

# Lemon Bay Aquatic Preserve

## SEACAR Water Quality Analysis

Last compiled on 06 March, 2025

### Contents

<b>Indicators</b>	<b>2</b>
Nutrients . . . . .	2
Total Nitrogen - Discrete . . . . .	2
Total Phosphorus - Discrete . . . . .	4
Water Quality . . . . .	6
Dissolved Oxygen - Discrete . . . . .	6
Dissolved Oxygen Saturation - Discrete . . . . .	8
Salinity - Discrete . . . . .	10
Water Temperature - Discrete . . . . .	12
pH - Discrete . . . . .	14
Water Clarity . . . . .	16
Turbidity - Discrete . . . . .	16
Total Suspended Solids - Discrete . . . . .	18
Chlorophyll a, Uncorrected for Pheophytin - Discrete . . . . .	20
Chlorophyll a, Corrected for Pheophytin - Discrete . . . . .	22
Secchi Depth - Discrete . . . . .	24
Colored Dissolved Organic Matter - Discrete . . . . .	26

# Indicators

## Nutrients

### Total Nitrogen - Discrete

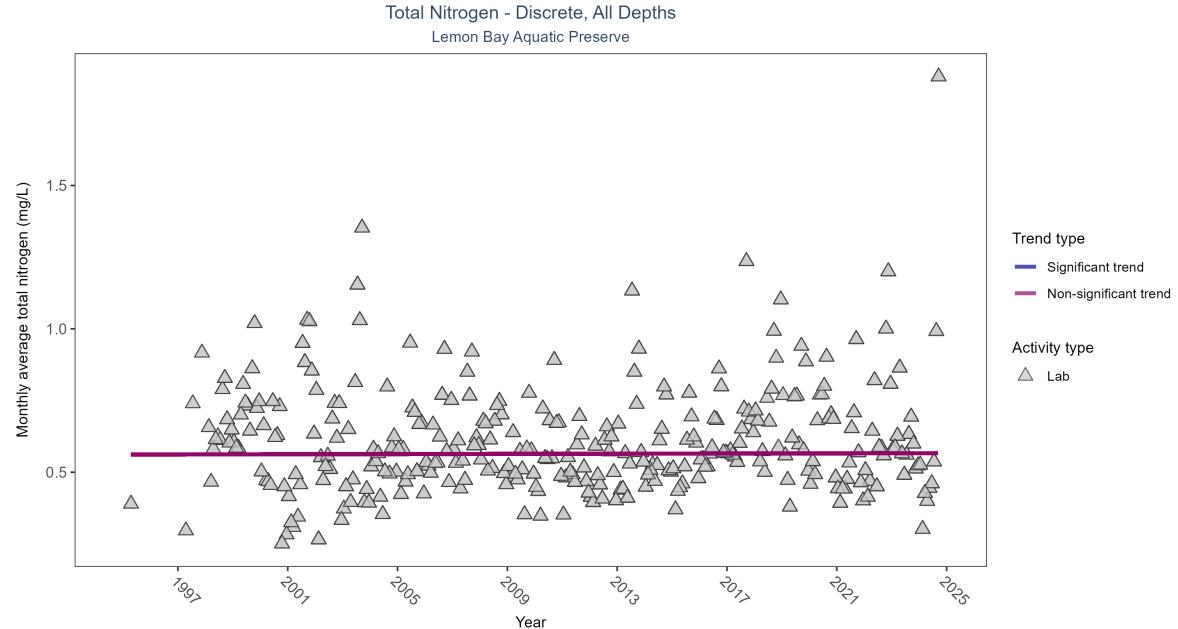
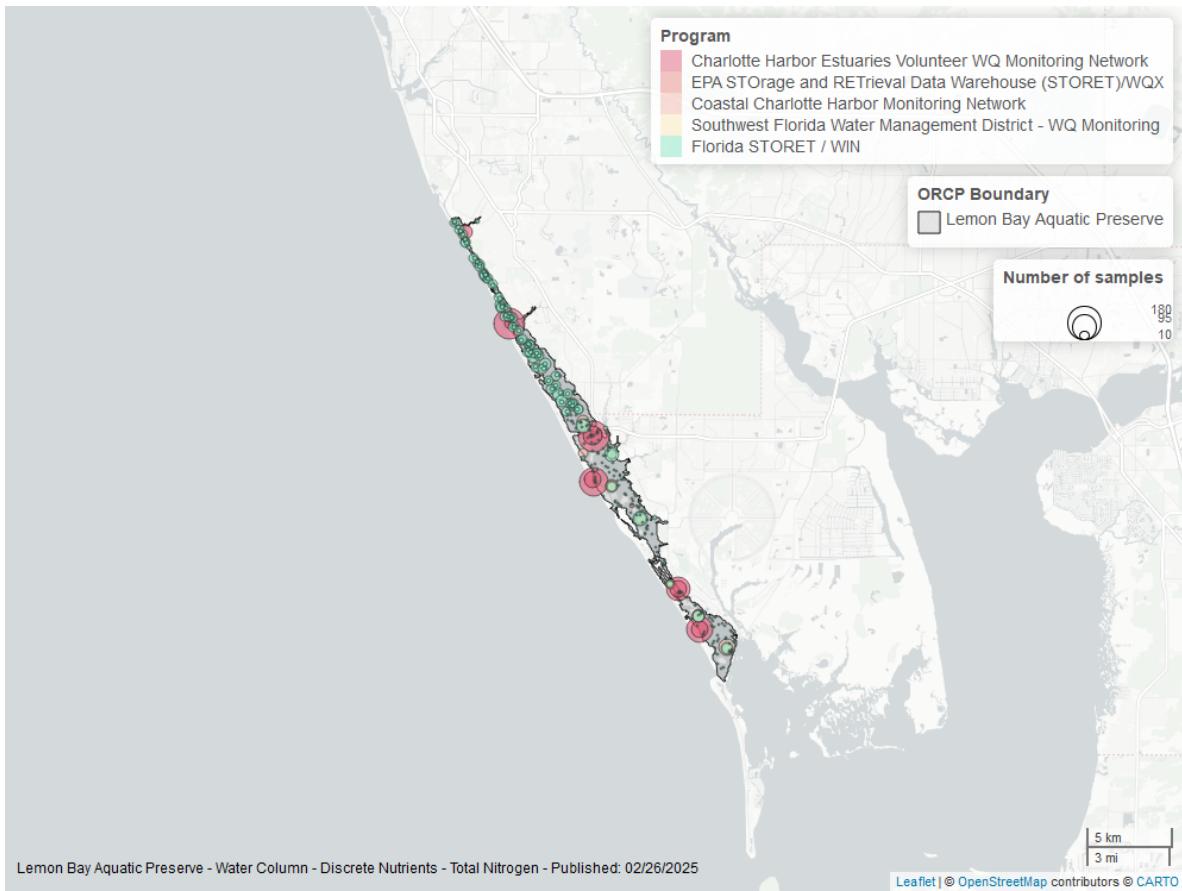


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	2930	29	1995 - 2024	0.555	0.0091	0.56174	0.00016	0.8240



## Total Phosphorus - Discrete

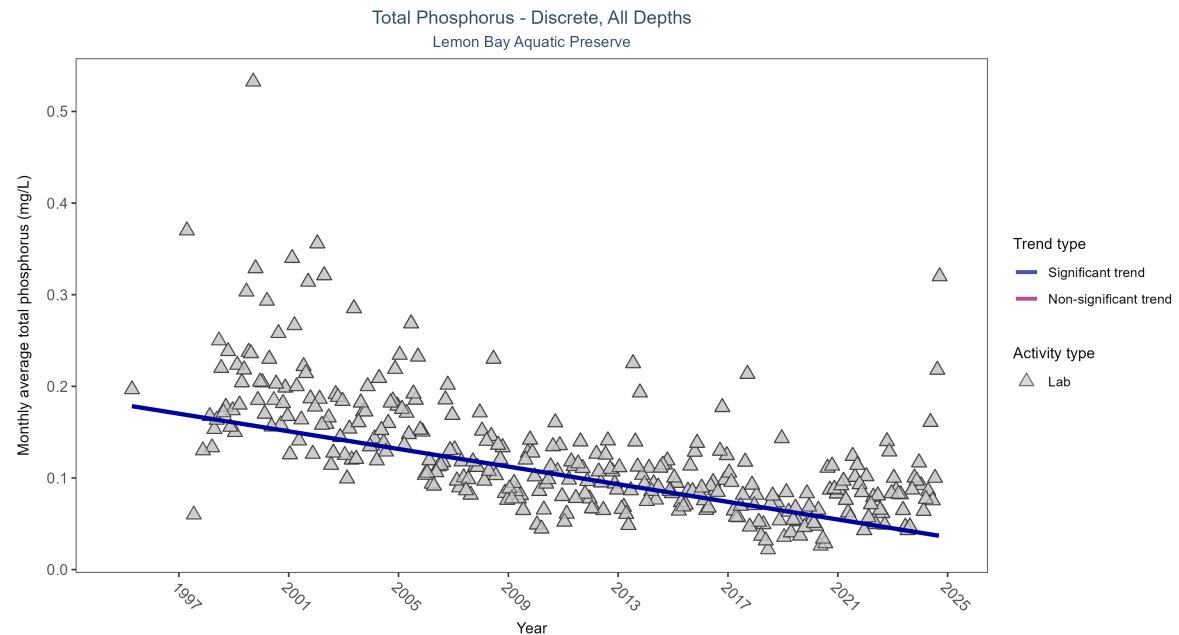
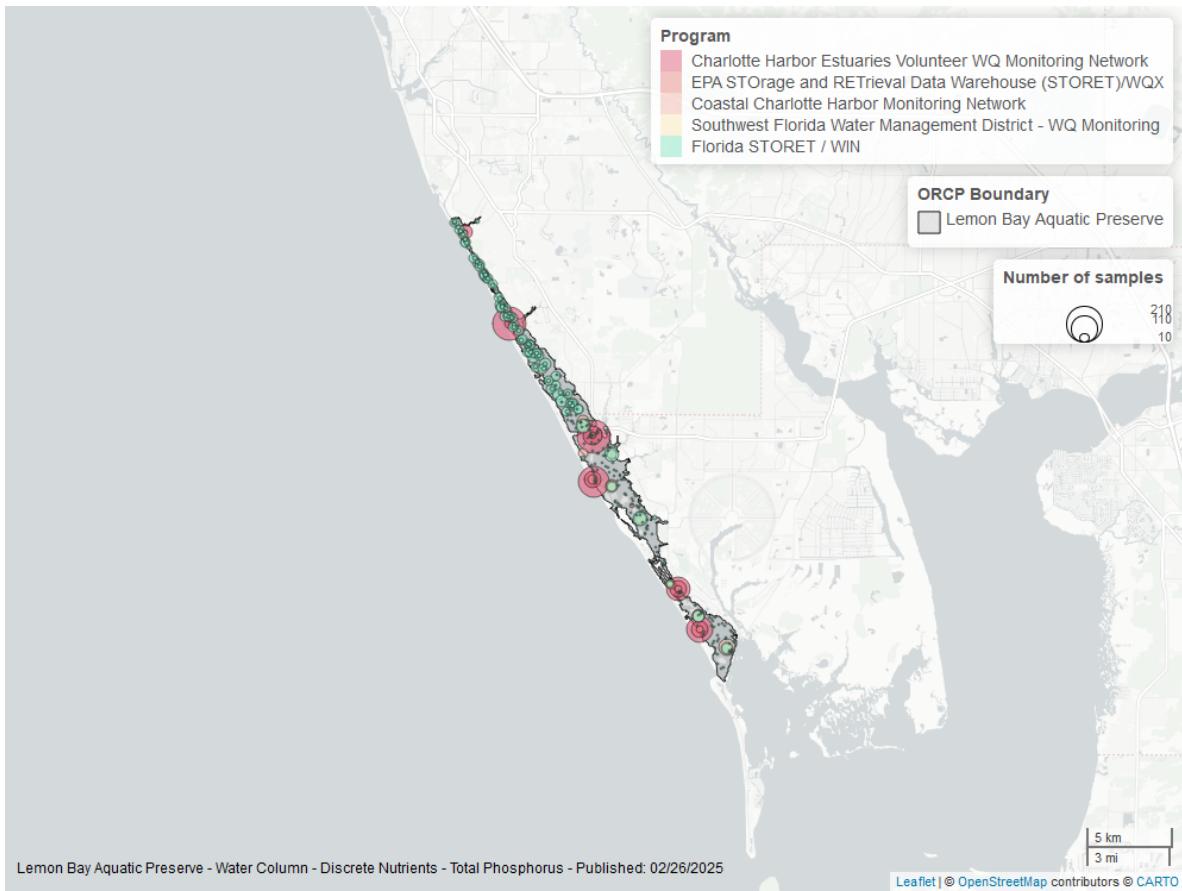


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly decreasing trend	3093	29	1995 - 2024	0.088	-0.5406	0.17978	-0.00481	0.0000



## Water Quality

### Dissolved Oxygen - Discrete

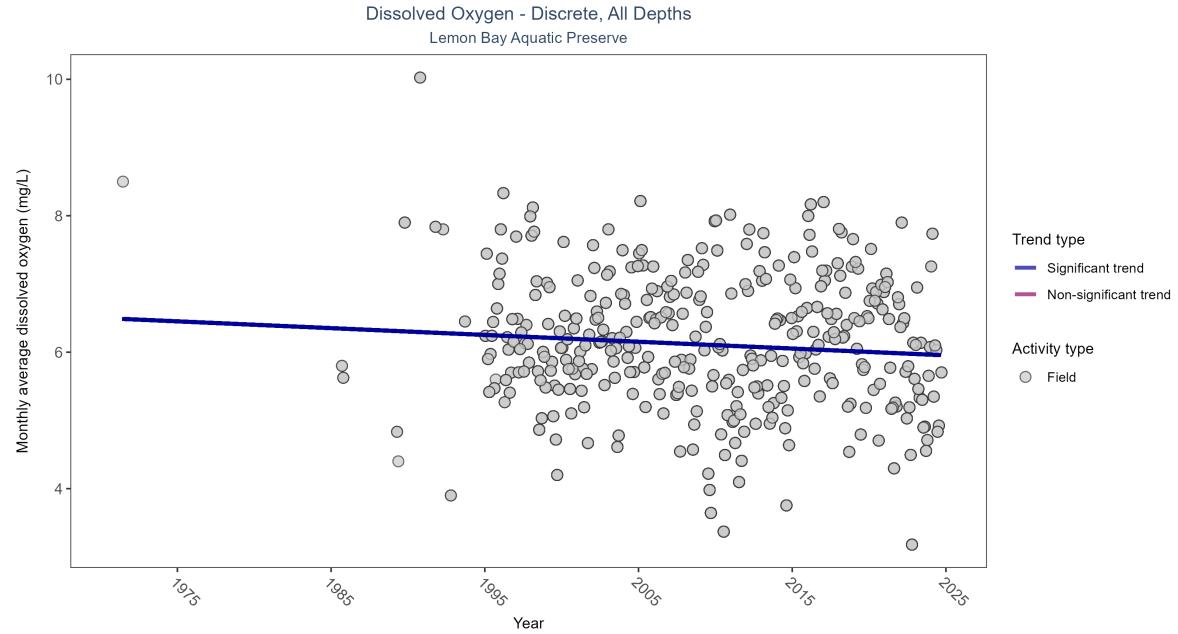
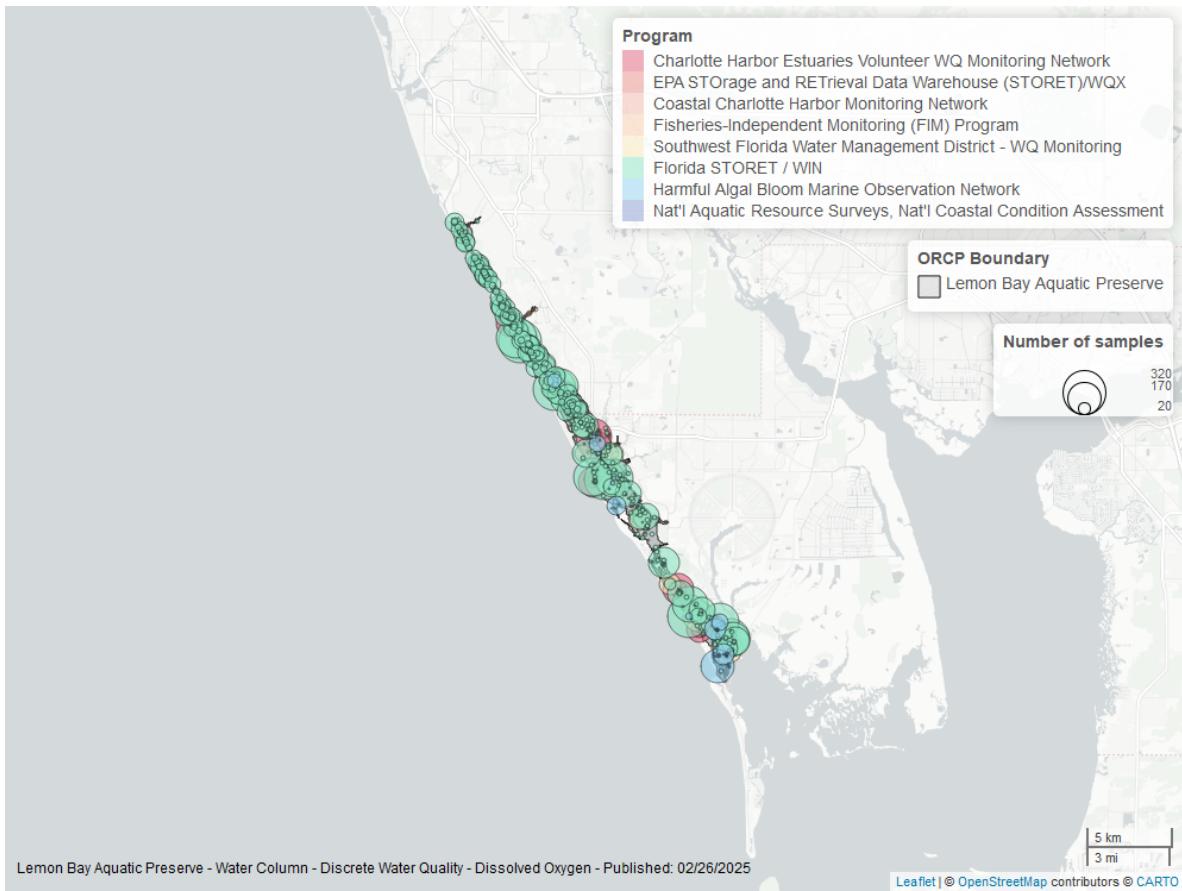


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly decreasing trend	13482	37	1971 - 2024	6.1	-0.0707	6.49195	-0.00997	0.0423



## Dissolved Oxygen Saturation - Discrete

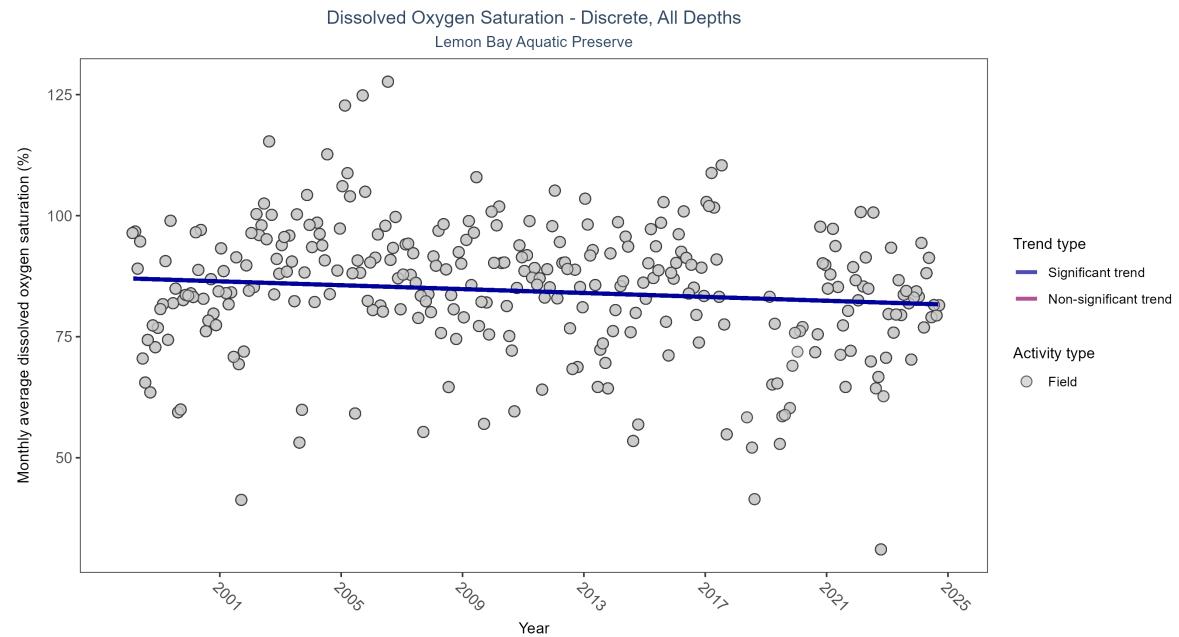
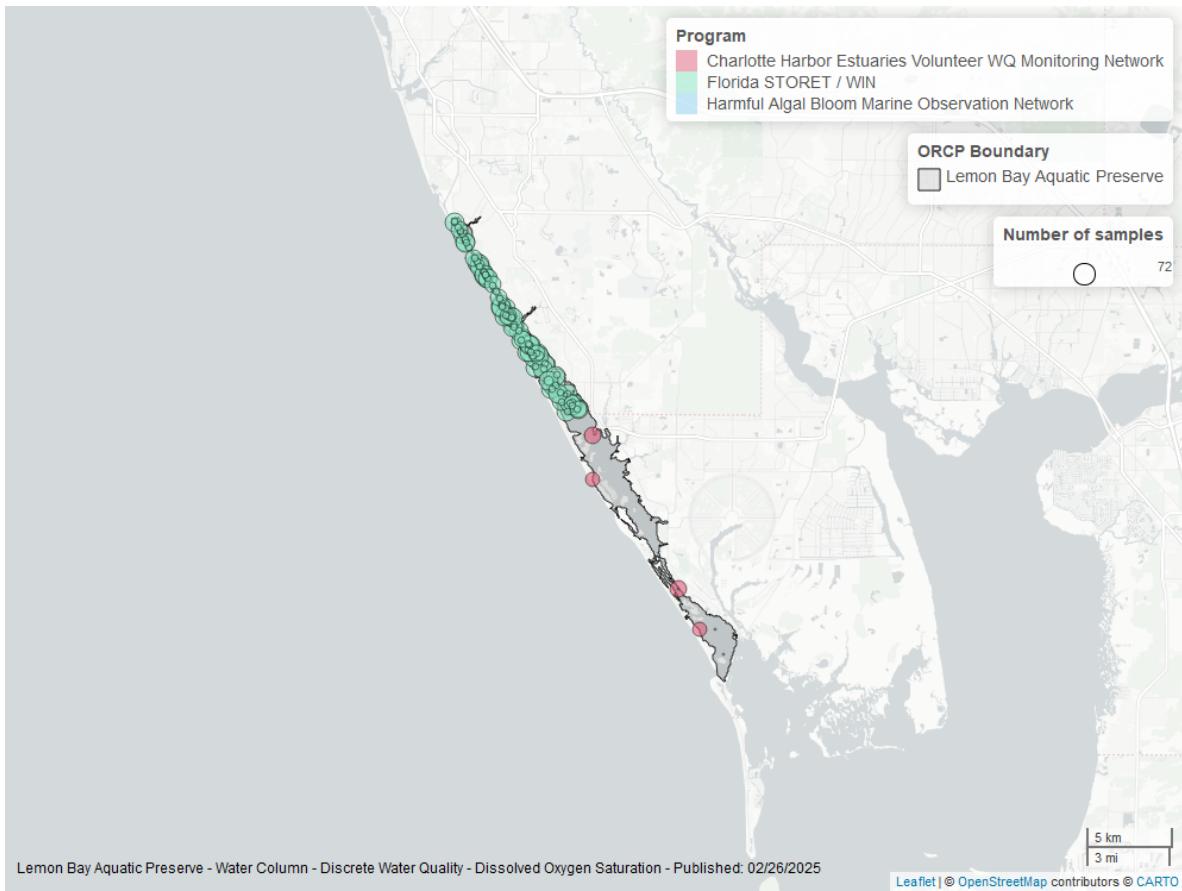


Table 4: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly decreasing trend	4443	27	1998 - 2024	87	-0.1077	87.03607	-0.20046	0.0095



## Salinity - Discrete

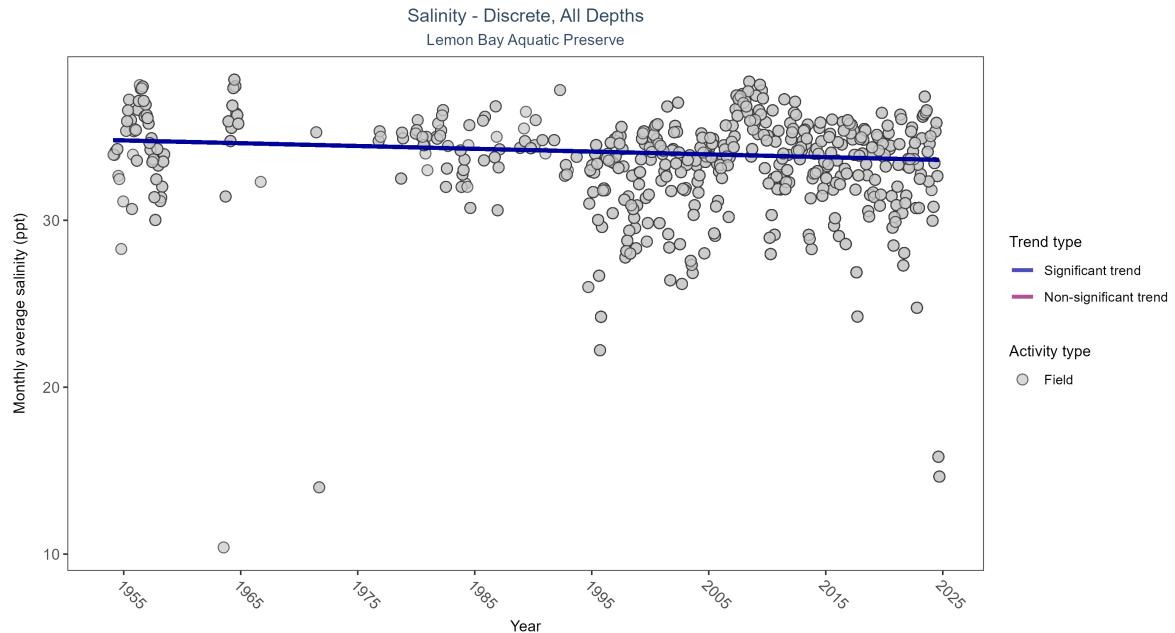
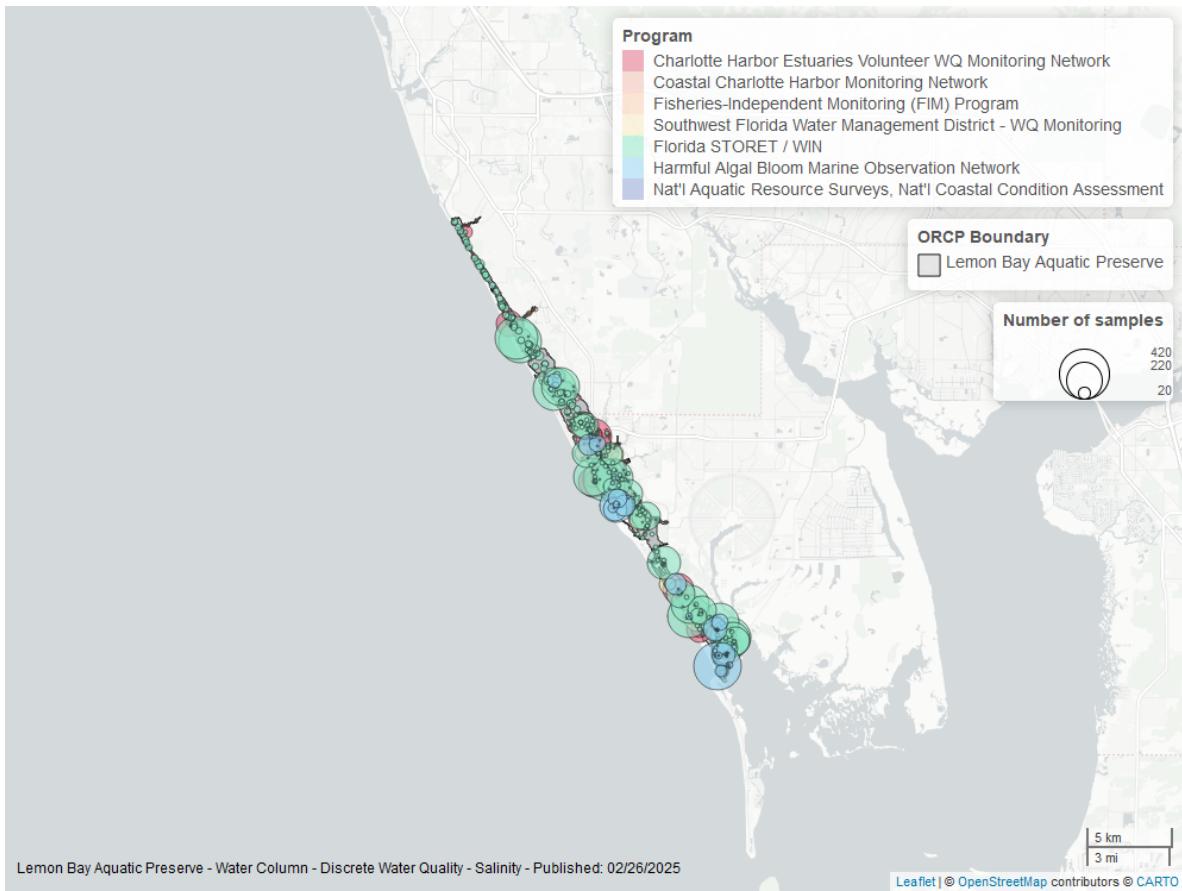


Table 5: Seasonal Kendall-Tau Results for - Salinity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
All	Significantly decreasing trend	10941	57	1954 - 2024	34	-0.0875	34.80114	-0.01674	0.0036



## Water Temperature - Discrete

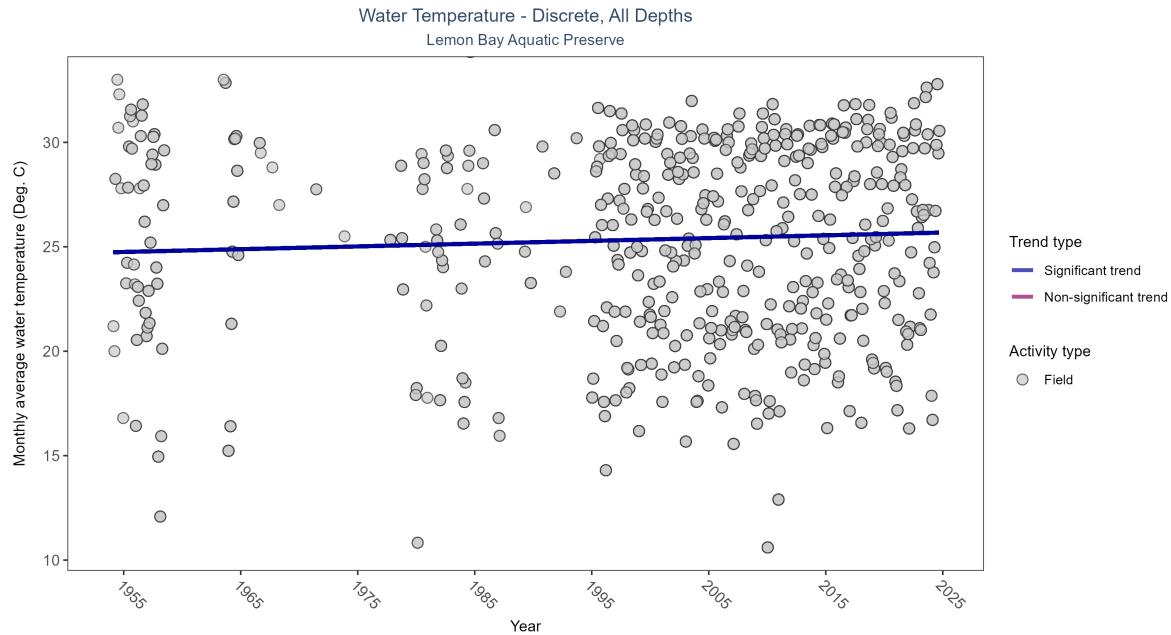
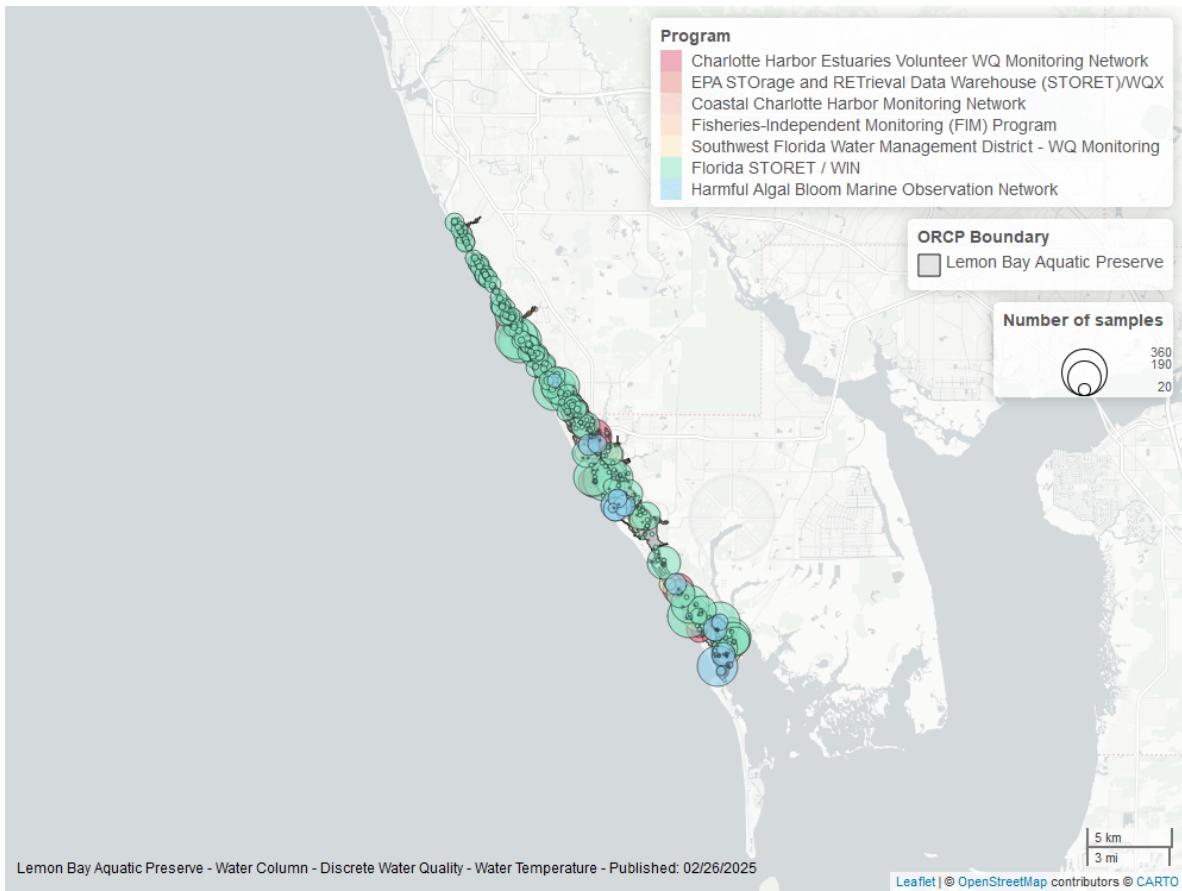


Table 6: Seasonal Kendall-Tau Results for - Water Temperature

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly increasing trend	14668	58	1954 - 2024	26.4	0.106	24.73793	0.01328	0.0006



## pH - Discrete

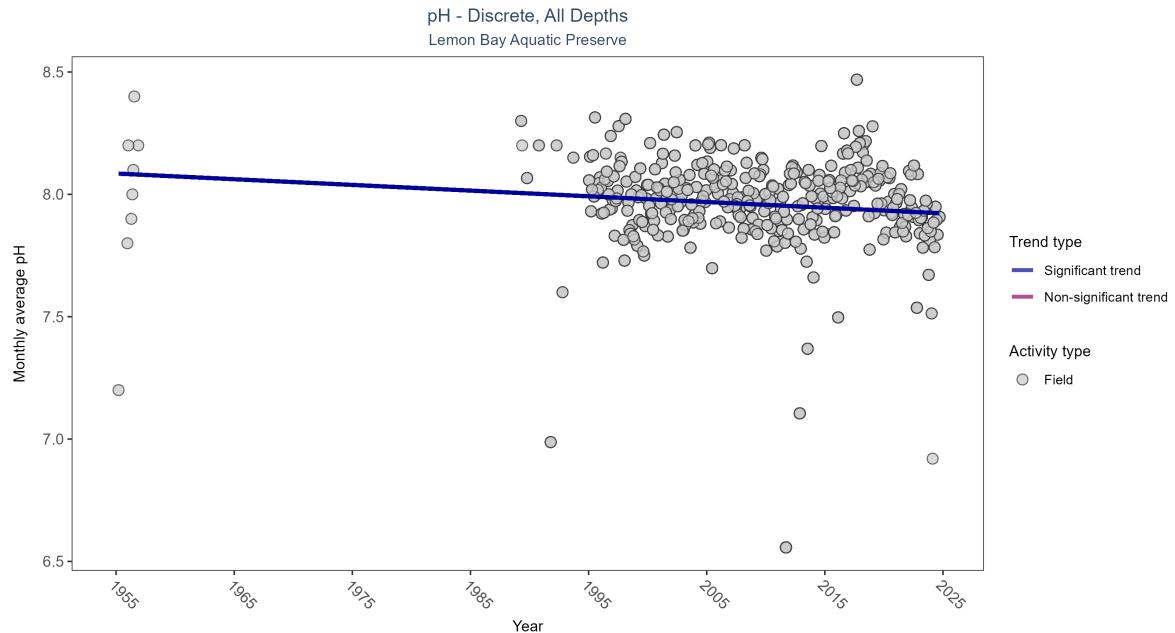
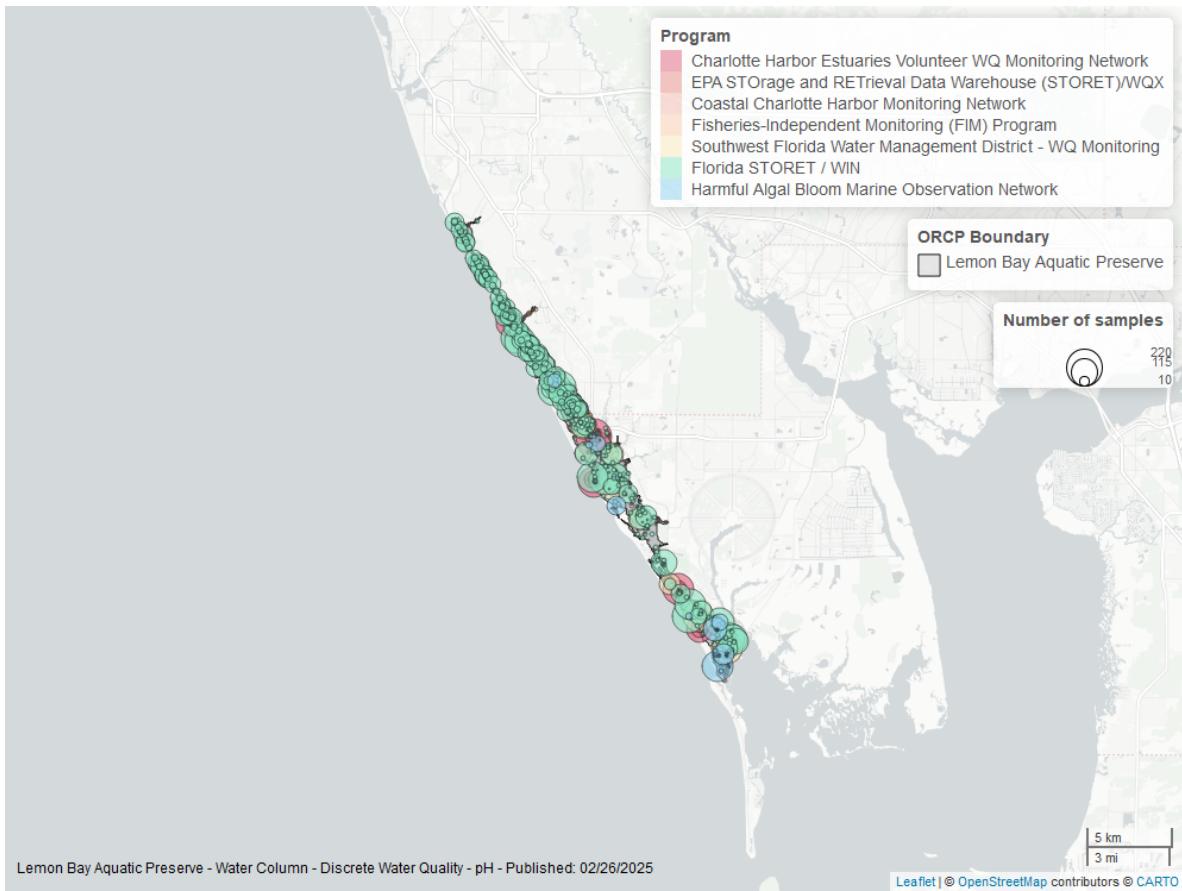


Table 7: Seasonal Kendall-Tau Results for - pH

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly decreasing trend	11903	37	1955 - 2024	8	-0.1125	8.08509	-0.00233	0.0018



## Water Clarity

### Turbidity - Discrete

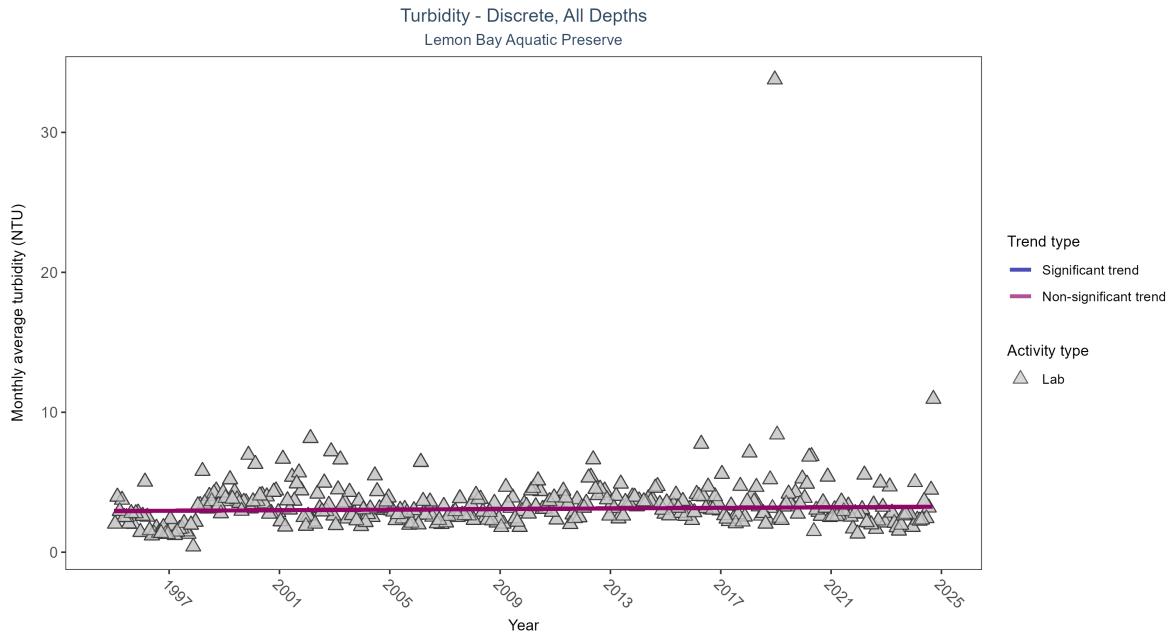
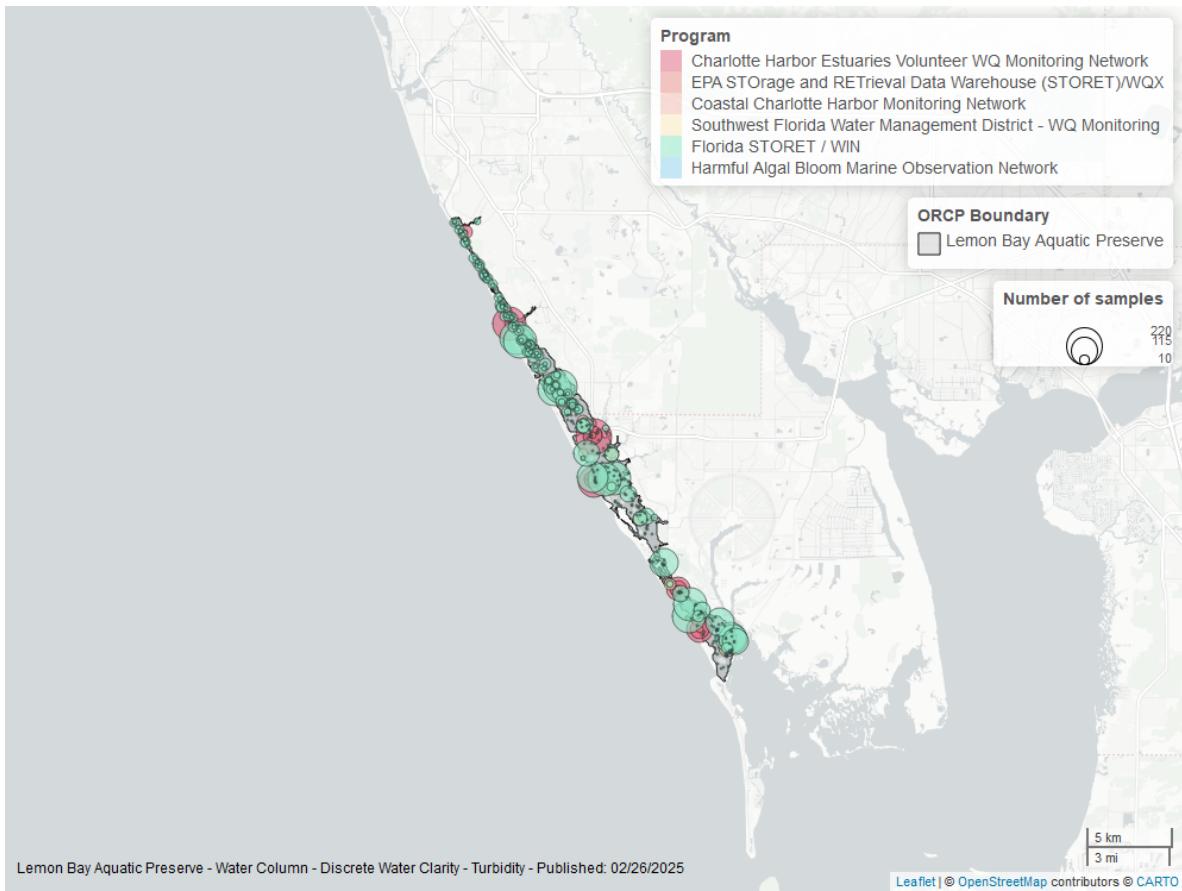


Table 8: Seasonal Kendall-Tau Results for - Turbidity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	6001	30	1995 - 2024	2.6	0.0474	2.93924	0.01038	0.2109



## Total Suspended Solids - Discrete

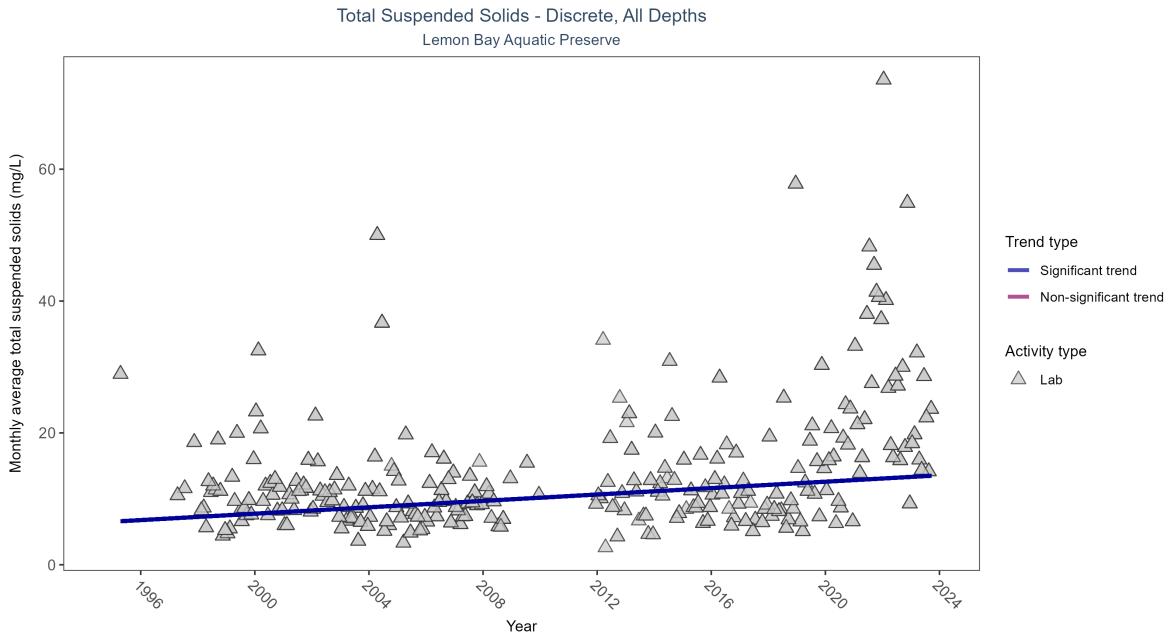
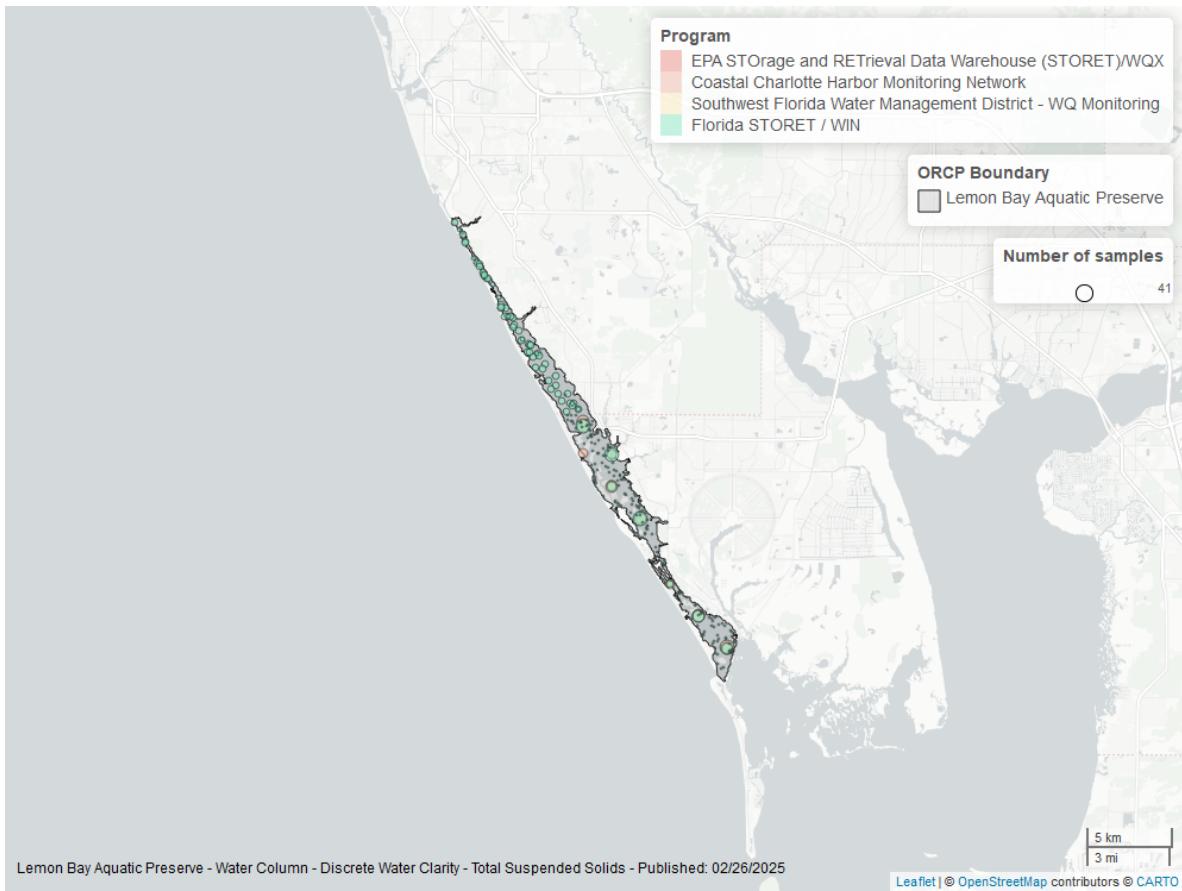


Table 9: Seasonal Kendall-Tau Results for - Total Suspended Solids

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P	
Lab	Significantly increasing trend	1165	27	1995 - 2023		10	0.228	6.53304	0.24268	0.0000



## Chlorophyll a, Uncorrected for Pheophytin - Discrete

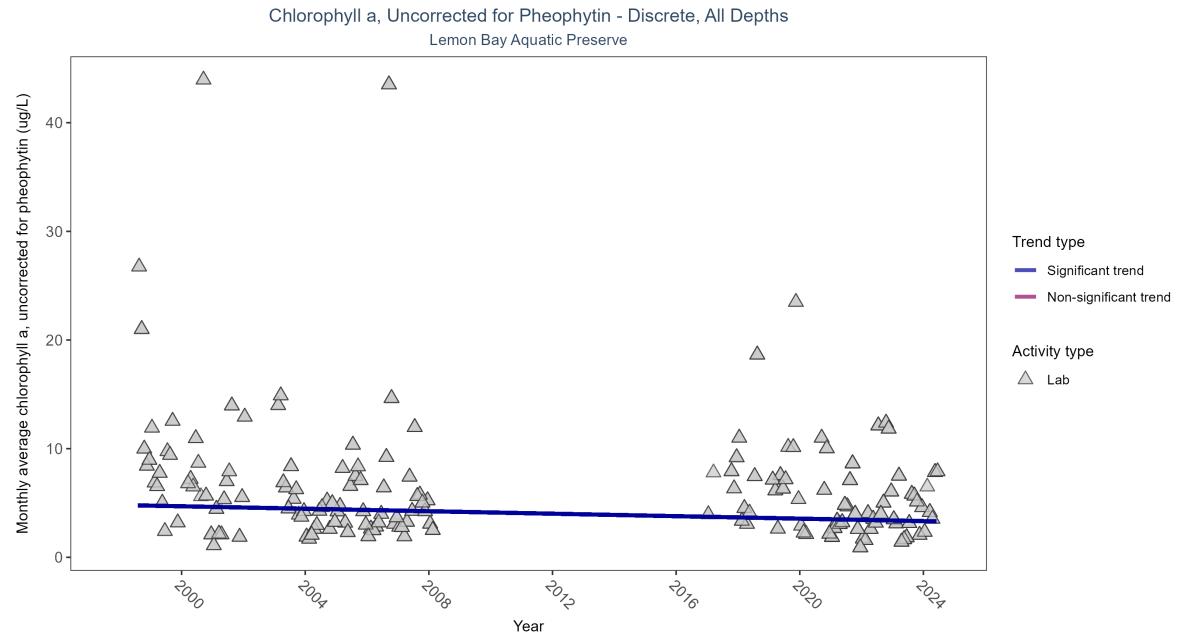
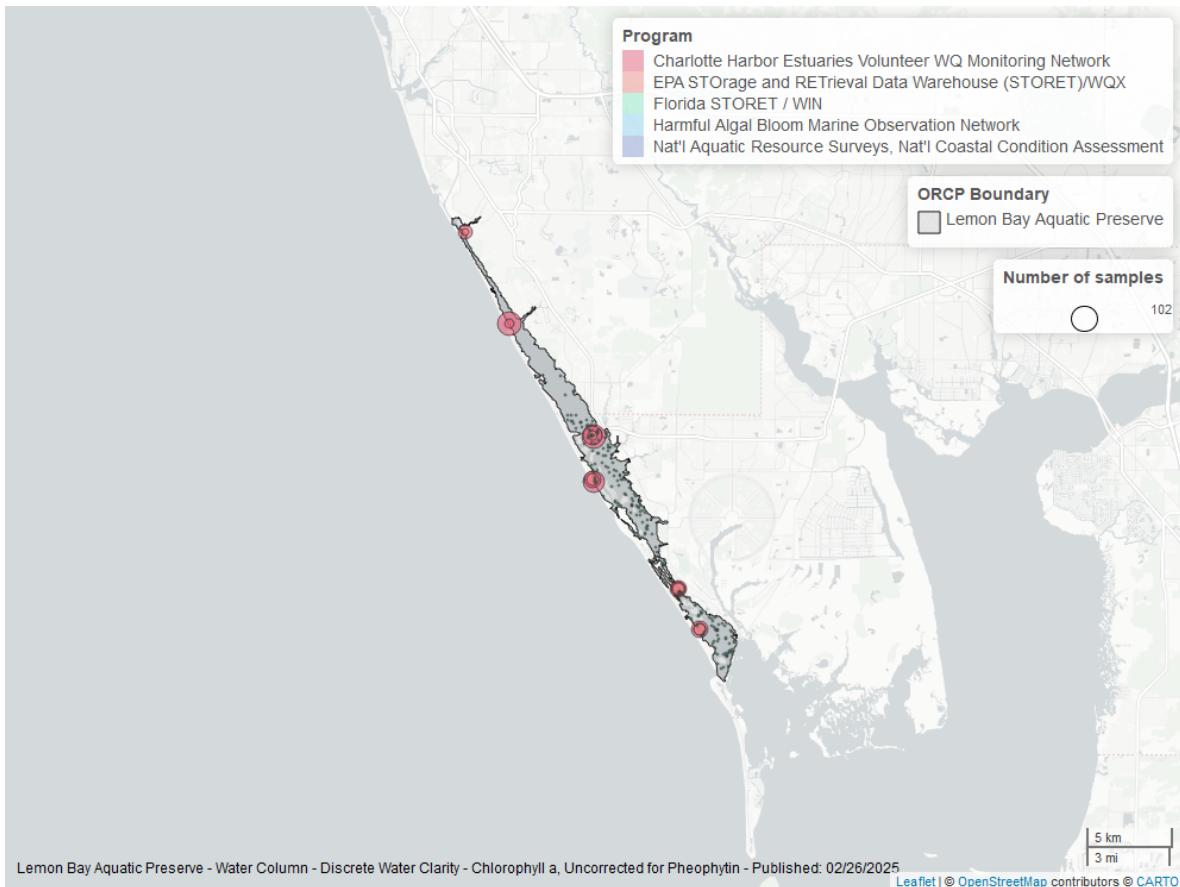


Table 10: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly decreasing trend	861	19	1998 - 2024	3.8	-0.1307	4.81118	-0.05696	0.0313



## Chlorophyll a, Corrected for Pheophytin - Discrete

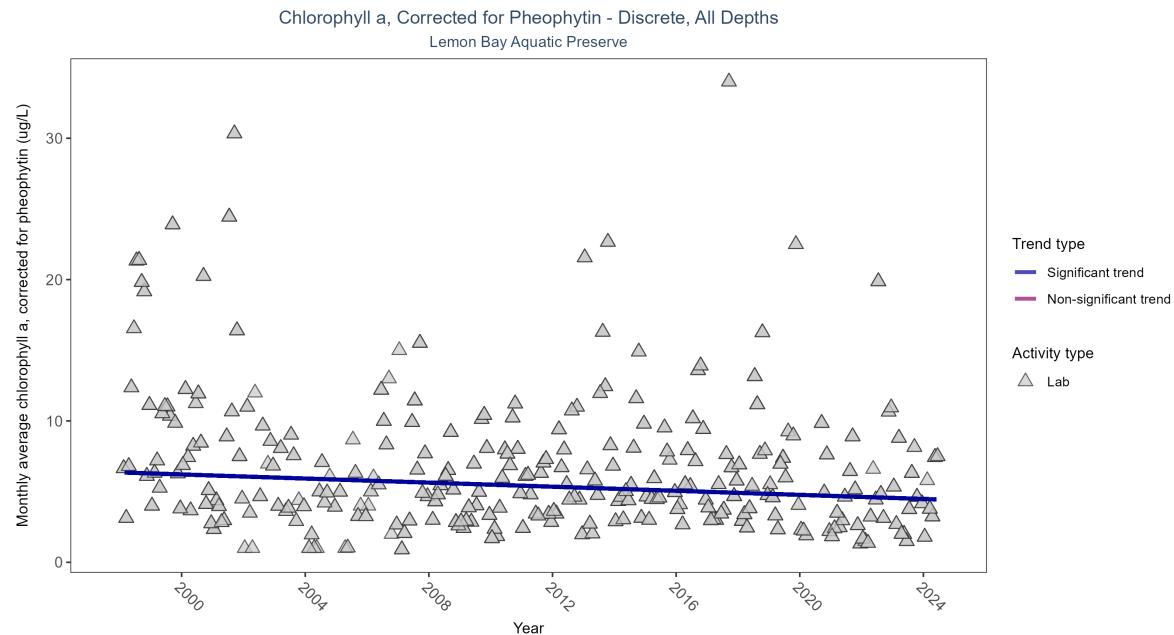
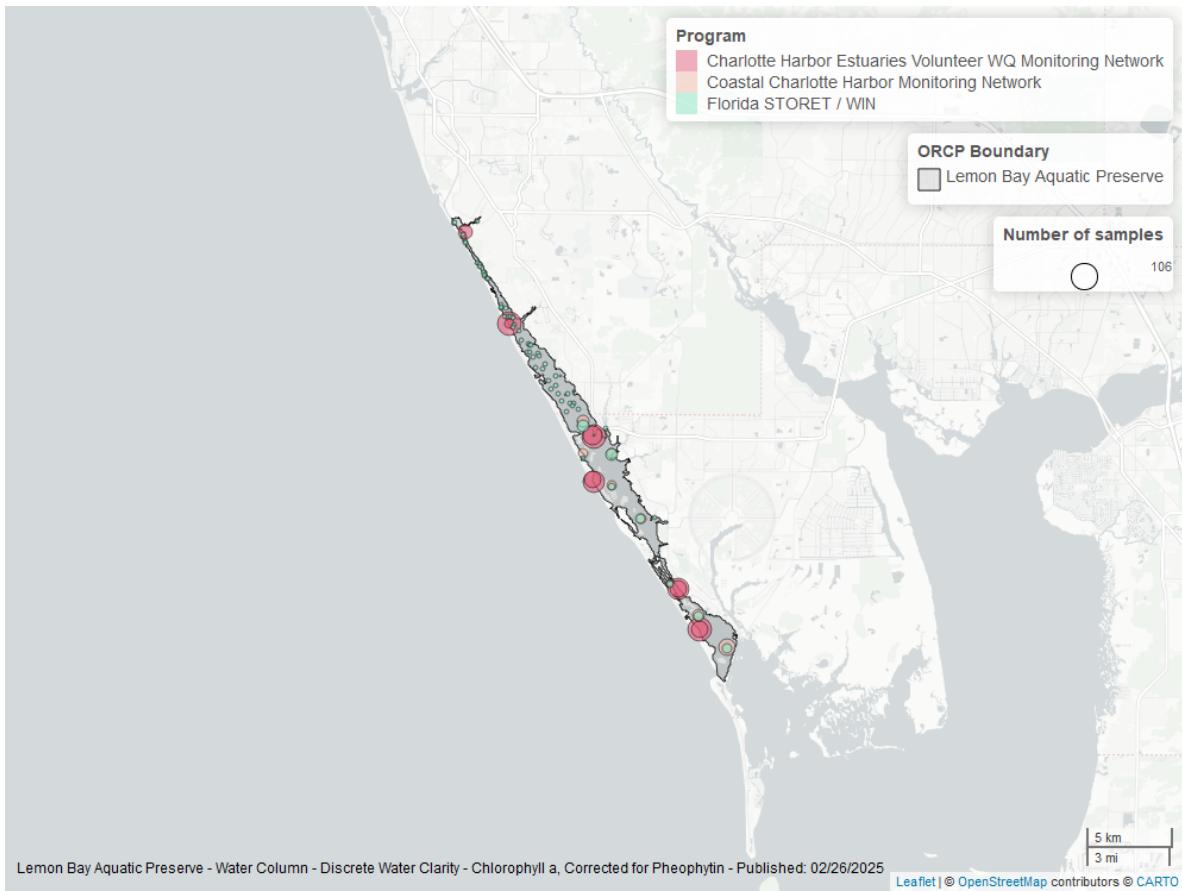


Table 11: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly decreasing trend	1157	27	1998 - 2024	4.9	-0.1396	6.35942	-0.07222	0.0007



## Secchi Depth - Discrete

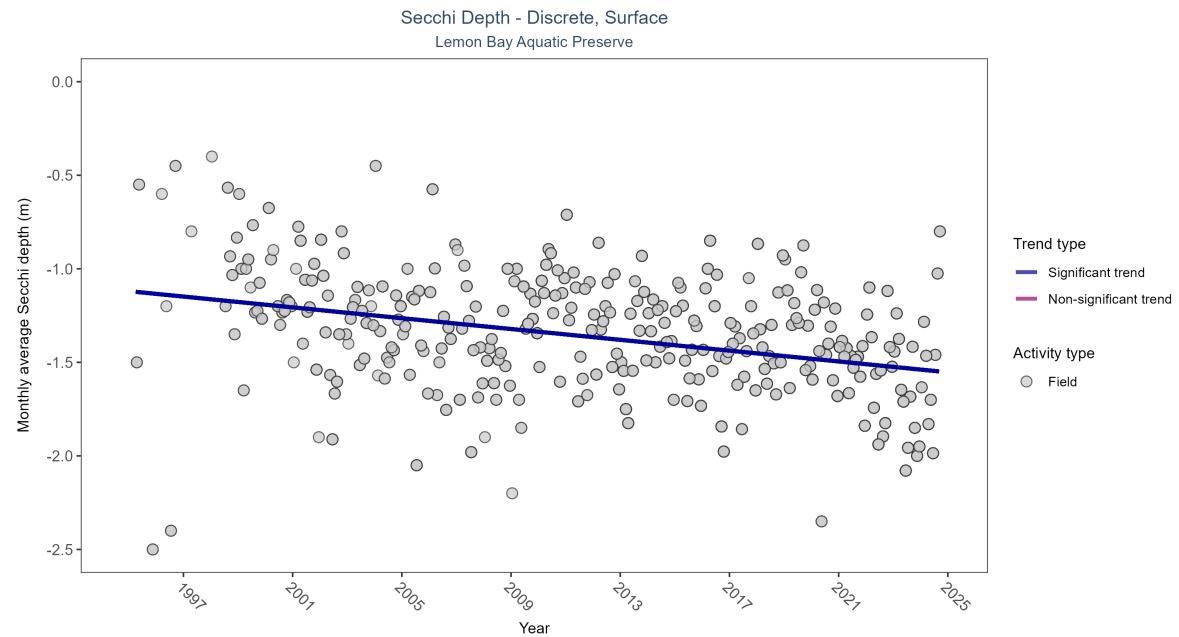
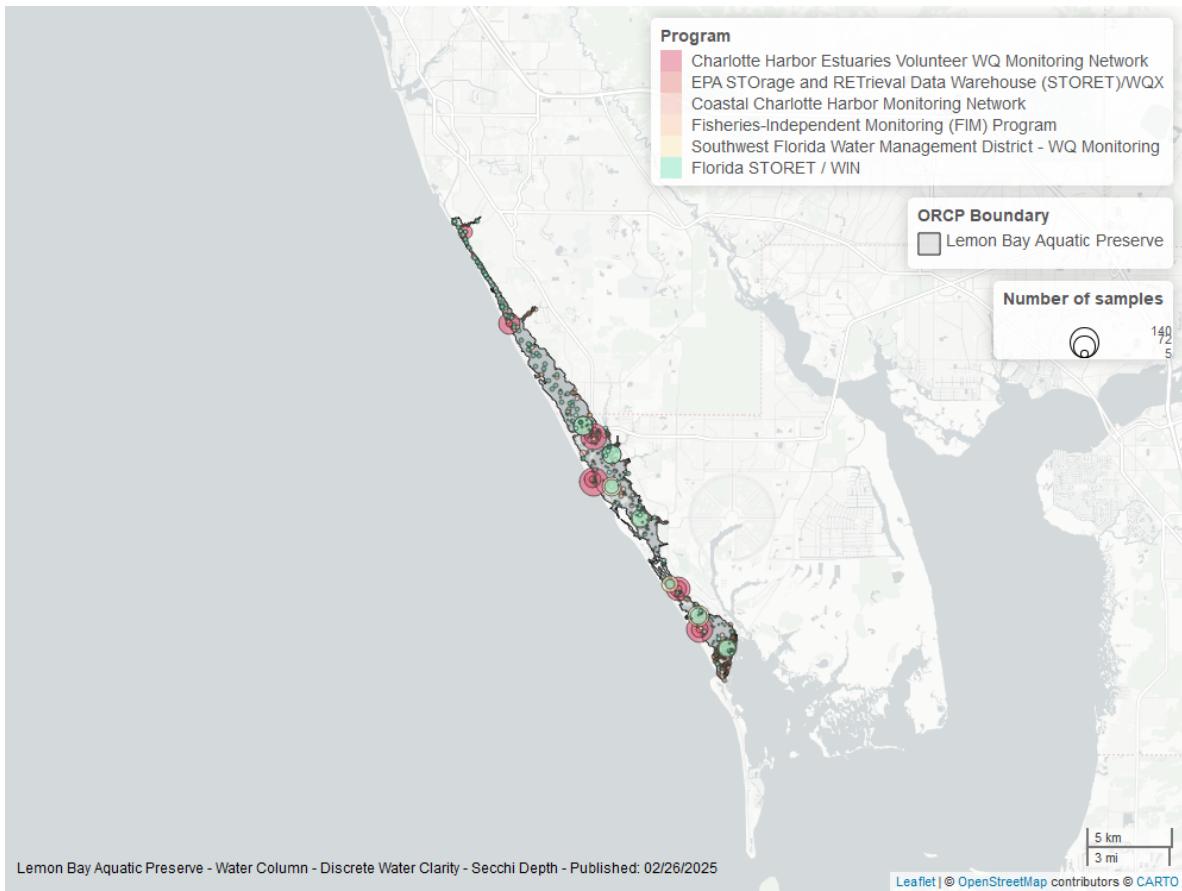


Table 12: Seasonal Kendall-Tau Results for - Secchi Depth

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly decreasing trend	3046	30	1995 - 2024		-1.3	-0.2615	-1.1195	-0.01445 0.0000



## Colored Dissolved Organic Matter - Discrete

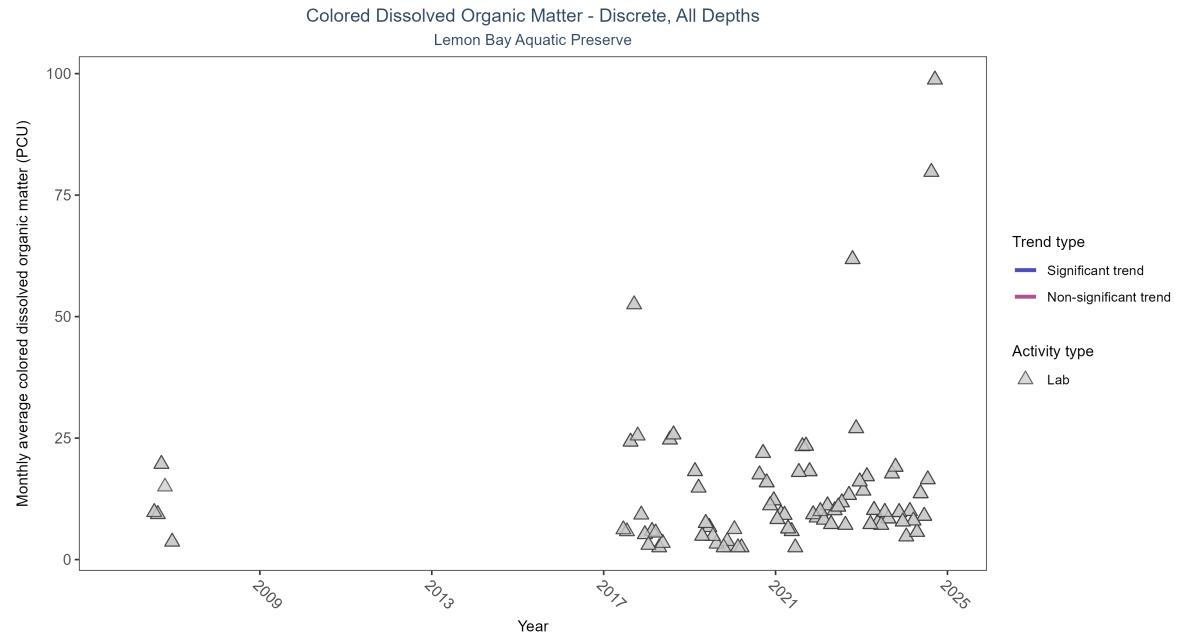


Table 13: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Insufficient data to calculate trend	471	9	2006 - 2024	9.3	-	-	-	NA

