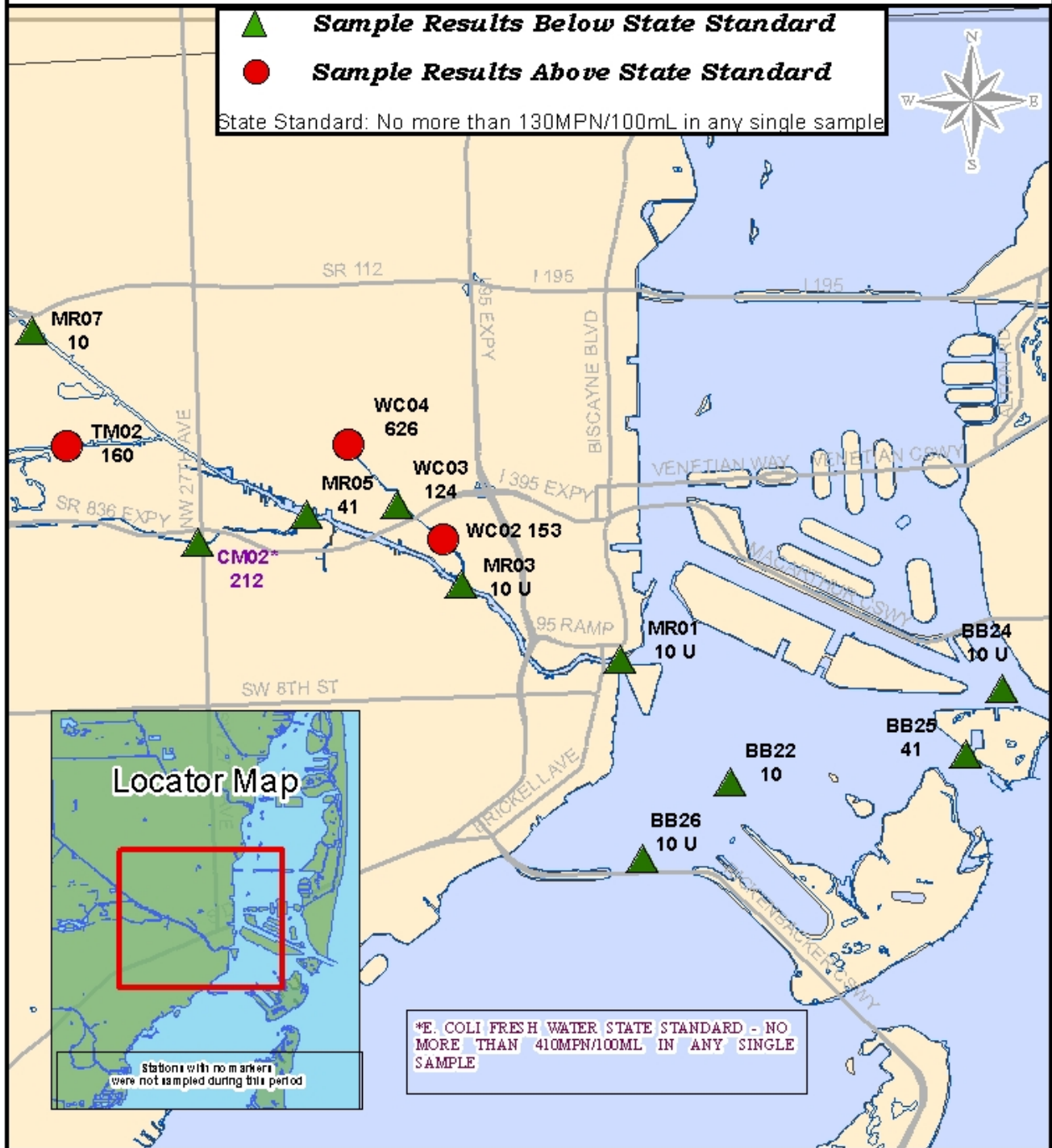


Figure 3.

Biscayne Bay Surface Water Quality Monitoring Program

Quarterly Summary of Enterococci Sample Compliance

January to March 2021

Miami River and Tributaries

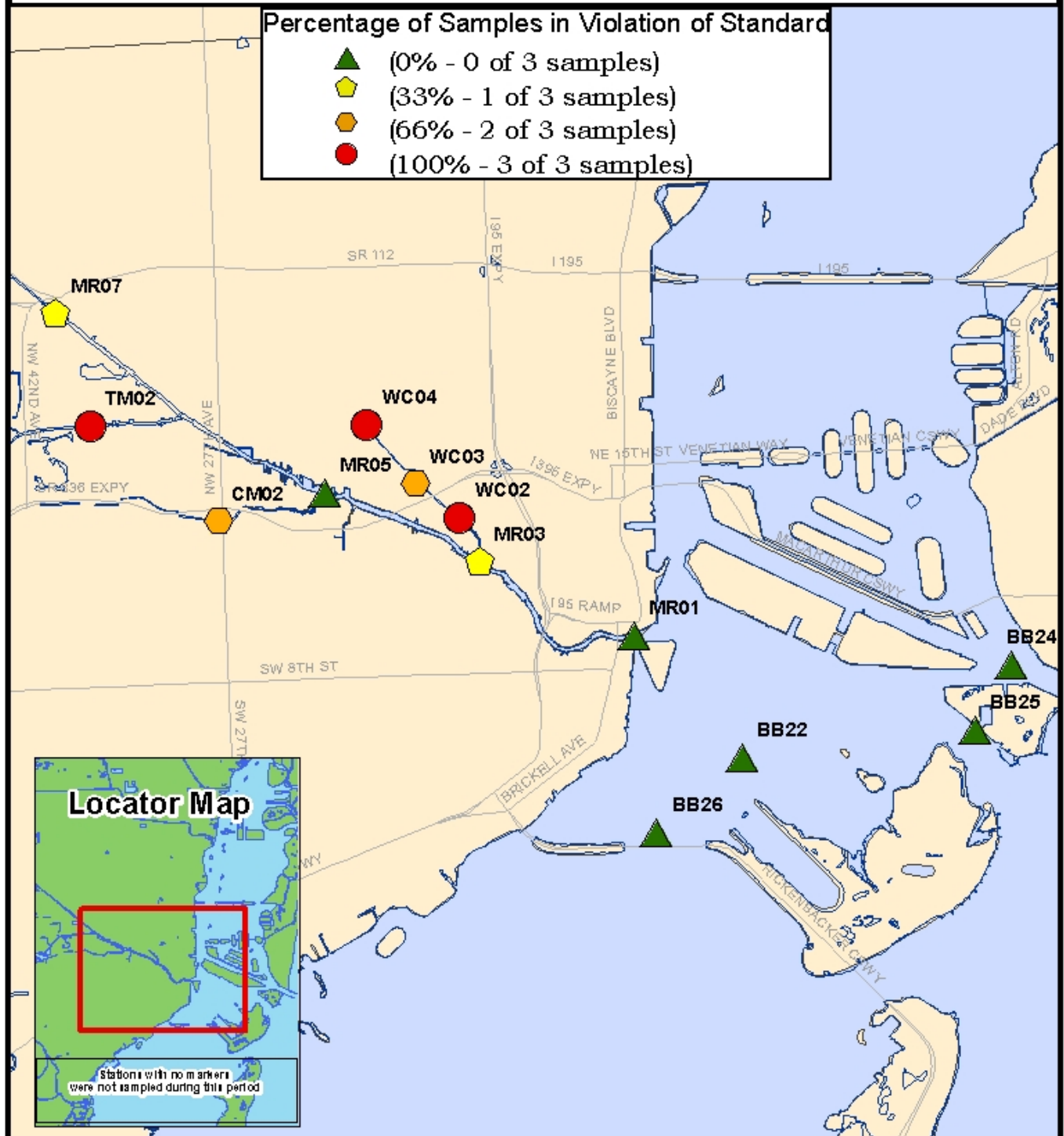


Figure 4.

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
January	85	102	310*	852*	262*	960*	148*	310
February	134*	170	150*	242	436*	512*	564*	1670*
March	10	82	153*	410*	124	266	626*	946*

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.

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Action Item:

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

Lead Agency:	Miami-Dade County DERM
Contact Name	Omar Abdelrahman DERM
Address	701 NW 1 ST Court Miami, FL 33136
Telephone	(305) 372-6872
Fax	(305) 372-6630
e-mail	abdelo@miamidade.gov

Action Item Status:

This report presents selected results of the water quality monitoring that occurred in the First Quarter (January-March for Bacteriological parameters, January for Ammonia, Total Phosphorus, and Turbidity) of 2021. 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 2.75 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.

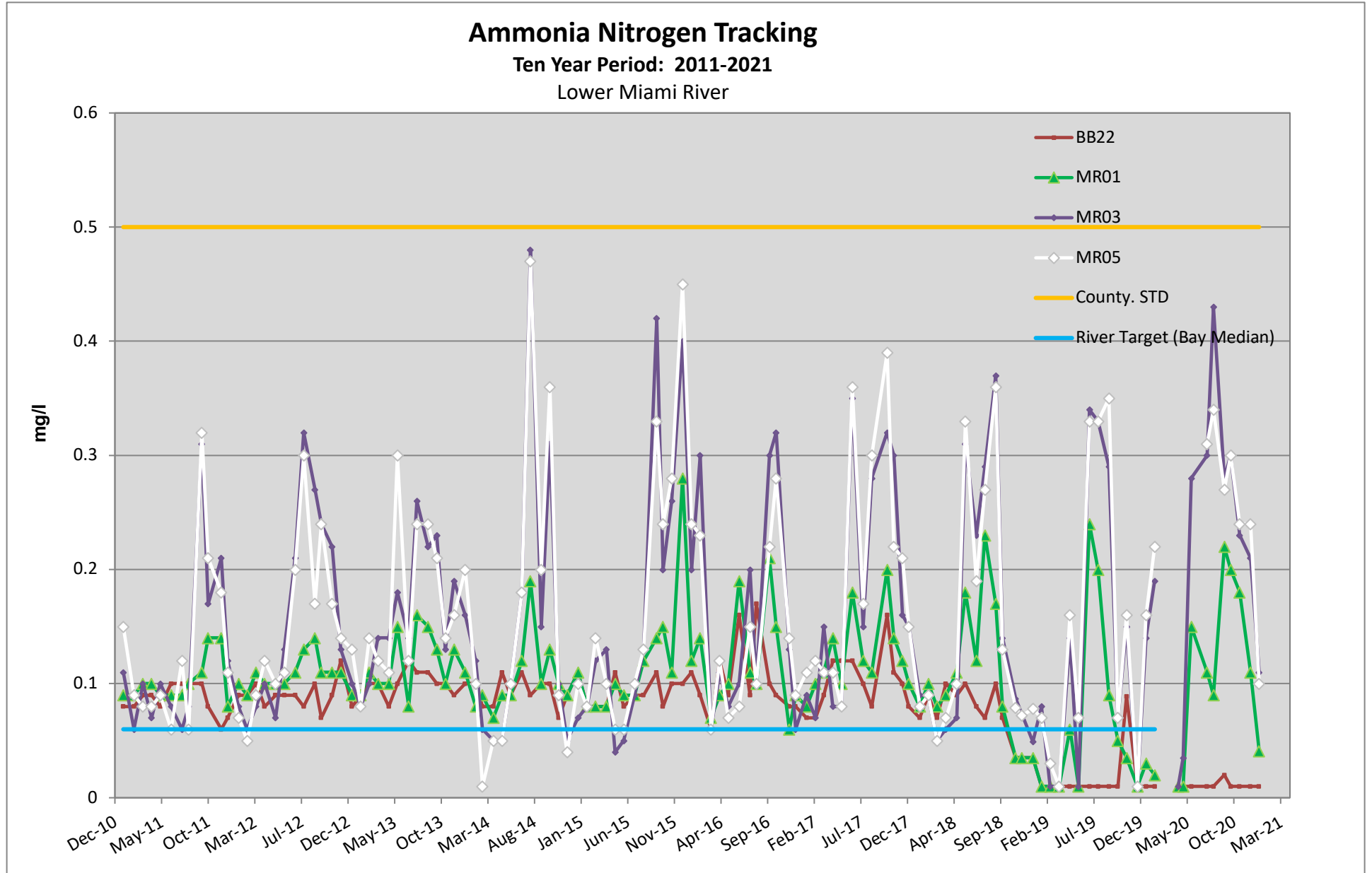


Chart 2.

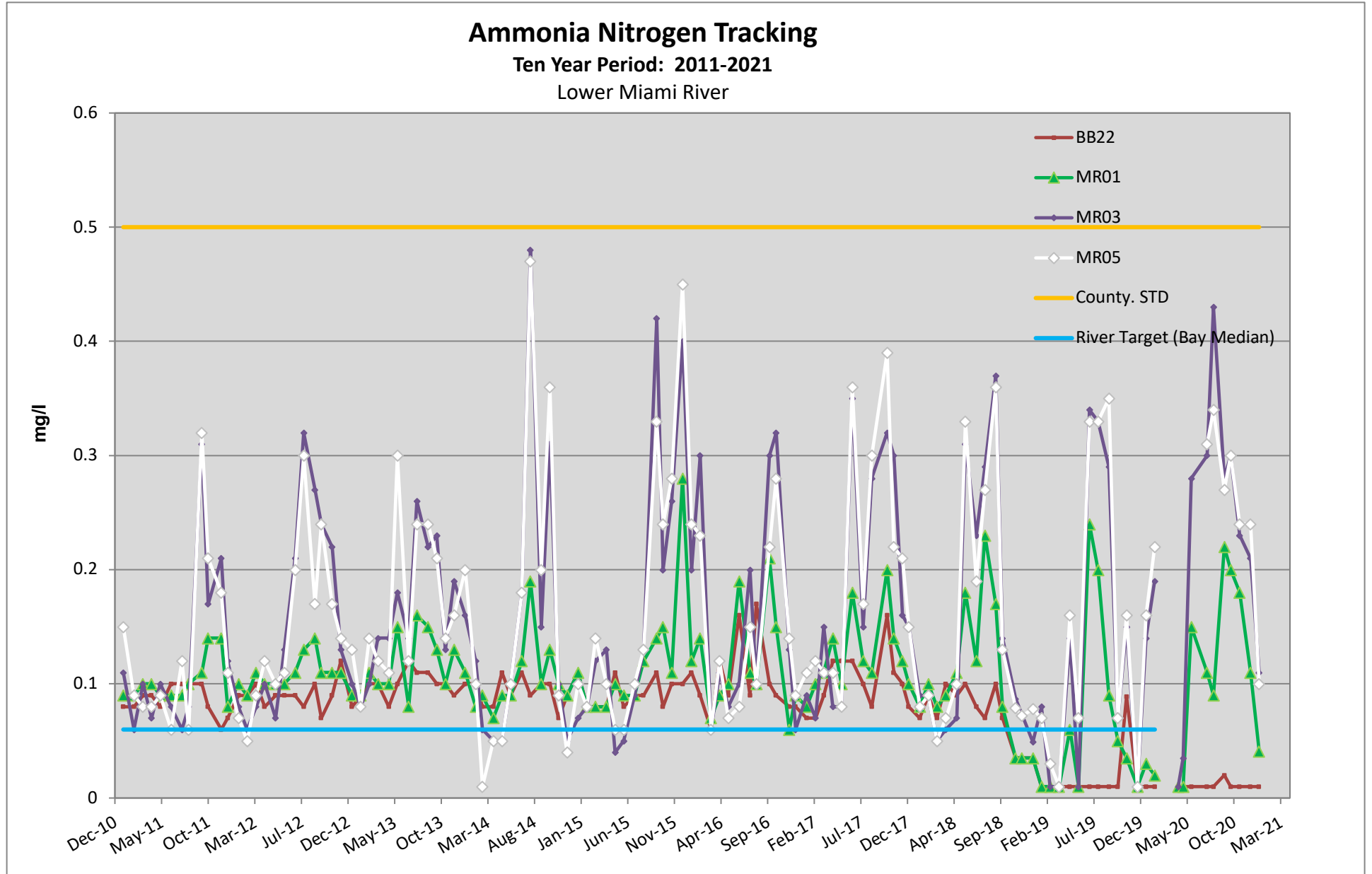


Chart 3

Ammonia Nitrogen Tracking

Ten Year Period: 2011-2021

Wagner Creek

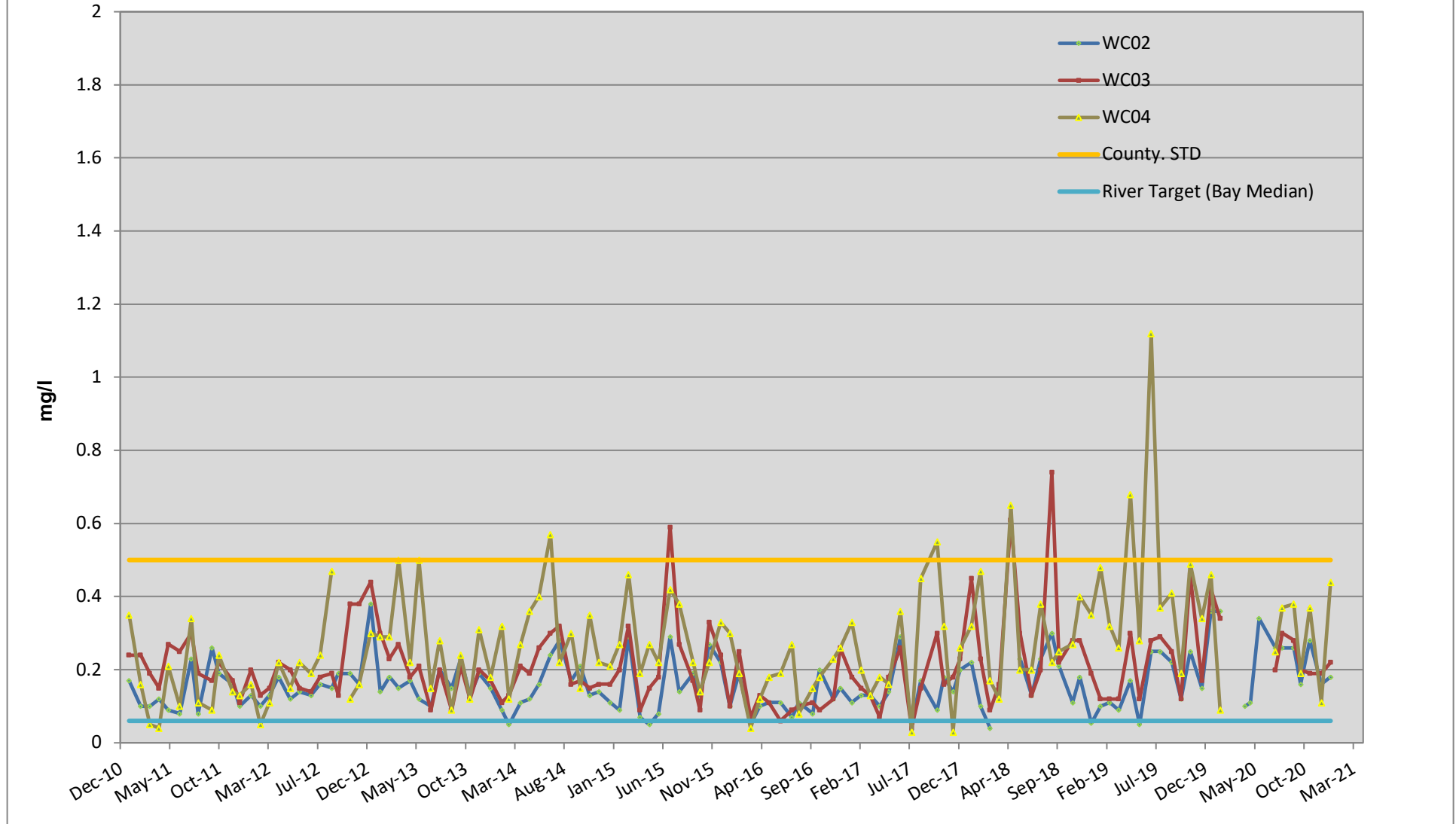


Chart 4.

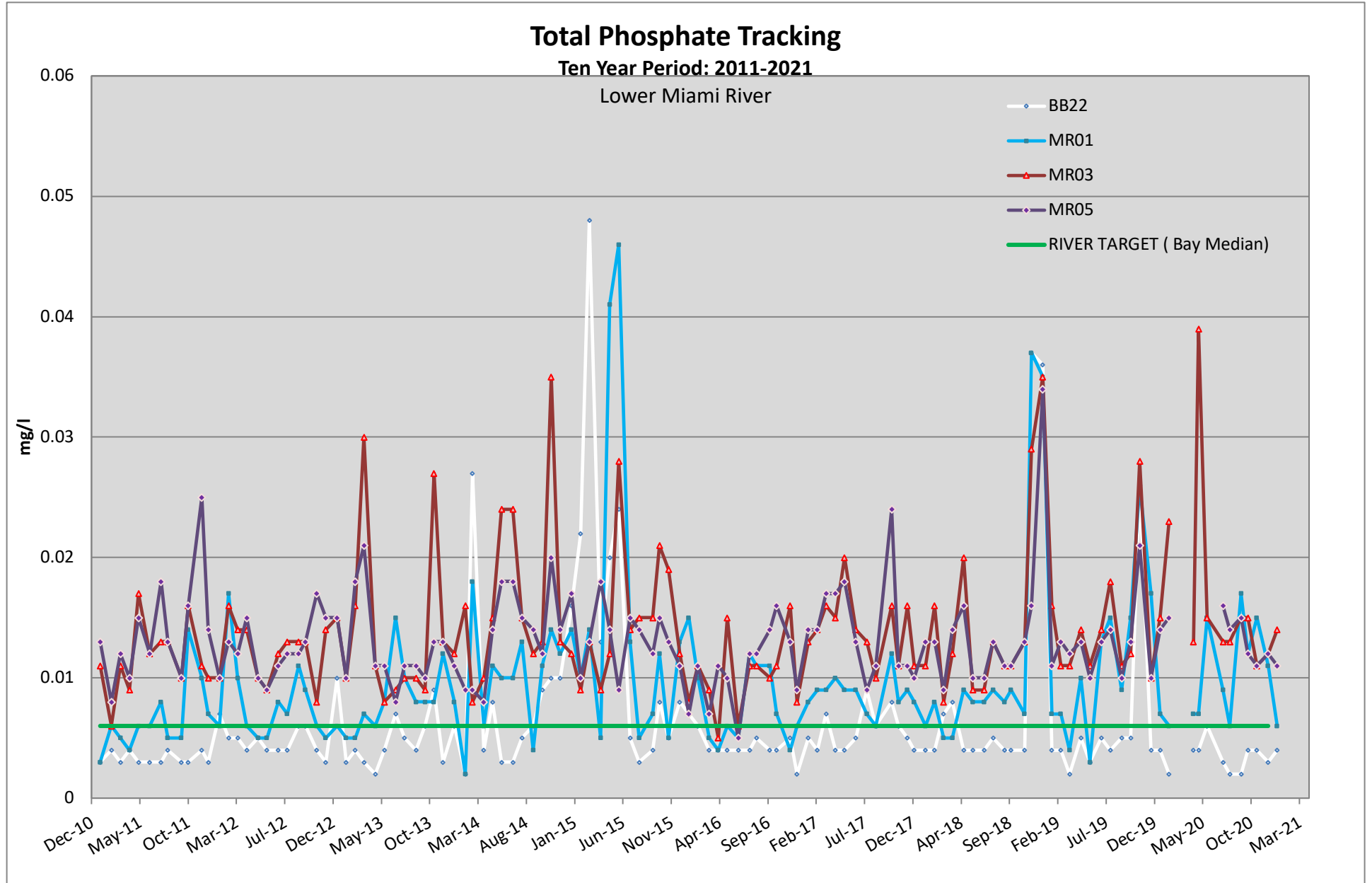


Chart 5.

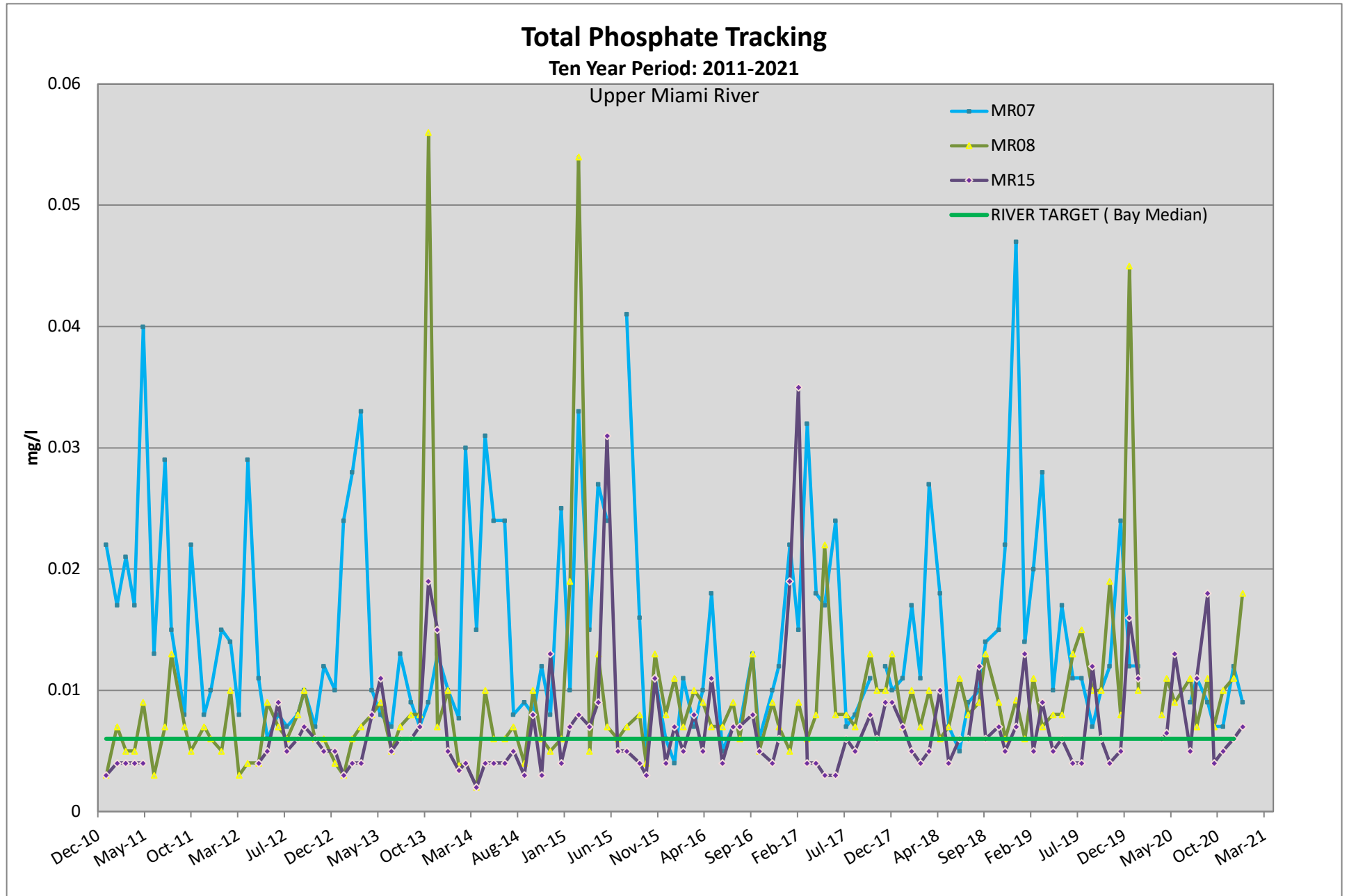


Chart 6.

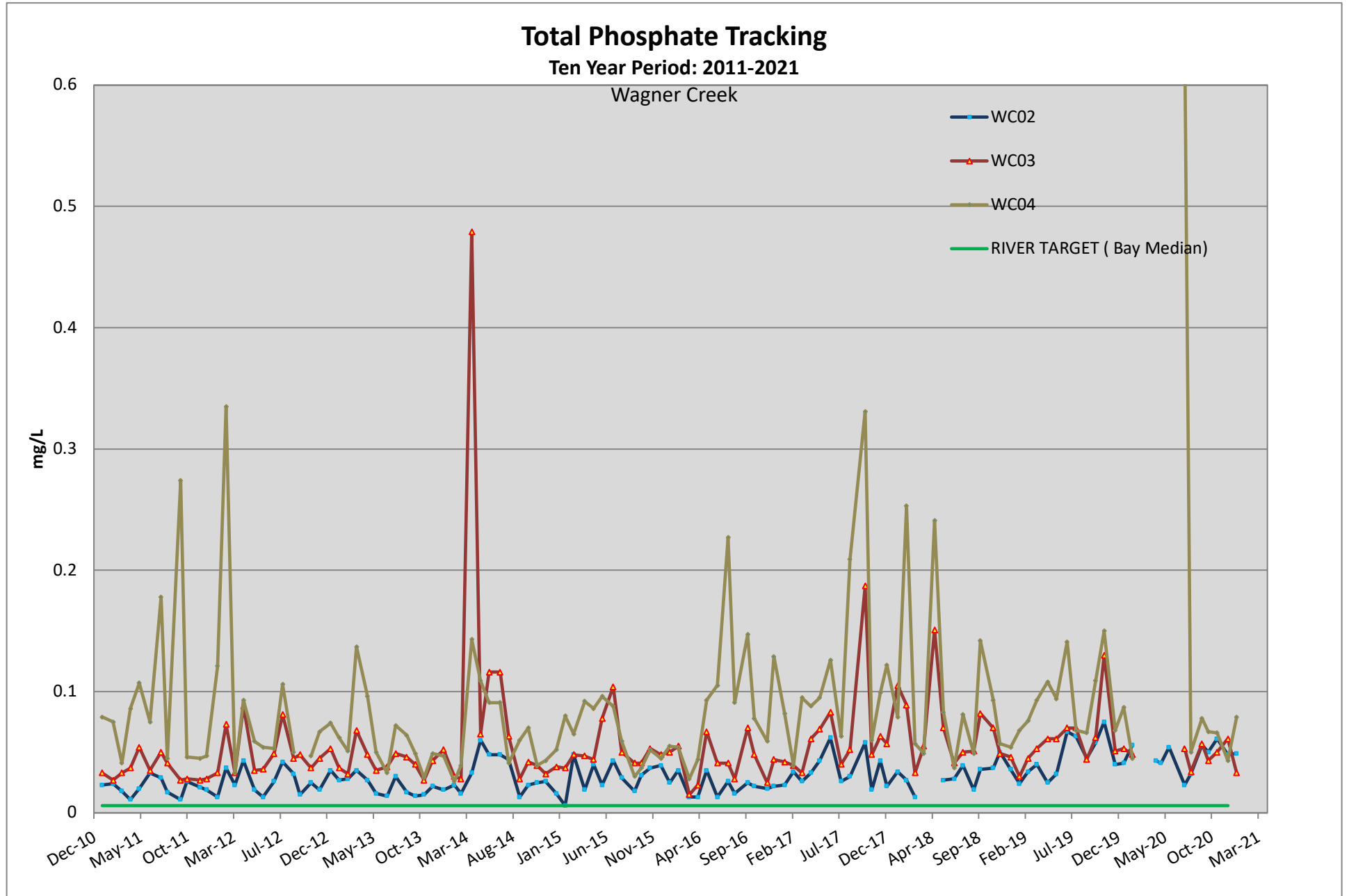


Chart 7.

Enterococci Tracking Lower Miami River

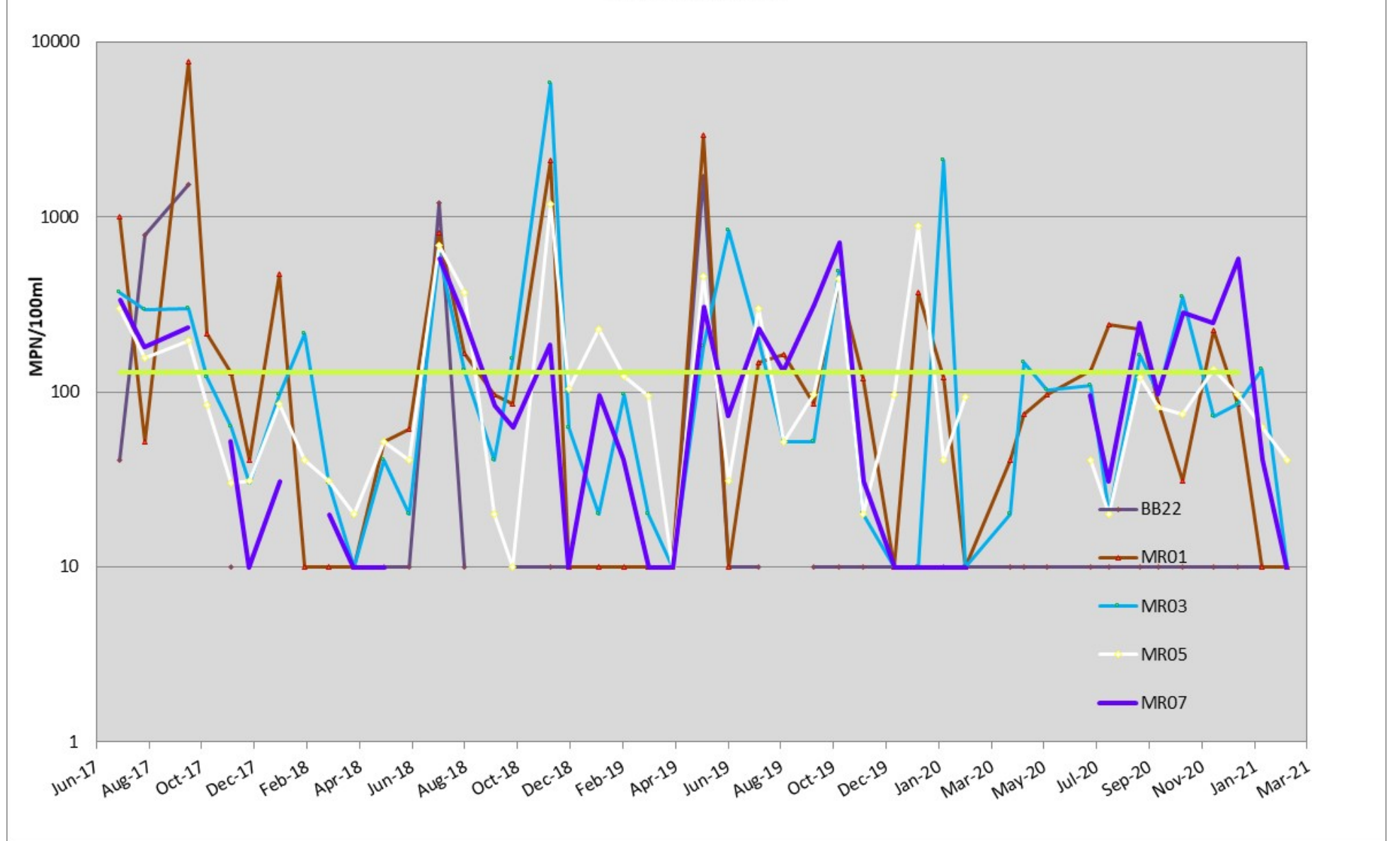


Chart 8.

Enterococci Tracking Wagner Creek

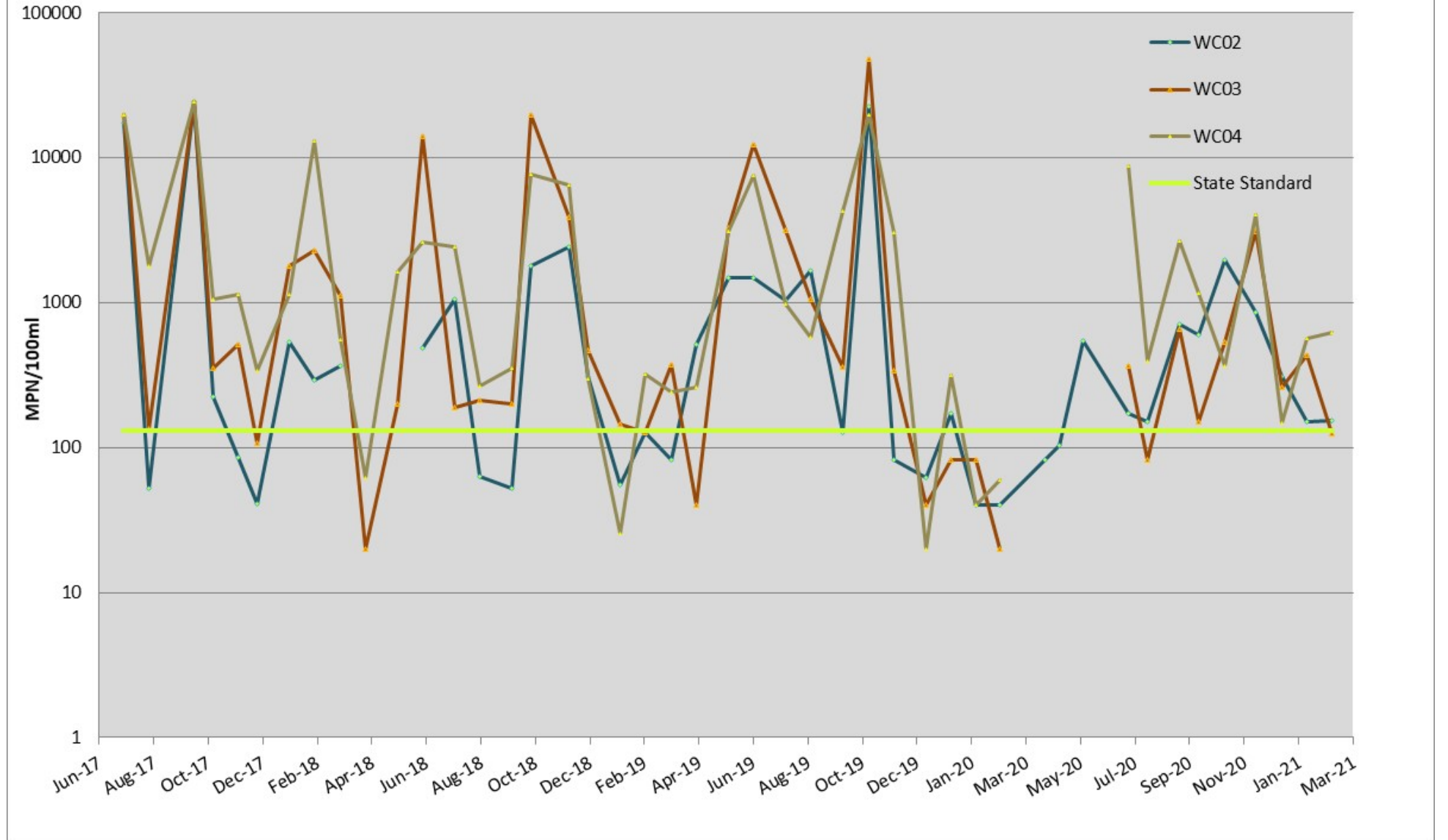


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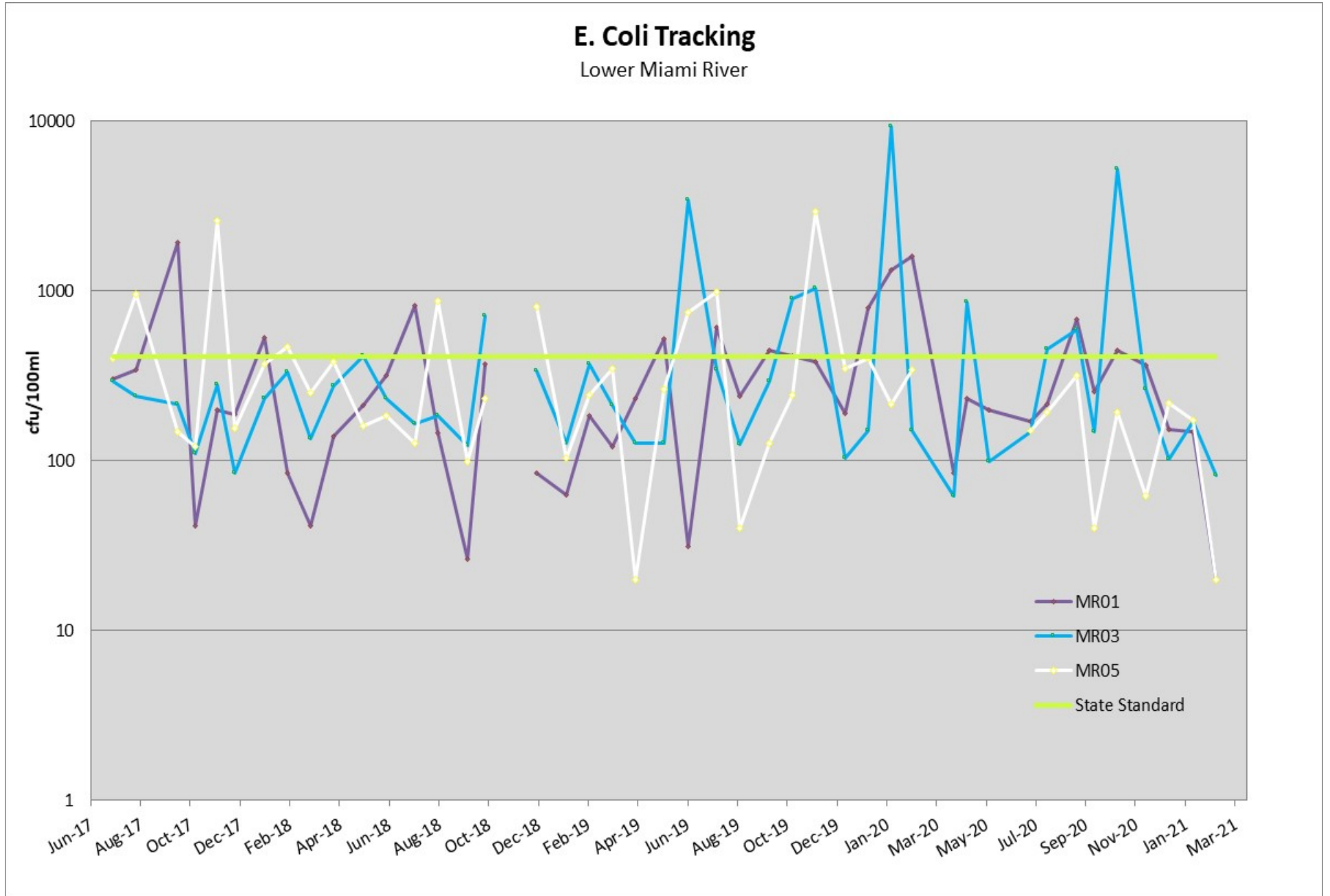


Chart 10.

E. Coli Tracking Upper Miami River

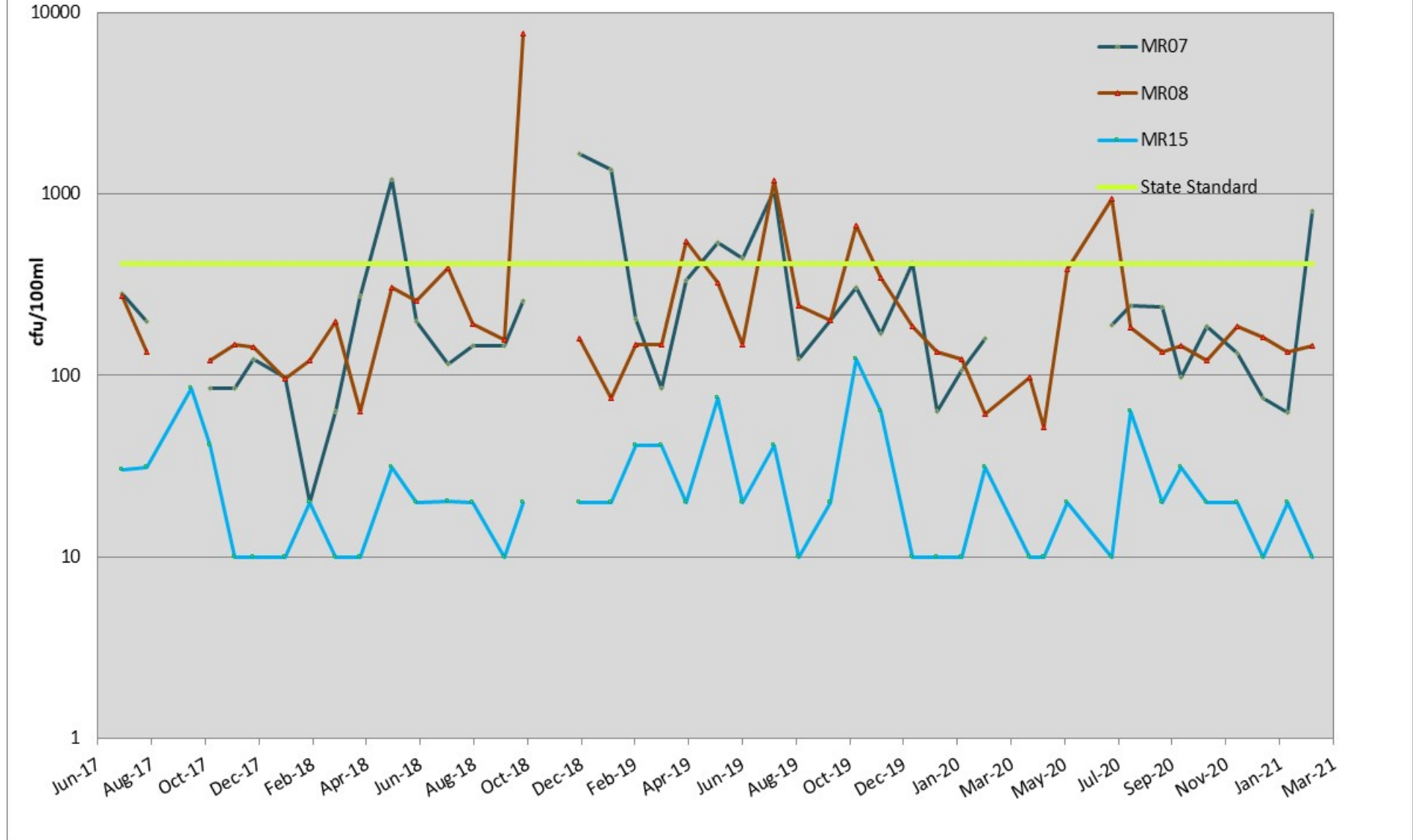


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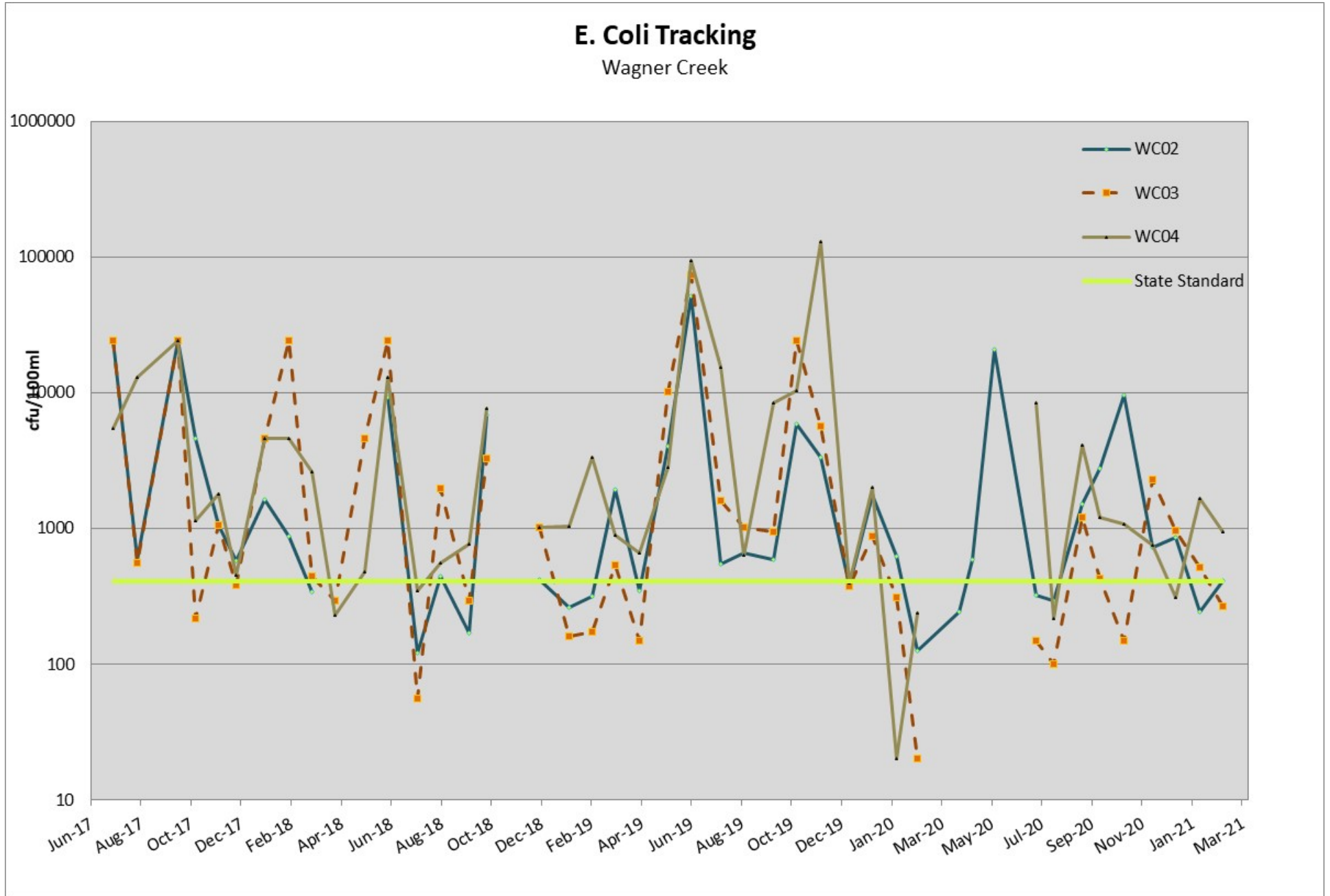


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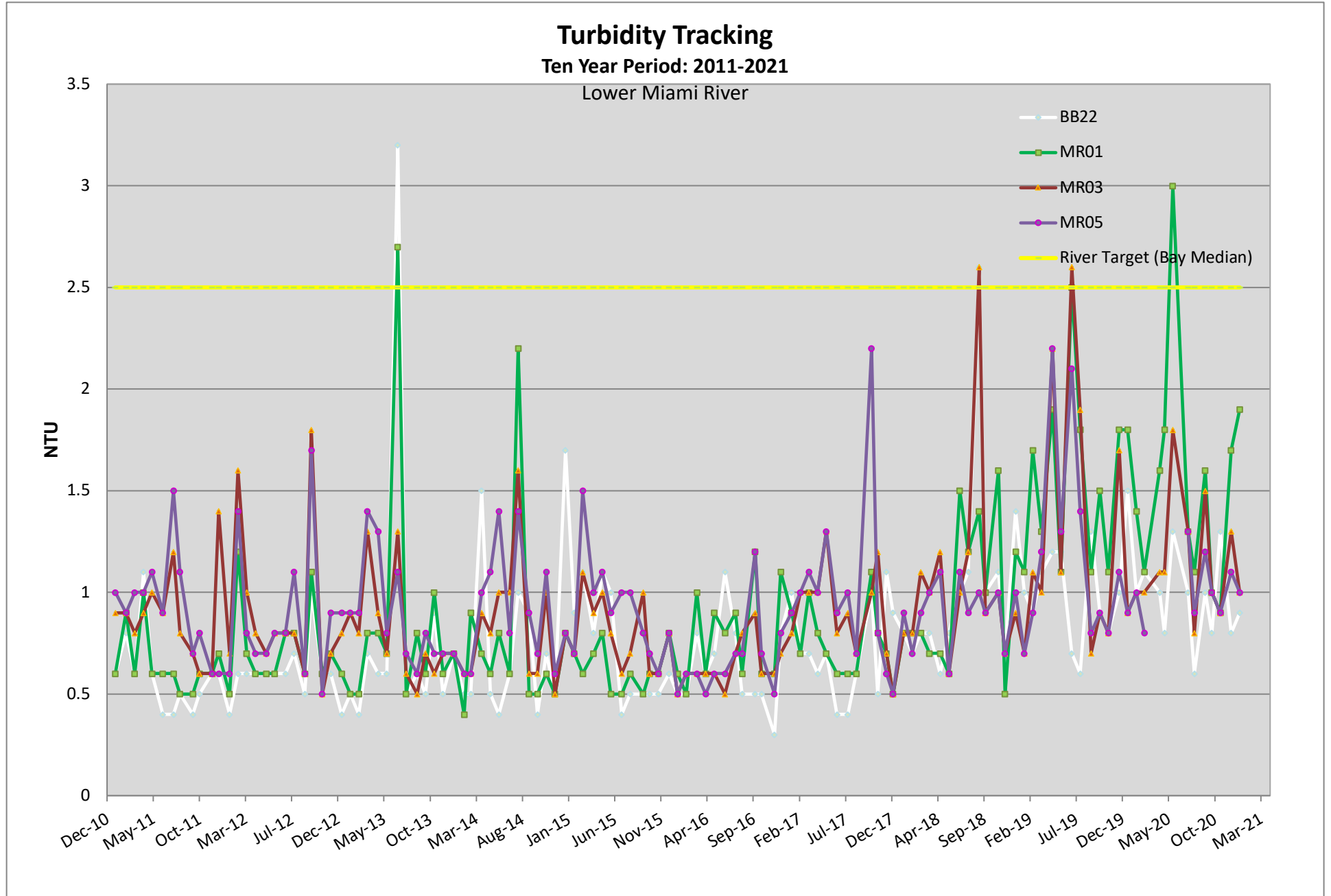


Chart 13.

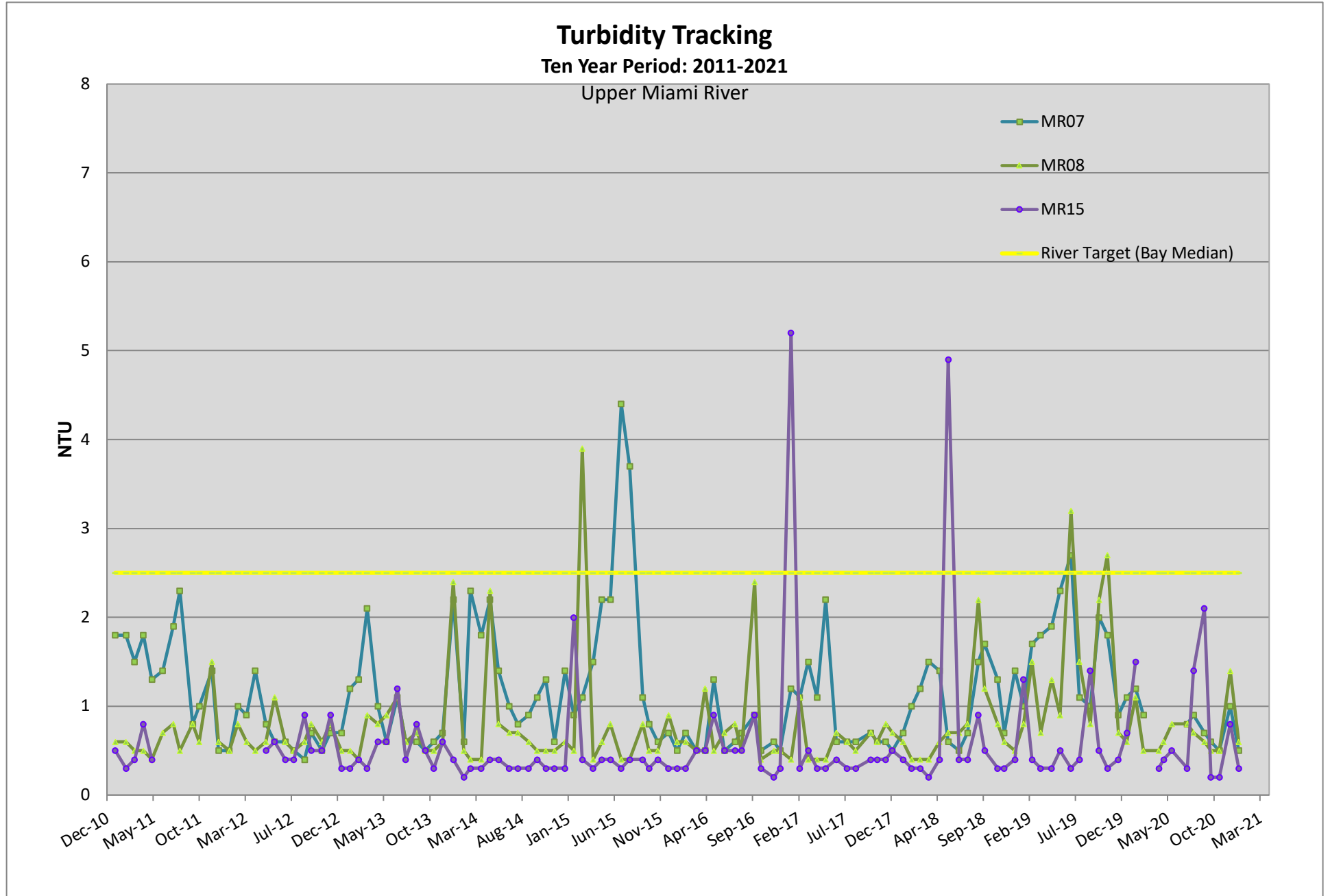


Chart 14.

