

# Matlacha Pass Aquatic Preserve

## SEACAR Water Quality Analysis

Last compiled on 06 March, 2025

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# Indicators

## Nutrients

### Total Nitrogen - Discrete

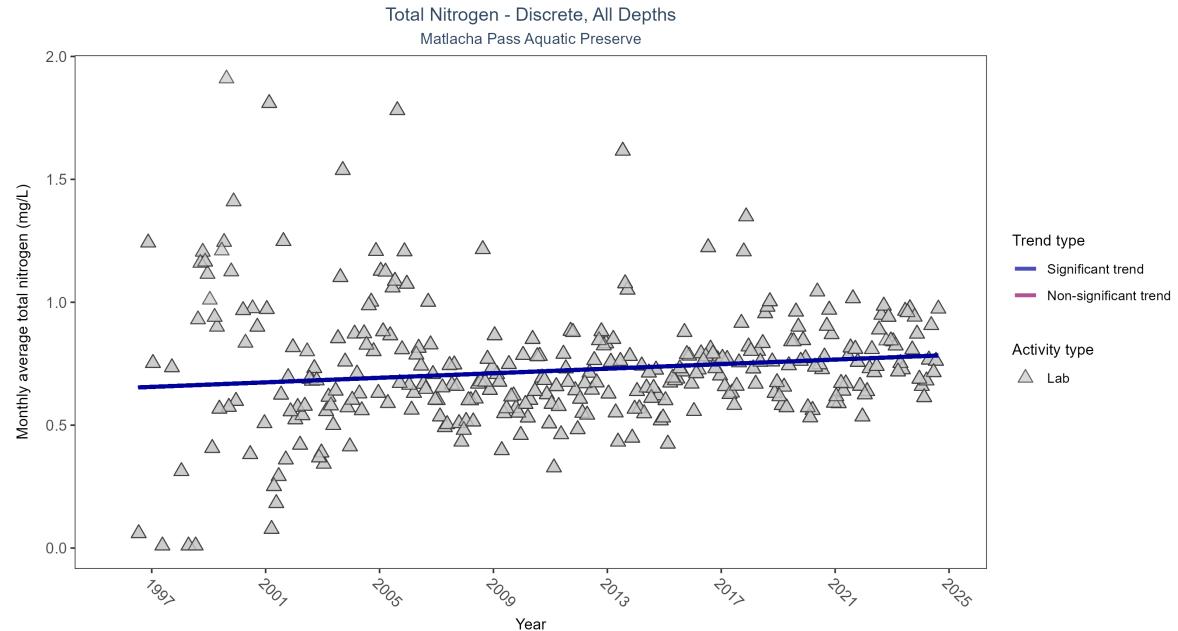
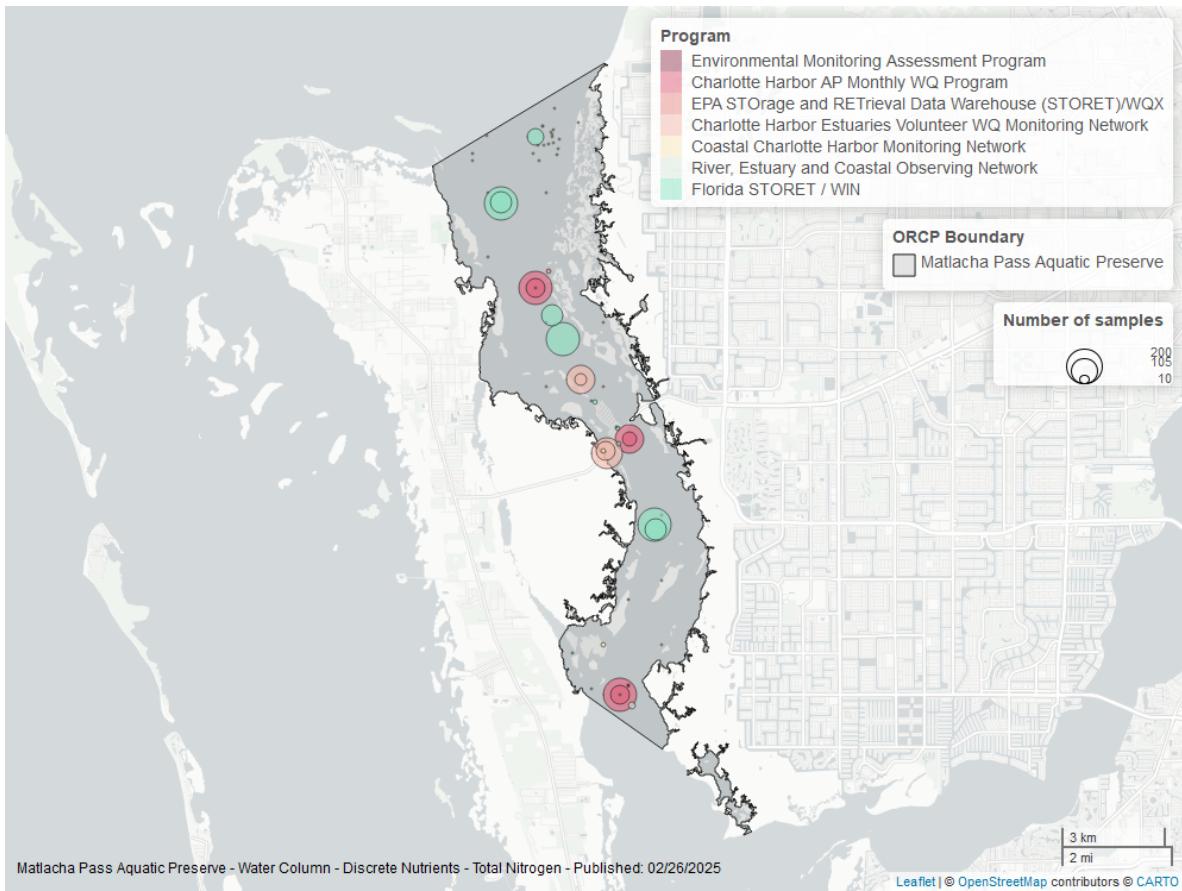


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly increasing trend	2020	29	1996 - 2024	0.7045	0.1357	0.65106	0.00463	0.0007



## Total Phosphorus - Discrete

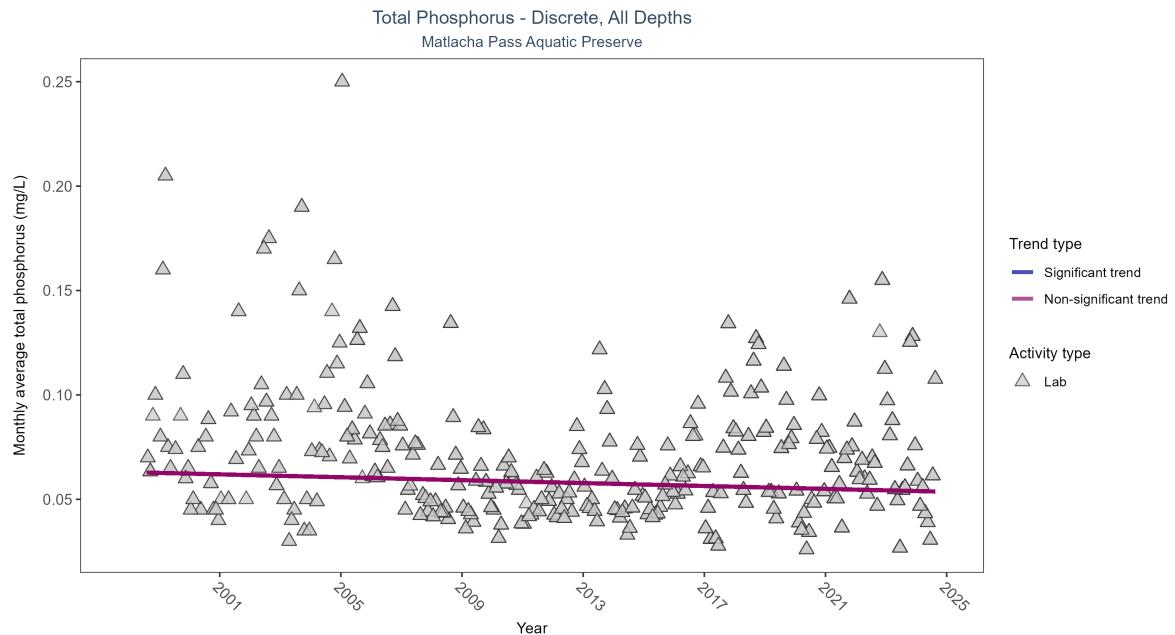
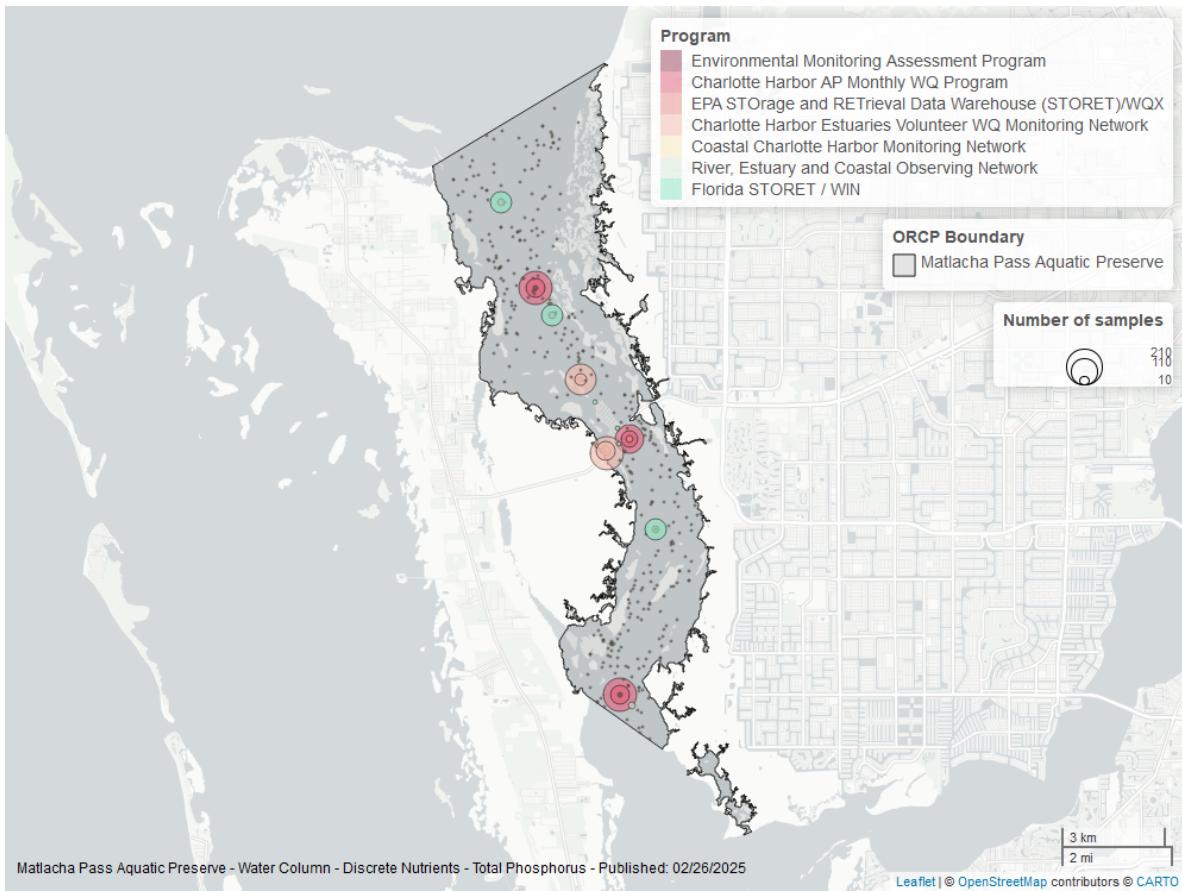


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	1861	27	1998 - 2024	0.059	-0.0703	0.063	-0.00035	0.0956



## Water Quality

### Dissolved Oxygen - Discrete

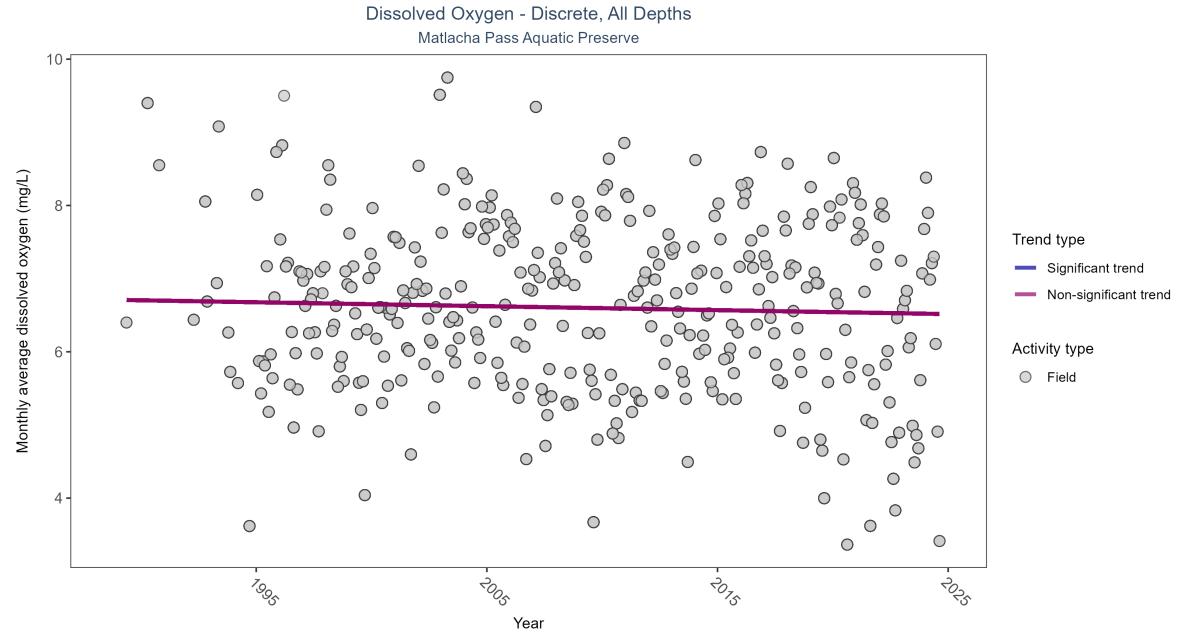
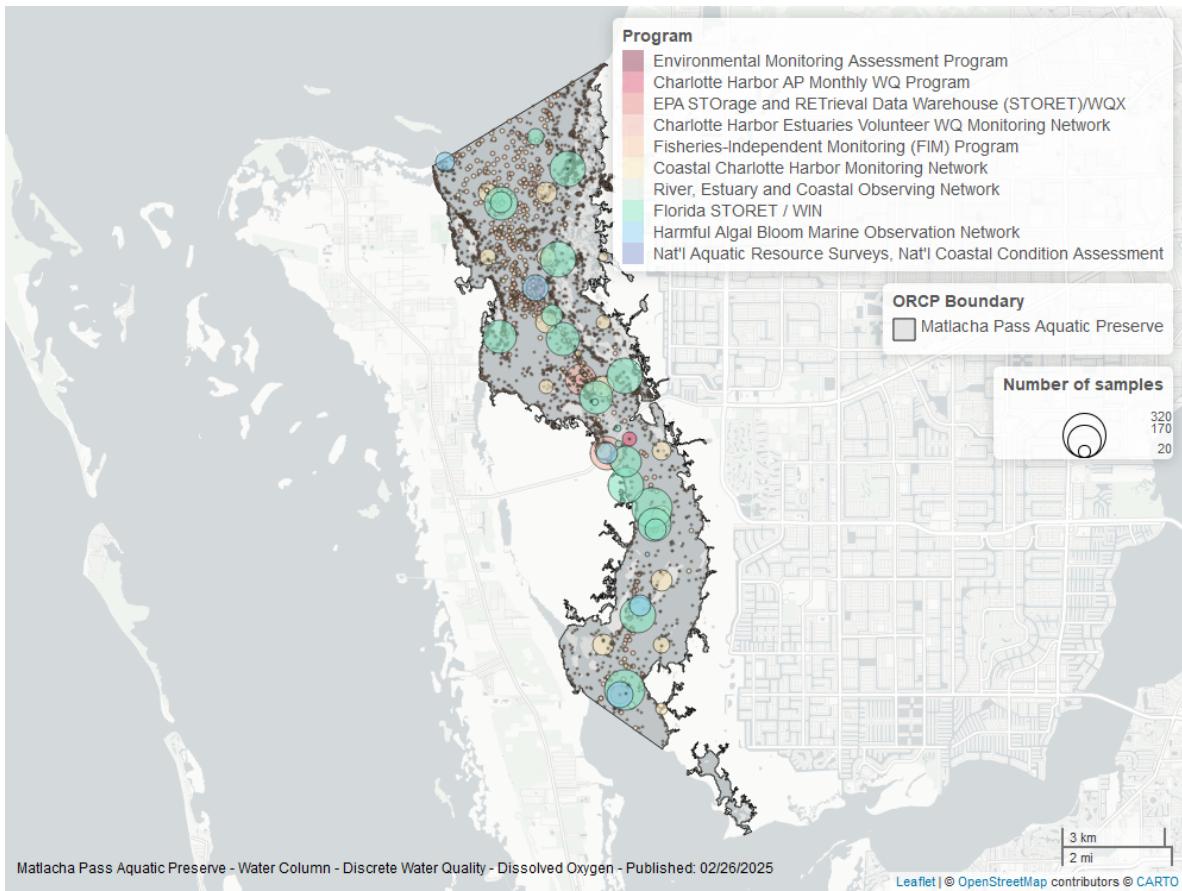


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	No significant trend	11391	35	1989 - 2024	6.6	-0.0357	6.7093	-0.00539	0.3277



## Dissolved Oxygen - Continuous

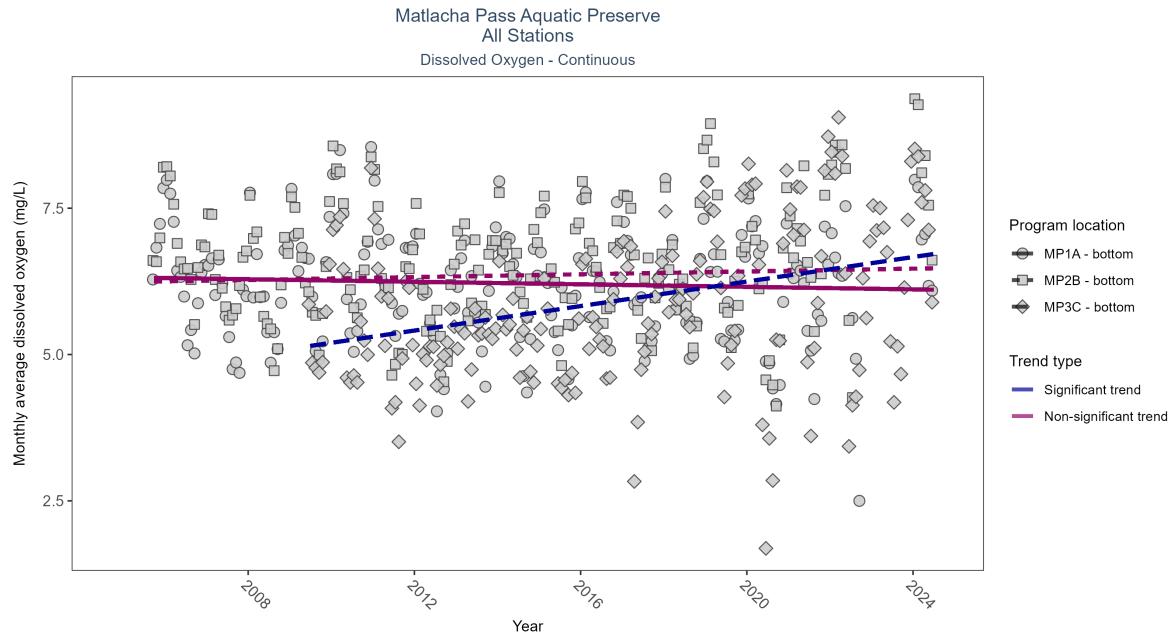
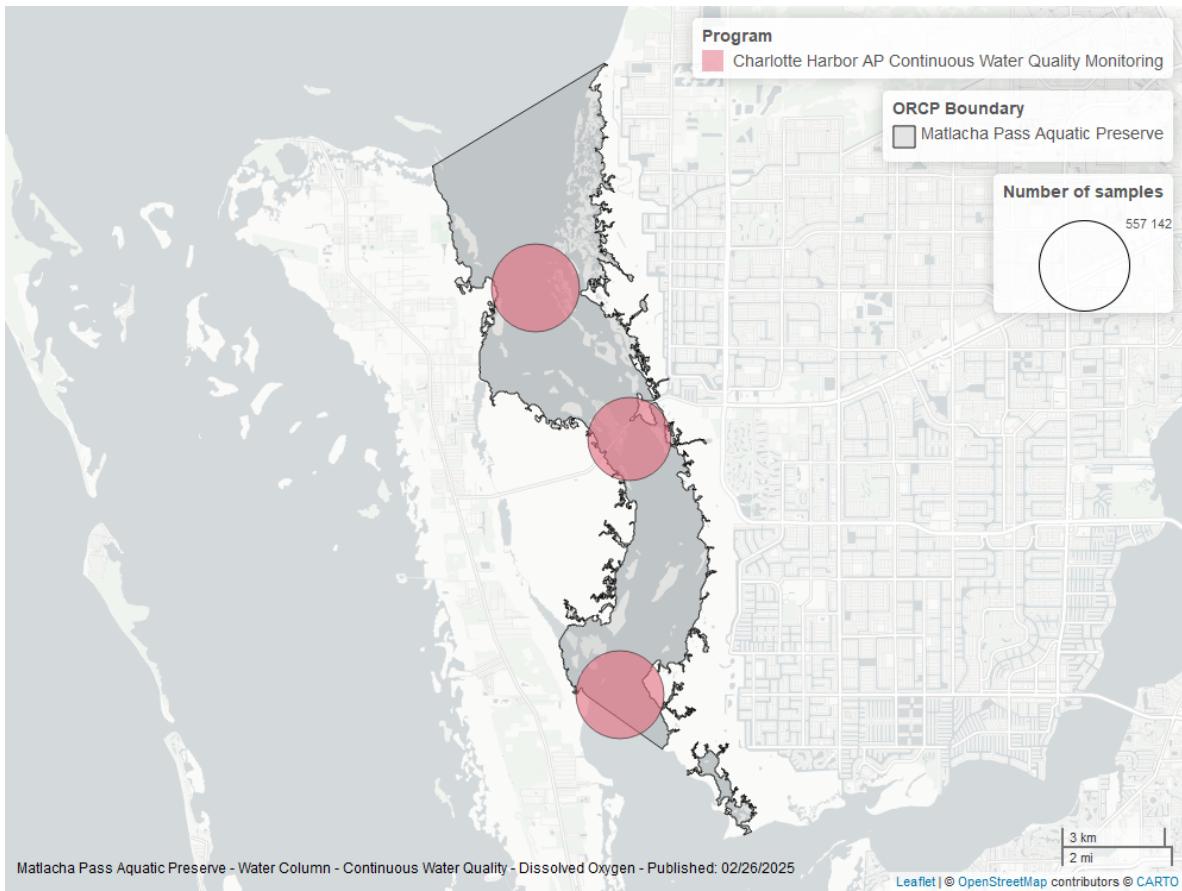


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
MP1A	No significant trend	546077	19	2005 - 2024	6.3	-0.06	6.32	-0.01	0.2381
MP2B	No significant trend	557142	19	2005 - 2024	6.7	0.08	6.24	0.01	0.1143
MP3C	Significantly increasing trend	480012	16	2009 - 2024	5.9	0.32	5.10	0.10	0.0000



## Dissolved Oxygen Saturation - Discrete

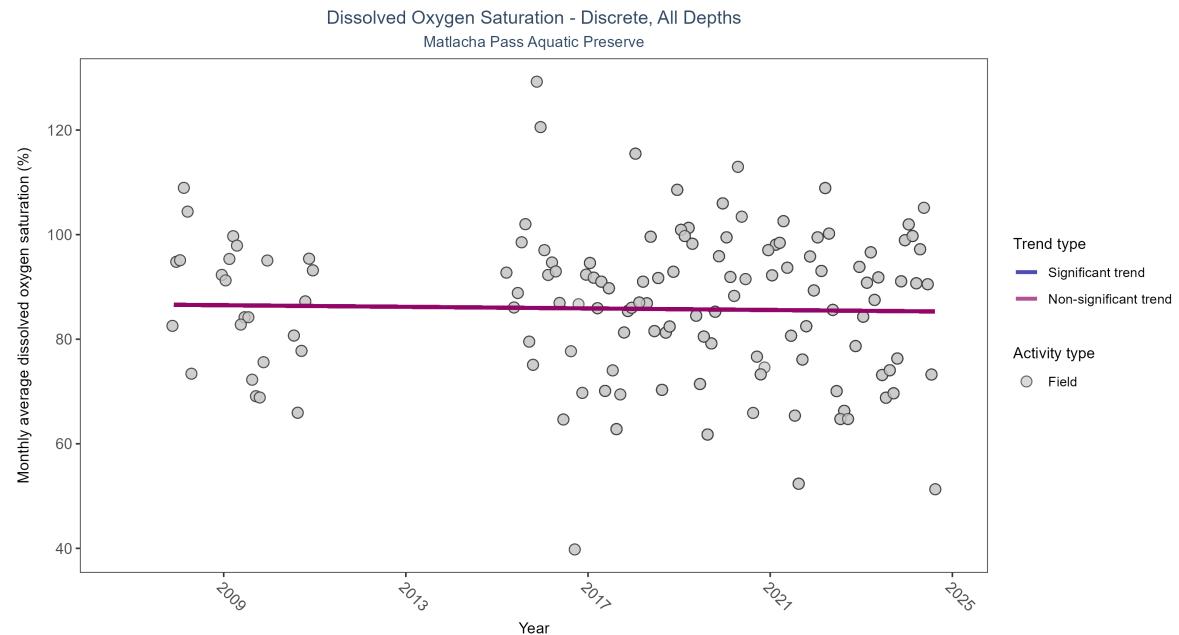
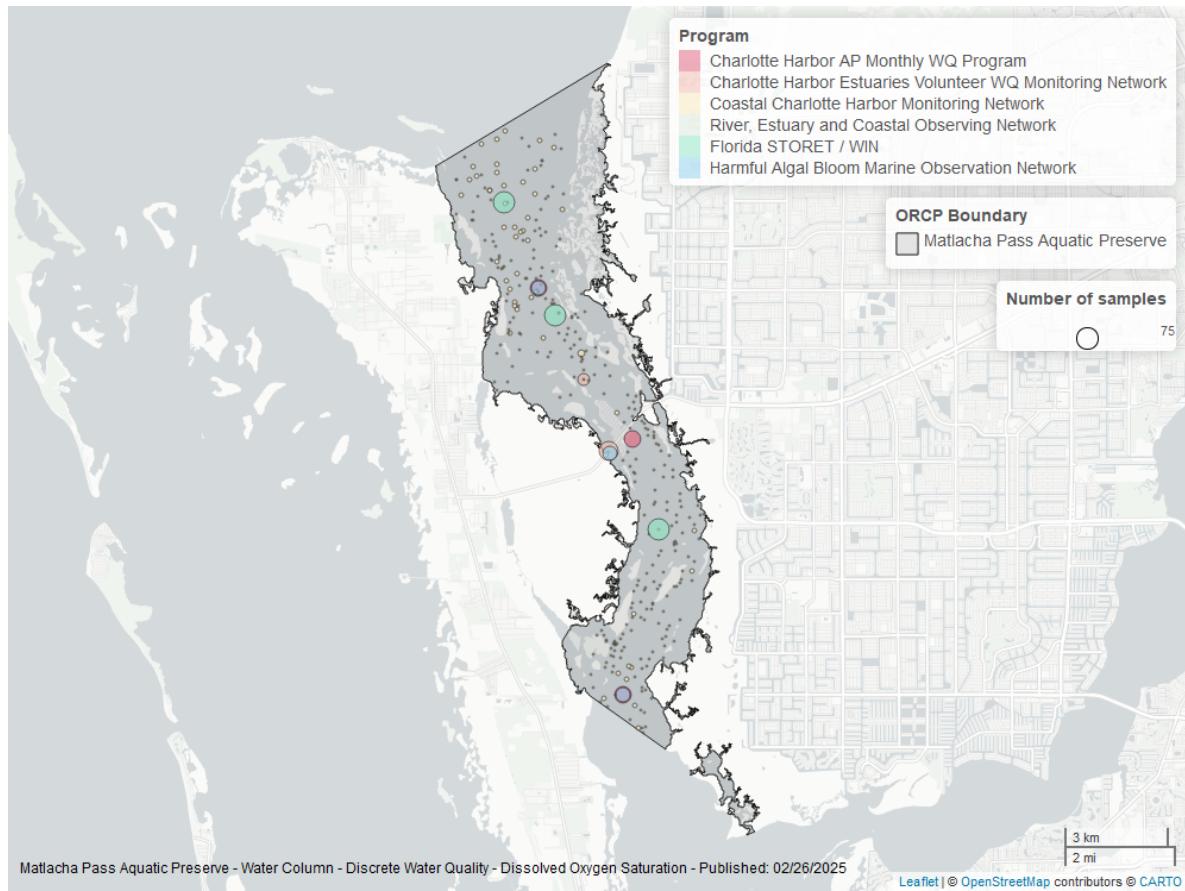


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	No significant trend	1161	14	2007 - 2024	89.5	-0.0293	86.65	-0.07616	0.6976



## Dissolved Oxygen Saturation - Continuous

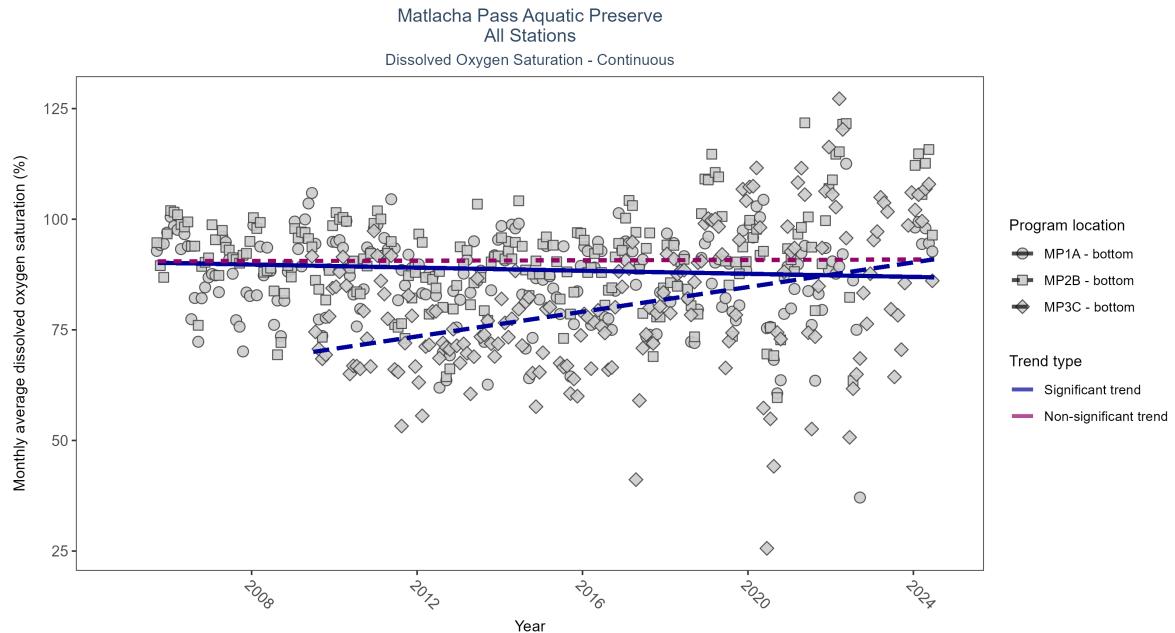
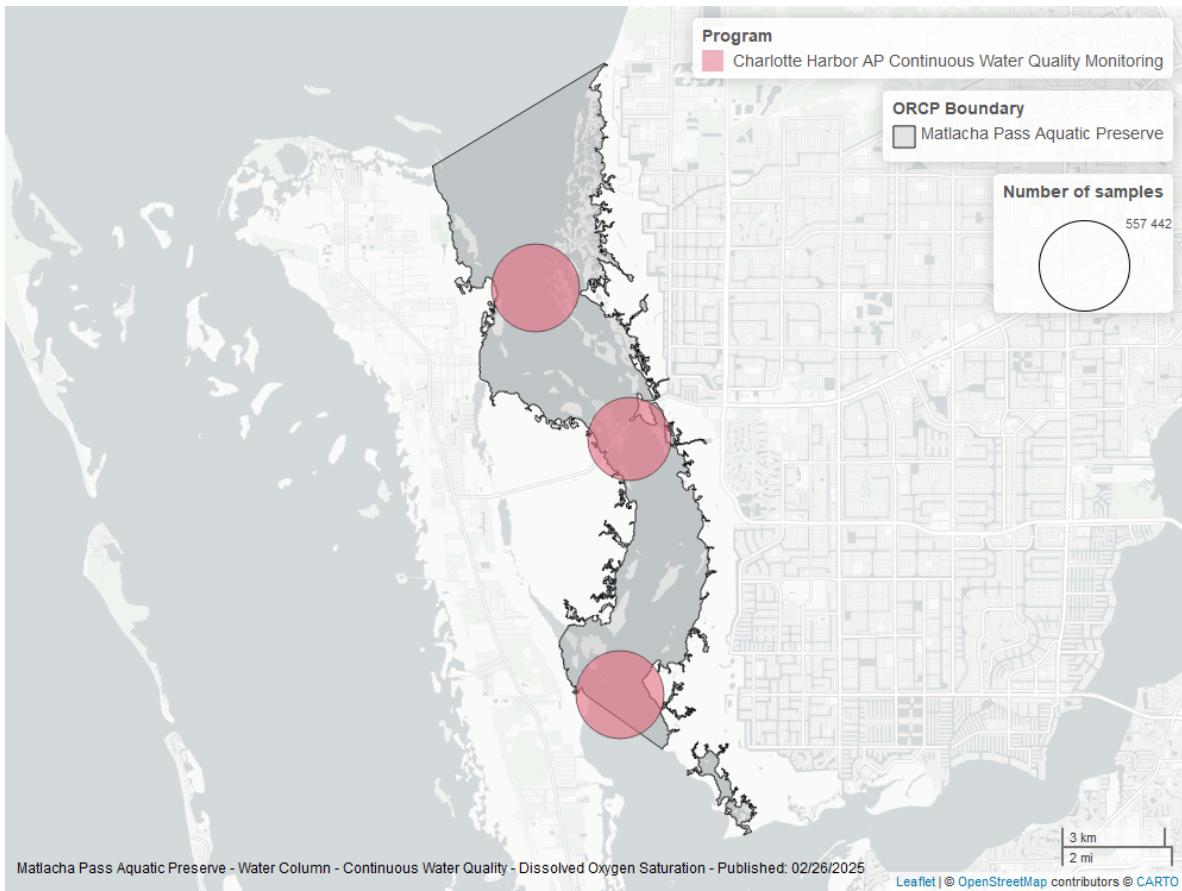


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
MP1A	Significantly decreasing trend	543439	19	2005 - 2024	88.2	-0.12	90.27	-0.17	0.0213
MP2B	No significant trend	557442	19	2005 - 2024	91.4	0.01	90.48	0.02	0.8087
MP3C	Significantly increasing trend	481353	16	2009 - 2024	81.6	0.31	69.33	1.39	0.0000



## Salinity - Discrete

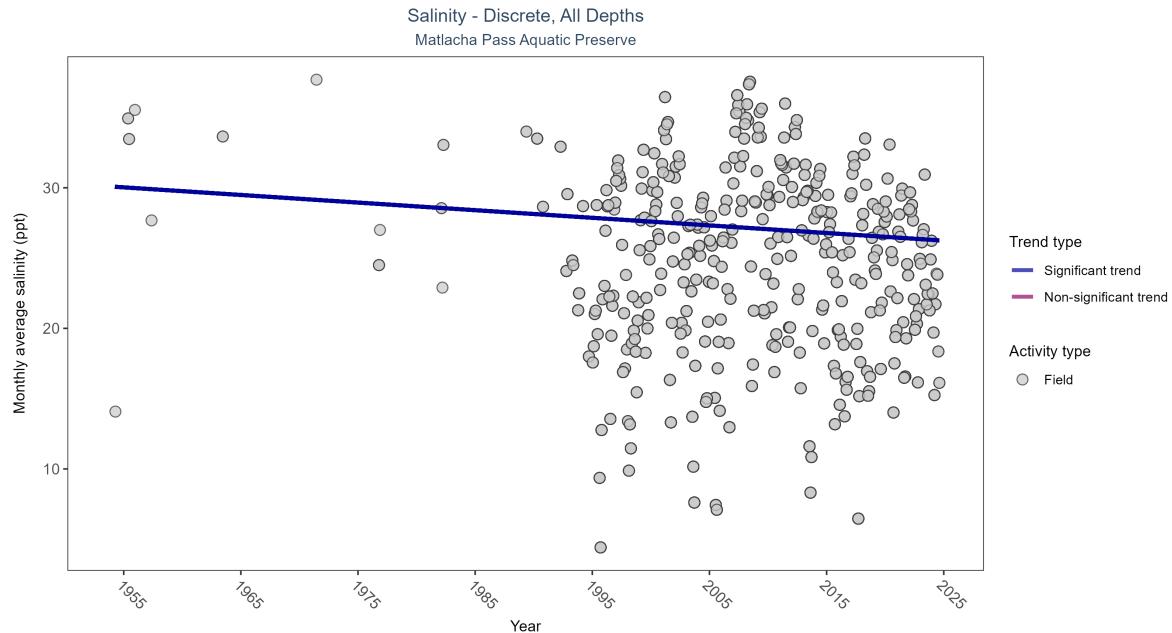
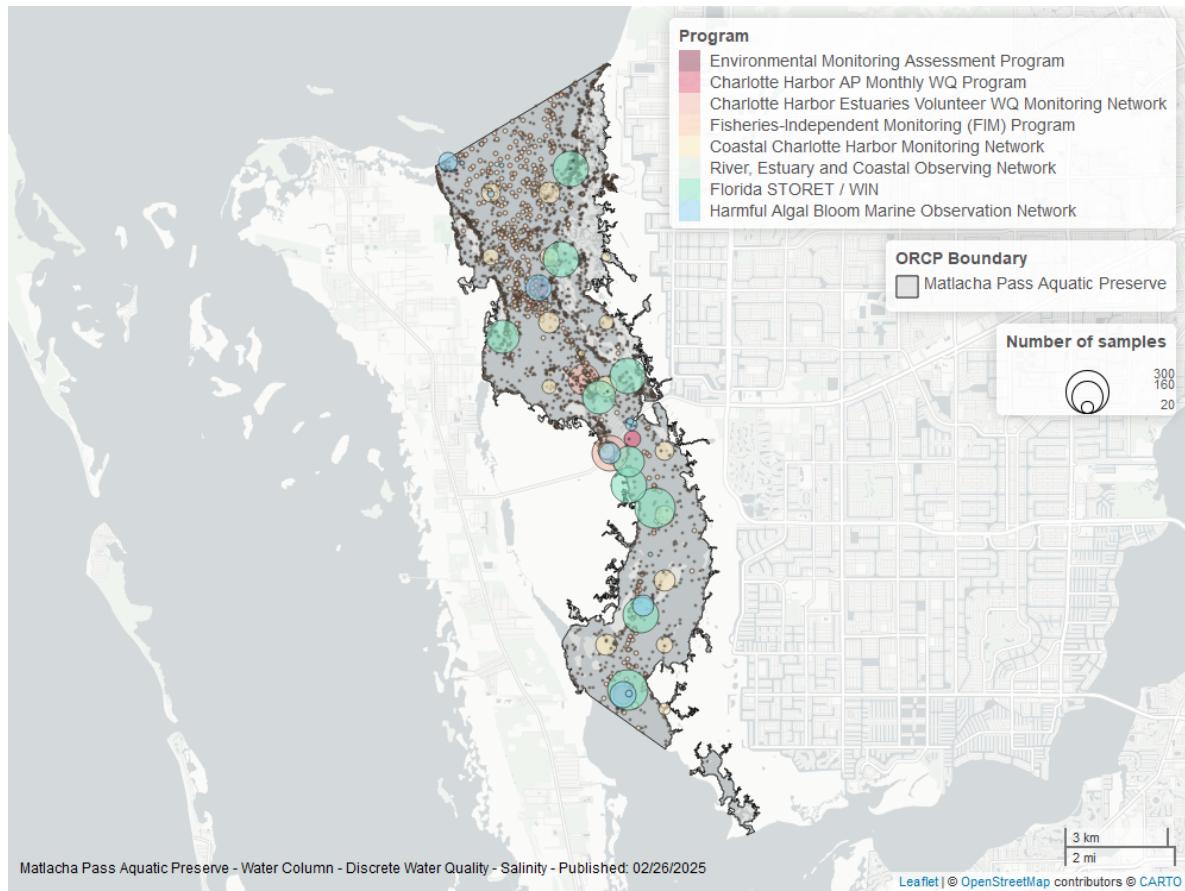


Table 7: Seasonal Kendall-Tau Results for - Salinity

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	10640	42	1954 - 2024	25.9	-0.0715	30.08551	-0.05414	0.0458



## Salinity - Continuous

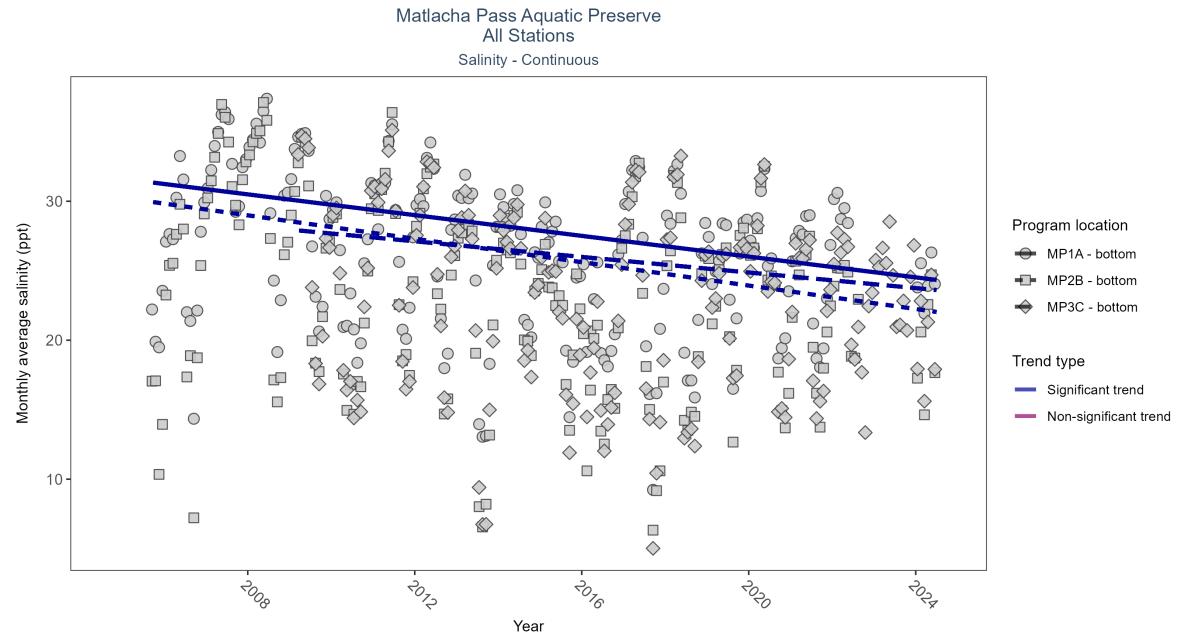
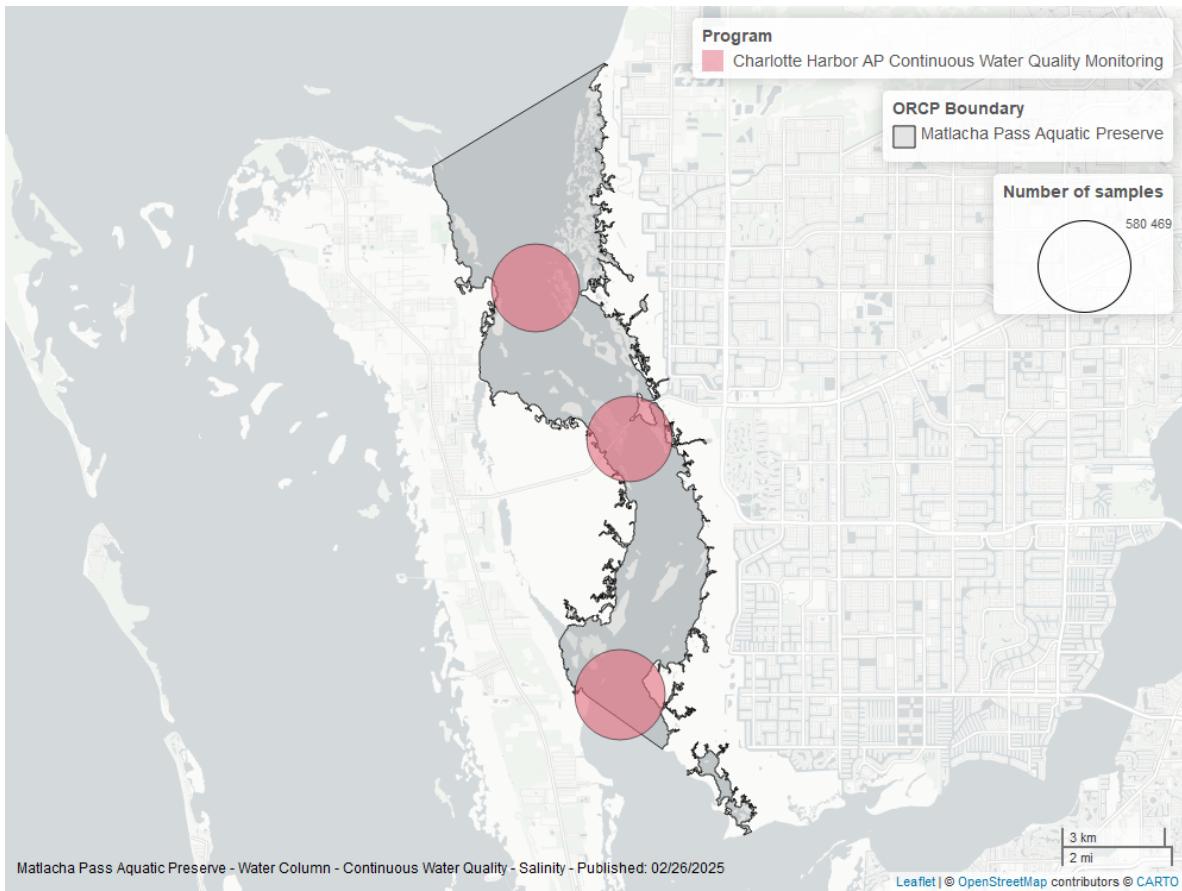


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
MP1A	Significantly decreasing trend	557814	19	2005 - 2024	27.1	-0.35	31.61	-0.37	0.0000
MP2B	Significantly decreasing trend	580469	19	2005 - 2024	24.5	-0.35	30.25	-0.42	0.0000
MP3C	Significantly decreasing trend	505464	16	2009 - 2024	23.7	-0.20	27.96	-0.28	0.0002



## Water Temperature - Discrete

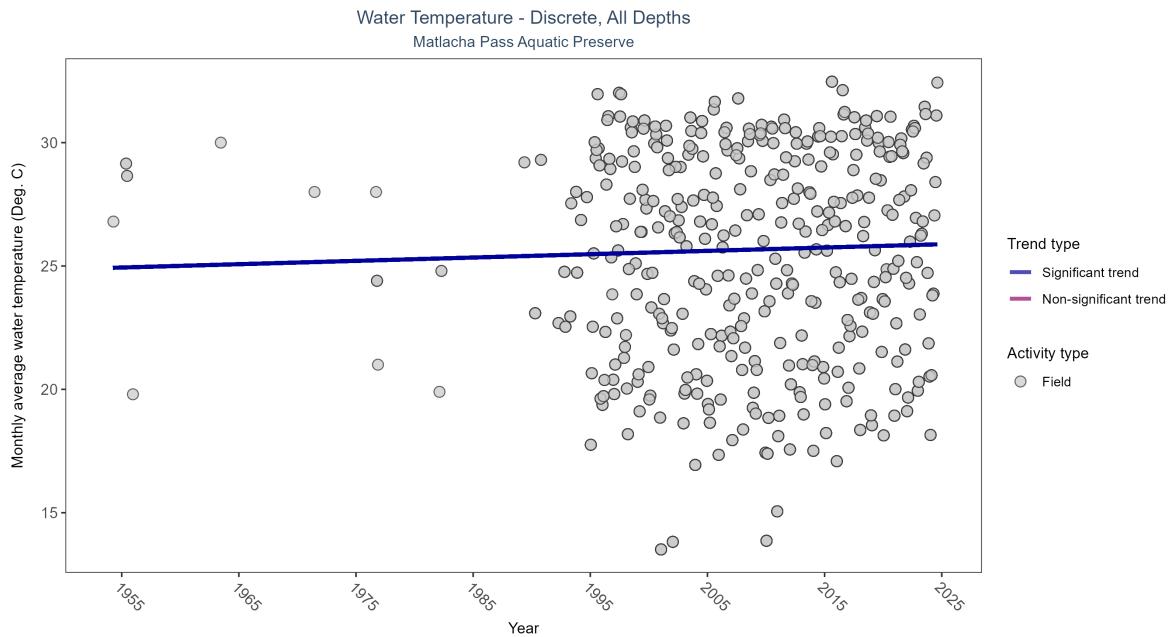
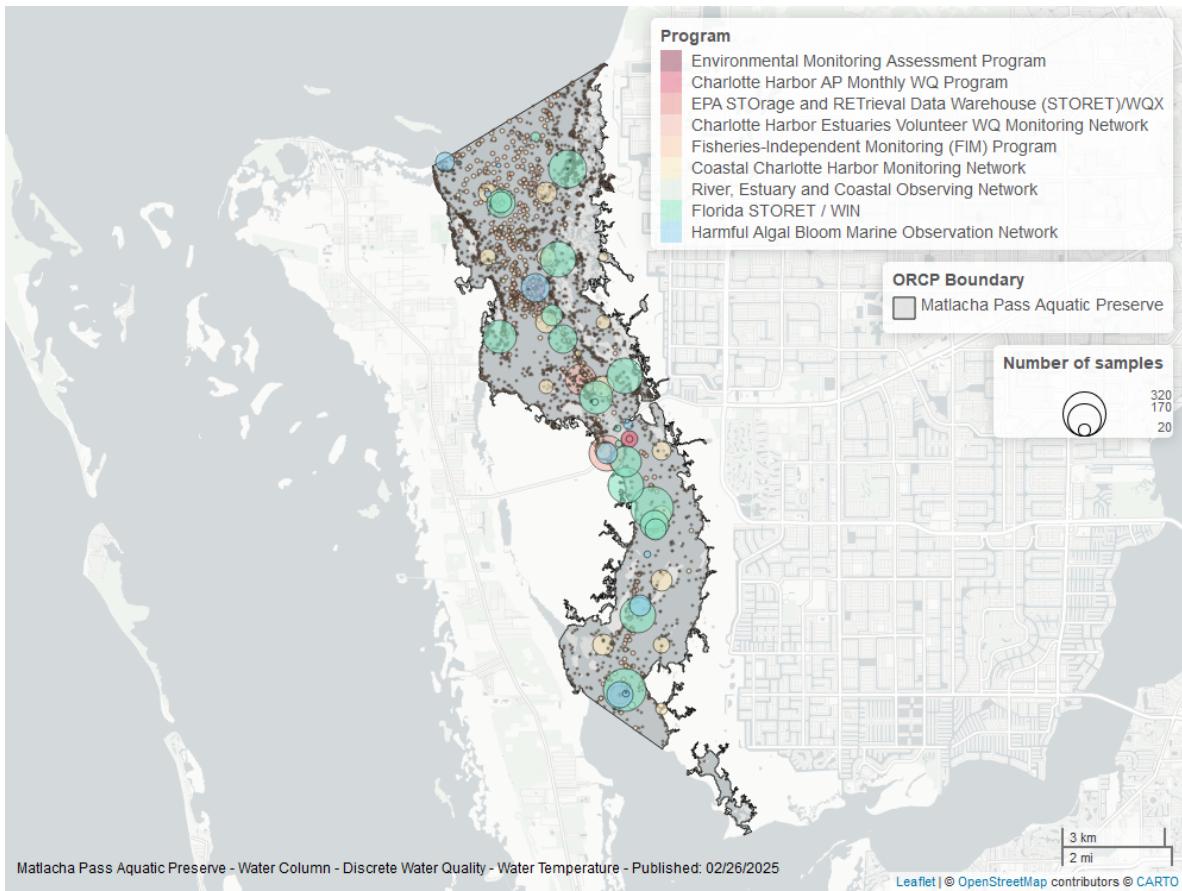


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

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	11632	41	1954 - 2024	26.1	0.0709	24.92423	0.01349	0.0493



## Water Temperature - Continuous

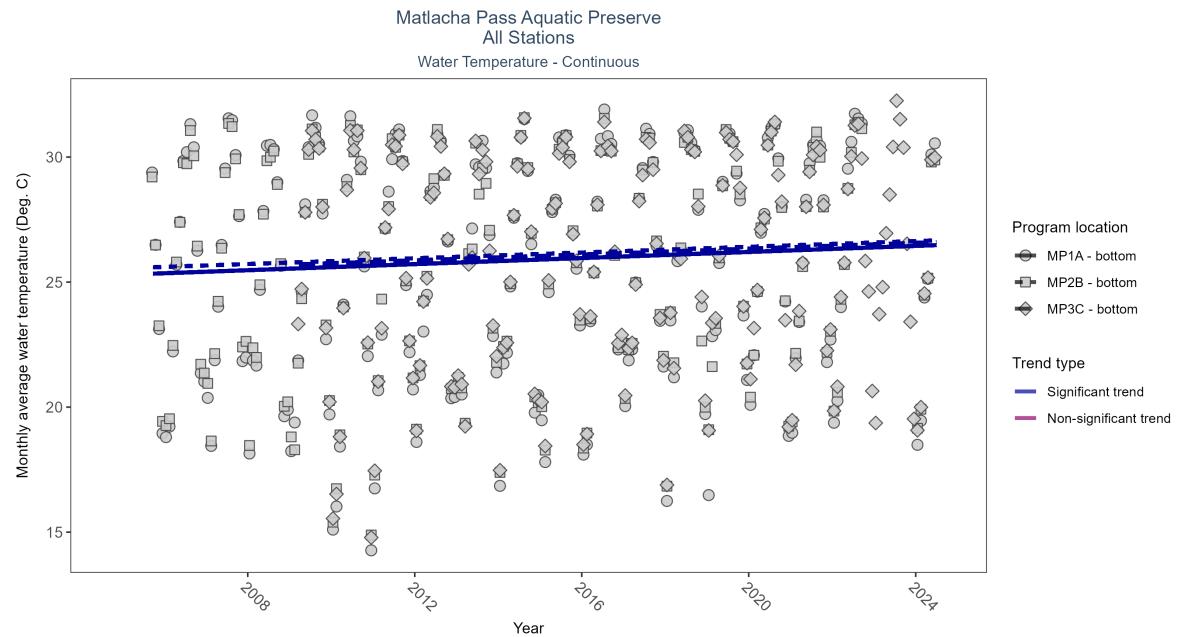
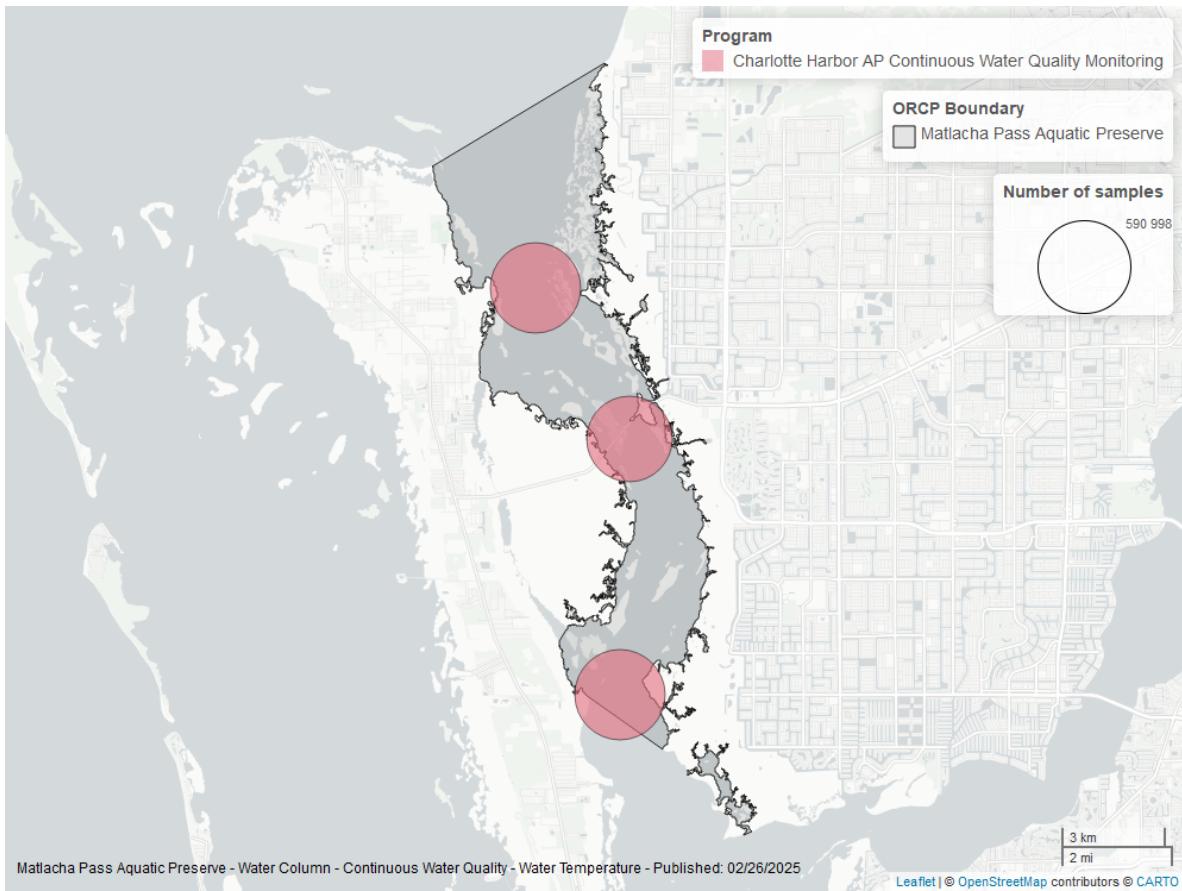


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
MP1A	Significantly increasing trend	590998	19	2005 - 2024	26.3	0.24	25.29	0.06	0.0000
MP2B	Significantly increasing trend	589158	19	2005 - 2024	26.2	0.21	25.55	0.06	0.0000
MP3C	Significantly increasing trend	509414	16	2009 - 2024	26.5	0.19	25.69	0.06	0.0006



## pH - Discrete

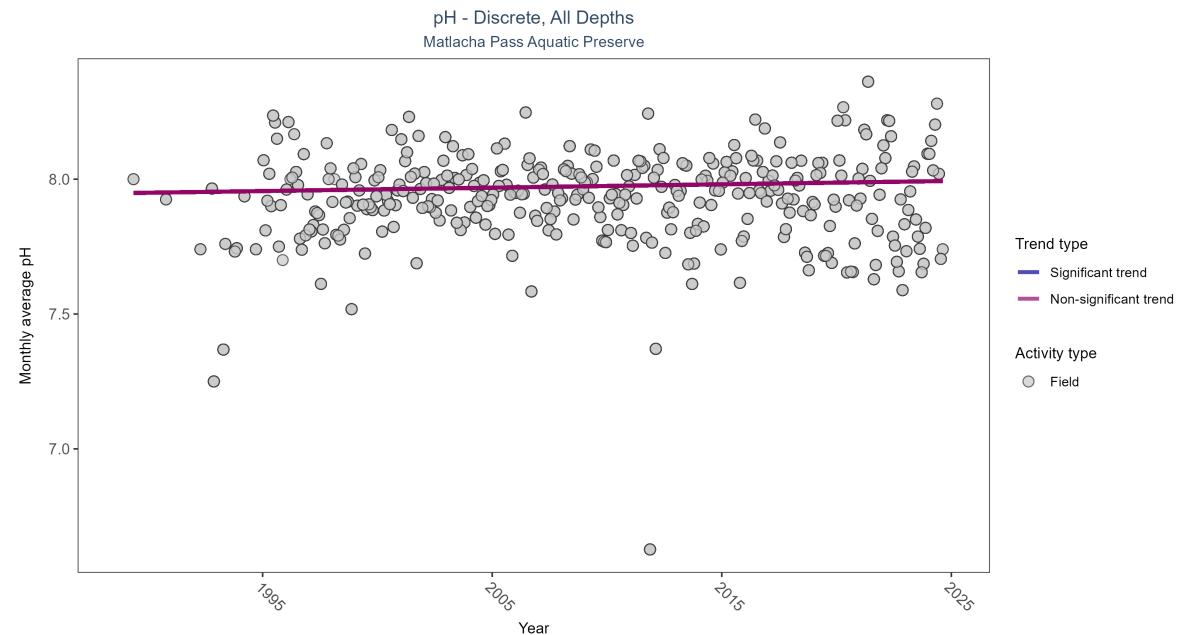
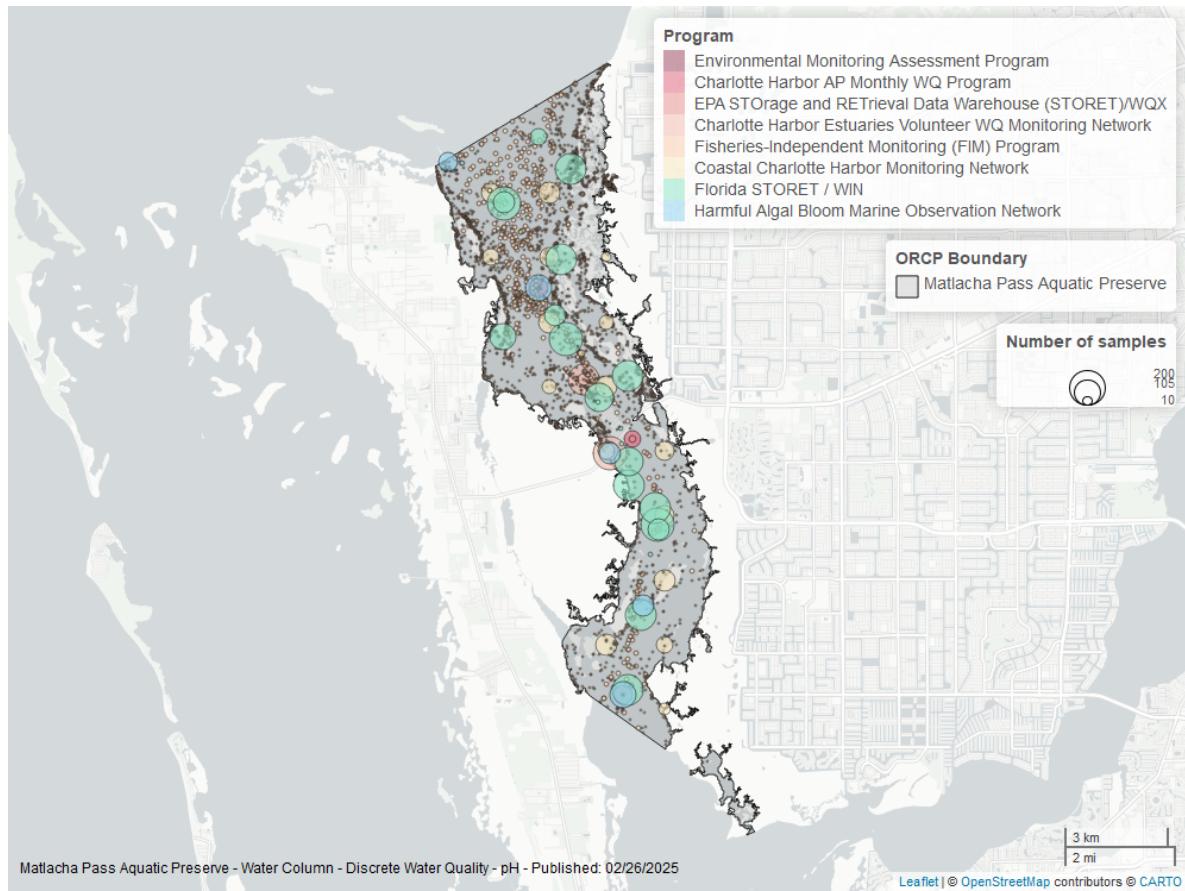


Table 11: Seasonal Kendall-Tau Results for - pH

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	No significant trend	10750	35	1989 - 2024	7.93	0.0371	7.94838	0.00125	0.2548



## pH - Continuous

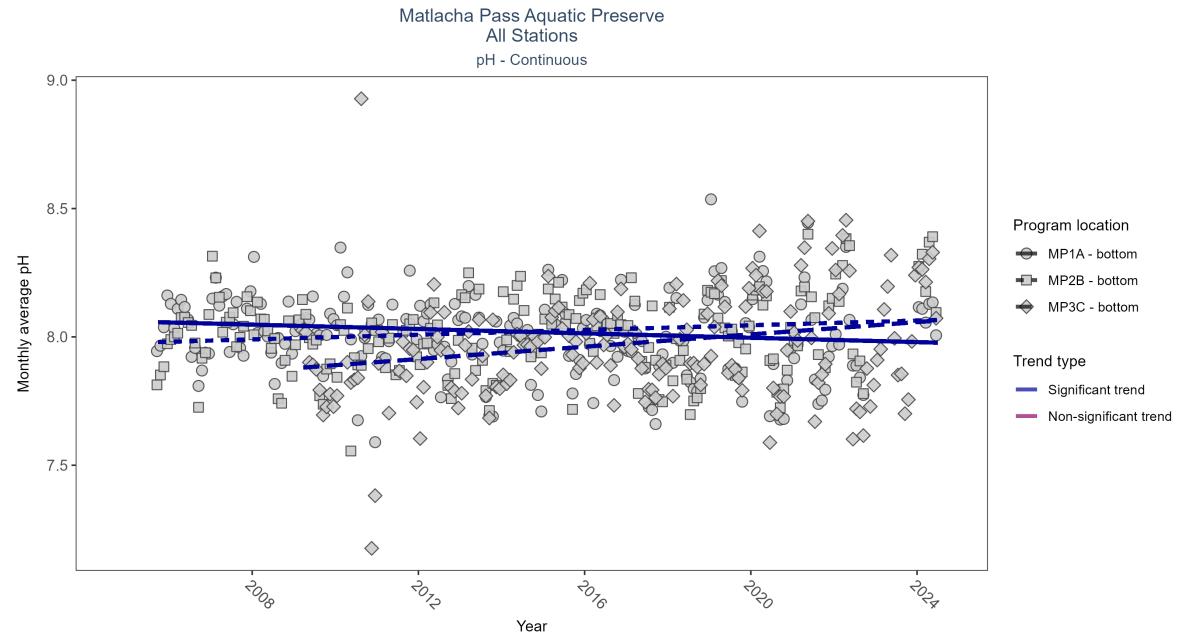
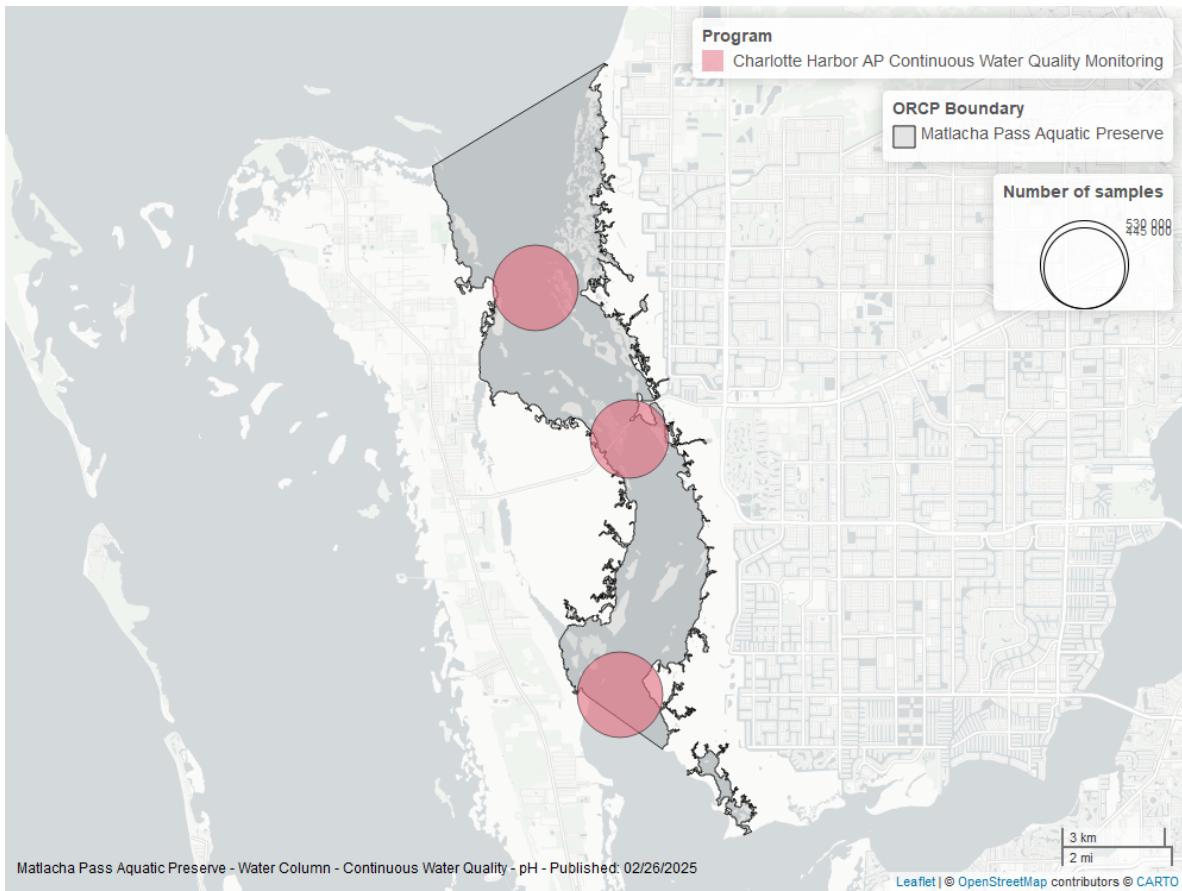


Table 12: Seasonal Kendall-Tau Results for All Stations - pH

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
MP1A	Significantly decreasing trend	509603	19	2005 - 2024	8	-0.13	8.06	0.00	0.0128
MP2B	Significantly increasing trend	526539	19	2005 - 2024	8	0.10	7.98	0.00	0.0354
MP3C	Significantly increasing trend	447430	16	2009 - 2024	8	0.20	7.88	0.01	0.0004



## Water Clarity

### Turbidity - Discrete

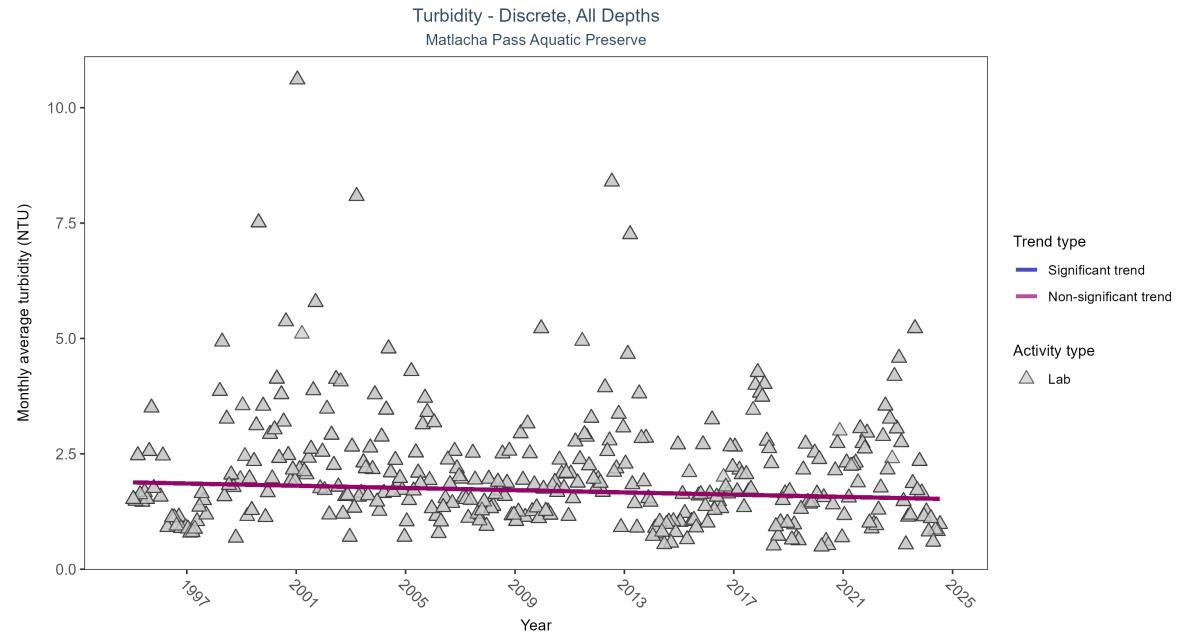
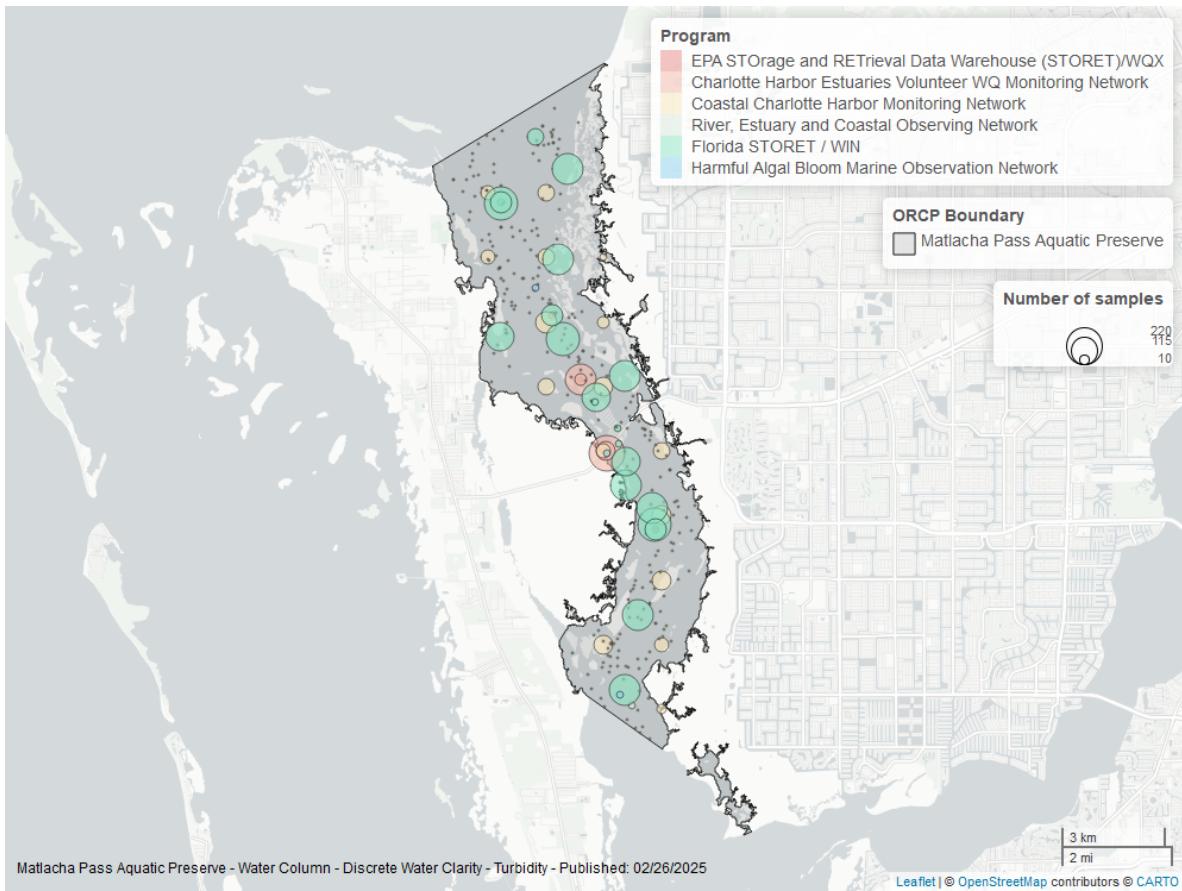


Table 13: Seasonal Kendall-Tau Results for - Turbidity

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	3398	30	1995 - 2024	1.69	-0.0659	1.88133	-0.01207	0.0632



## Turbidity - Continuous

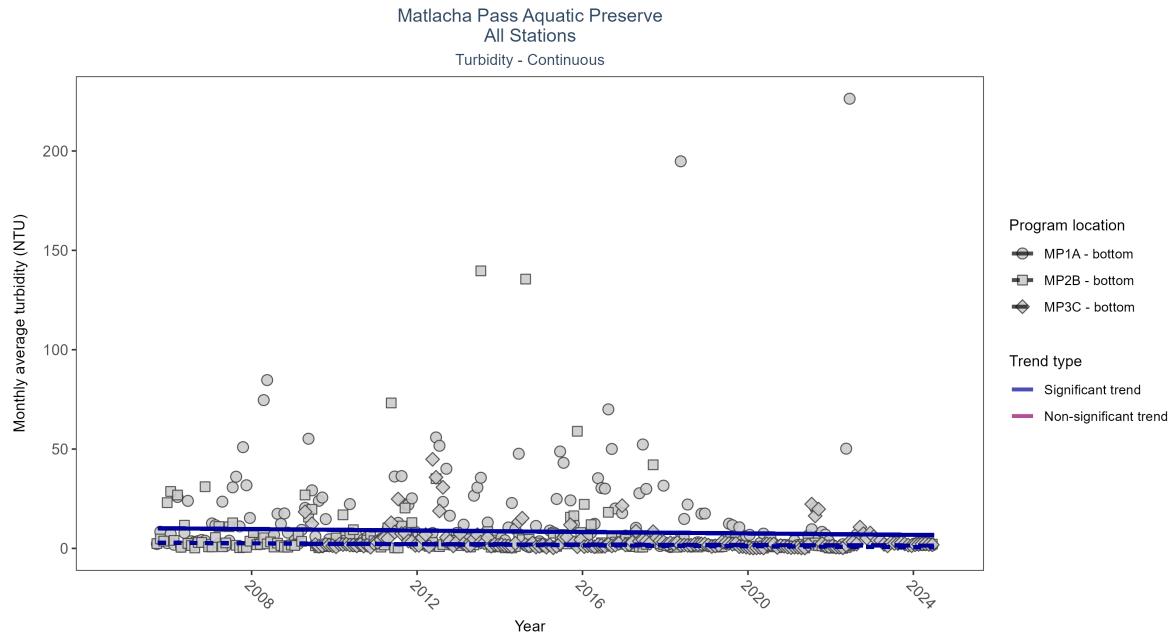
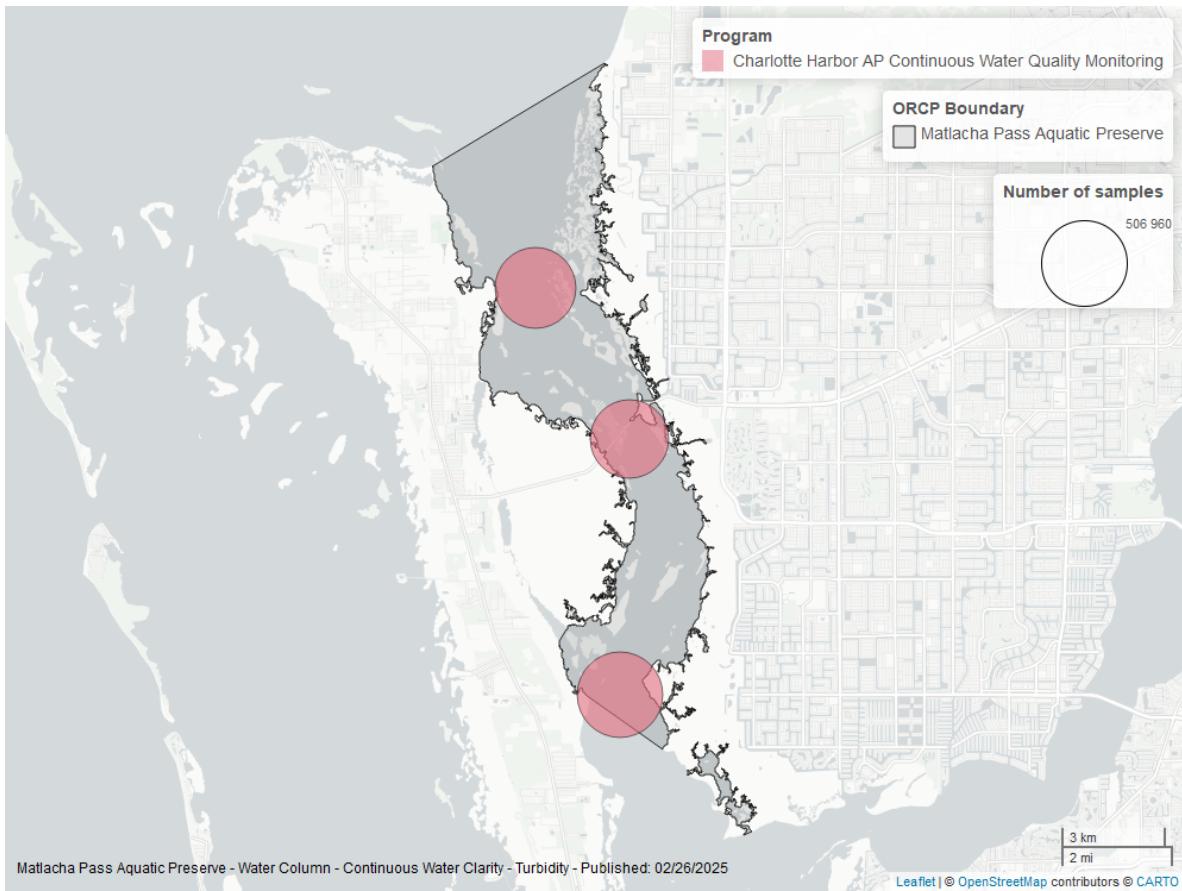


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
MP1A	Significantly decreasing trend	450686	19	2005 - 2024	2	-0.16	10.27	-0.18	0.0014
MP2B	Significantly decreasing trend	506960	19	2005 - 2024	1	-0.22	2.93	-0.12	0.0000
MP3C	Significantly decreasing trend	440676	16	2009 - 2024	2	-0.11	2.34	-0.06	0.0446



## Total Suspended Solids - Discrete

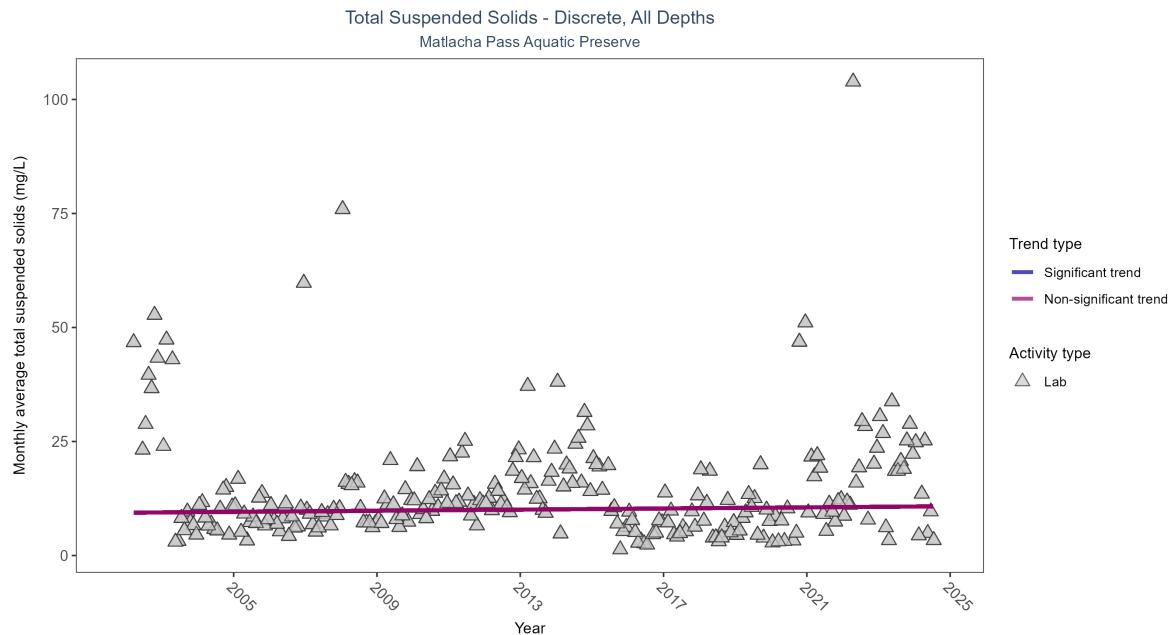
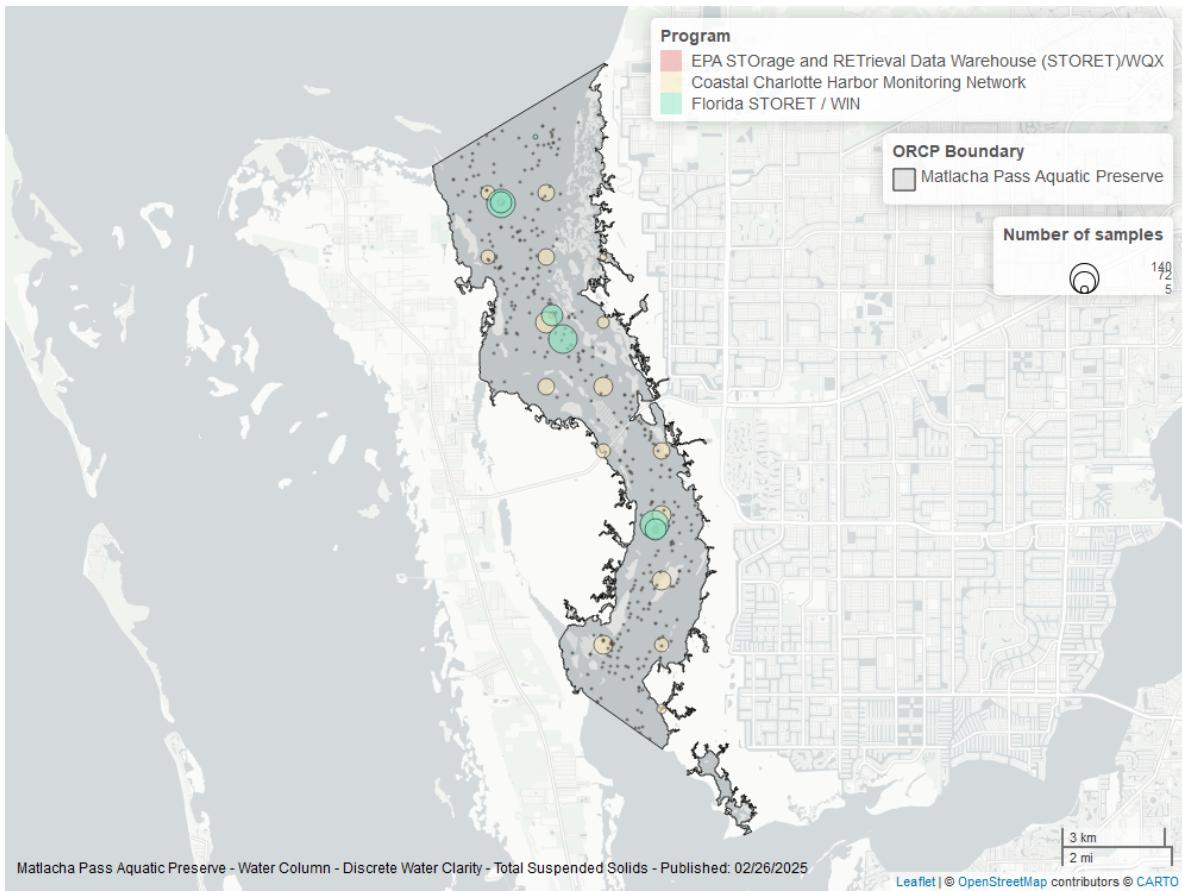


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	1753	23	2002 - 2024		9	0.0377	9.3878	0.06157 0.4173



## Chlorophyll a, Uncorrected for Pheophytin - Discrete

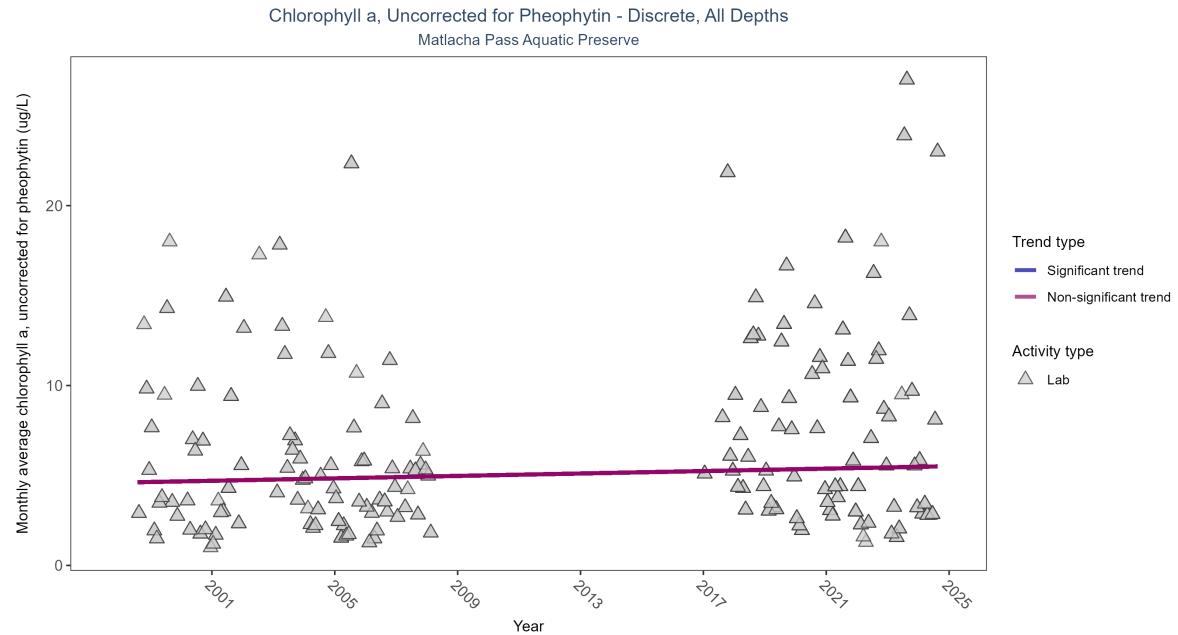
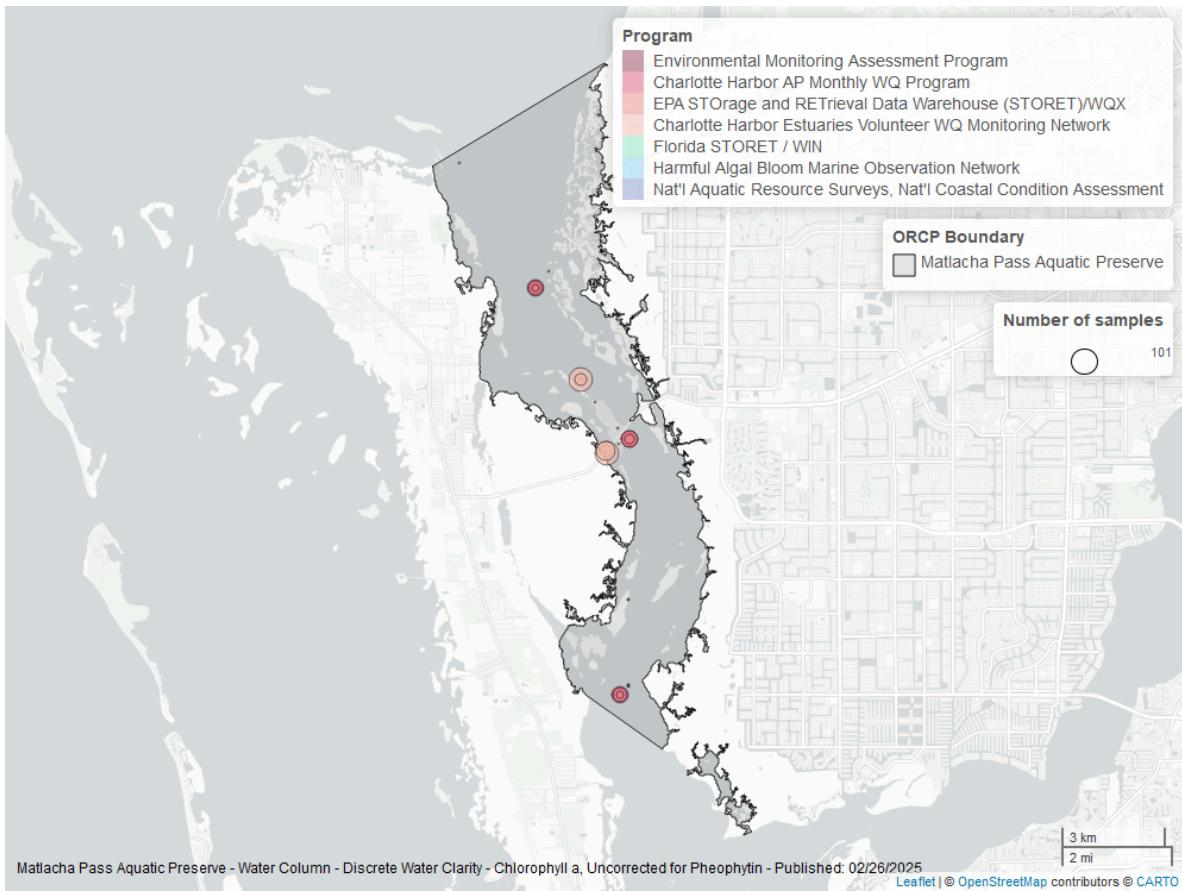


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	598	19	1998 - 2024	4.675	0.0968	4.60397	0.03375	0.0734



## Chlorophyll a, Corrected for Pheophytin - Discrete

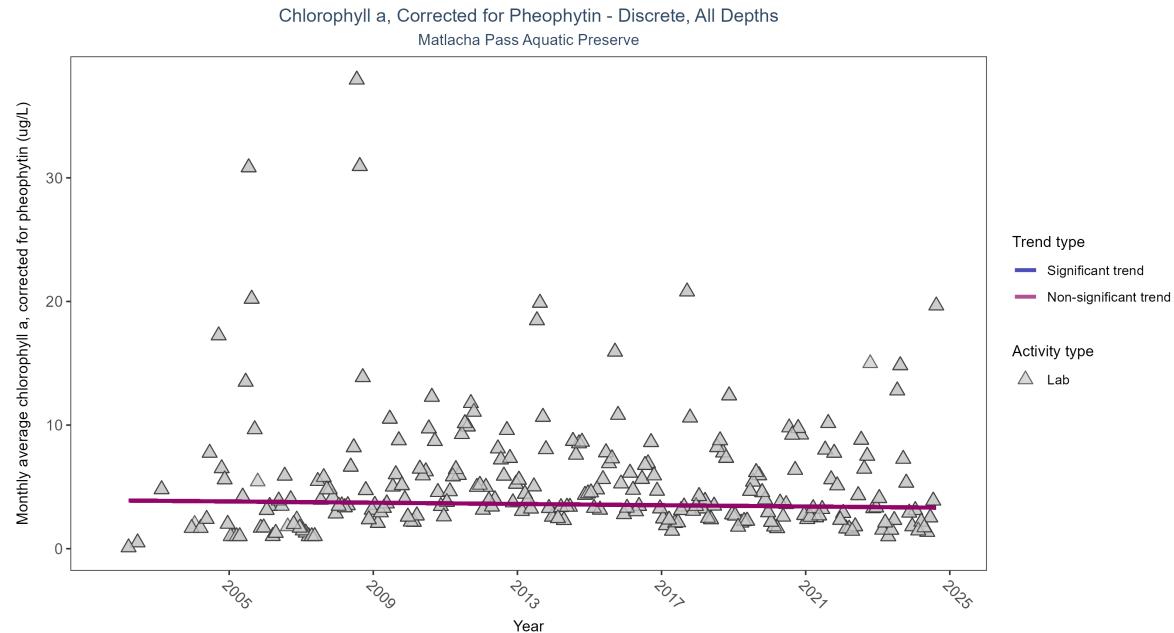
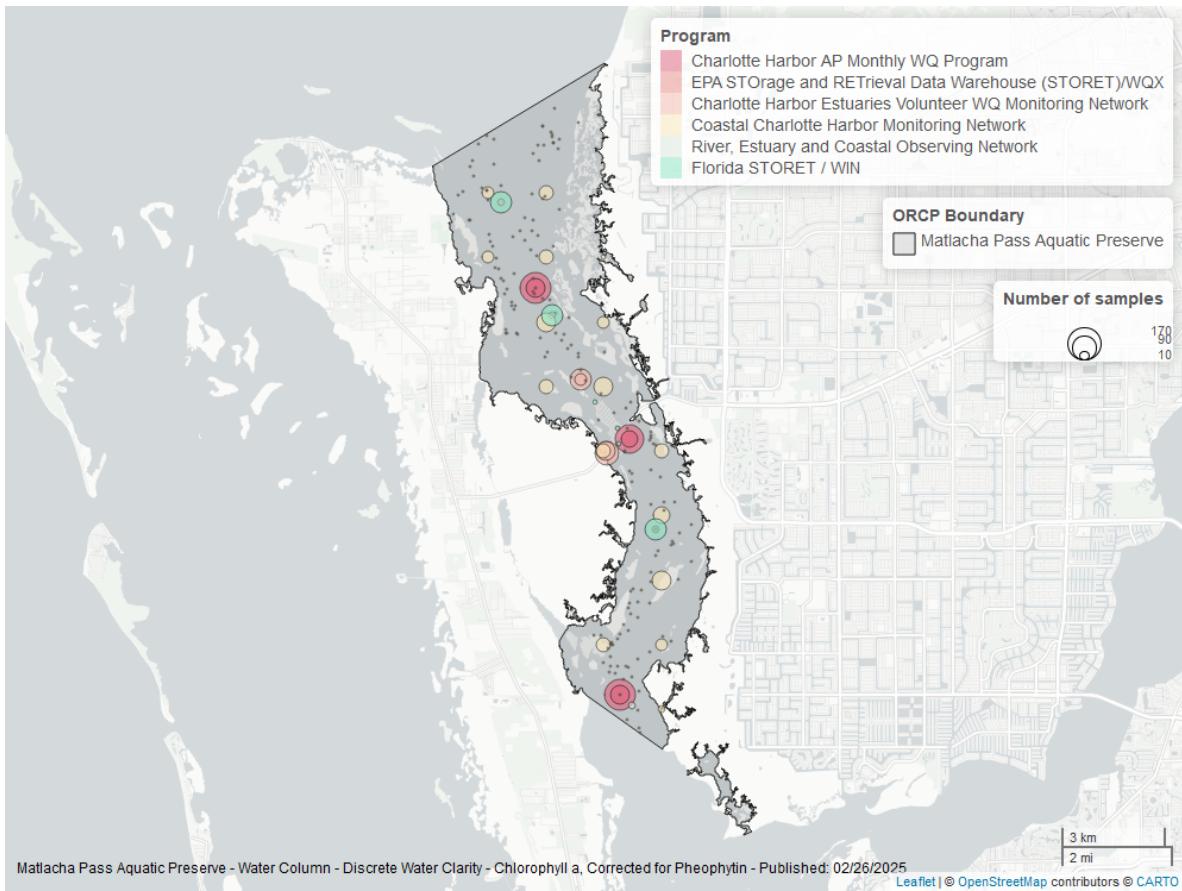


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	1939	23	2002 - 2024	3.4	-0.0489	3.89782	-0.02547	0.2732



## Secchi Depth - Discrete

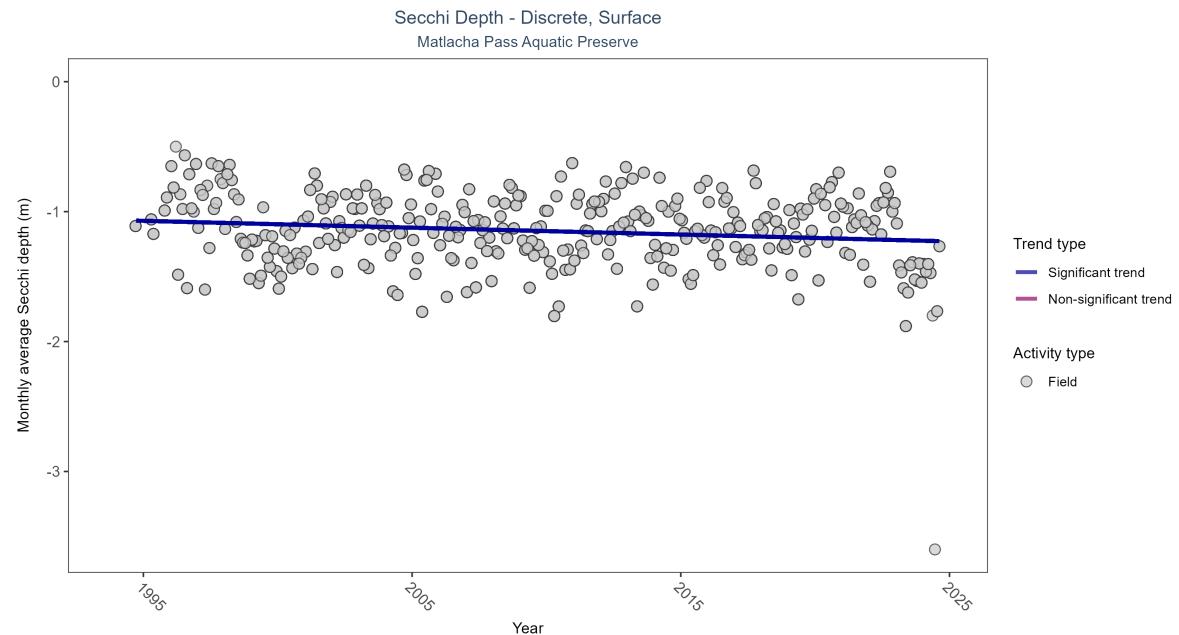
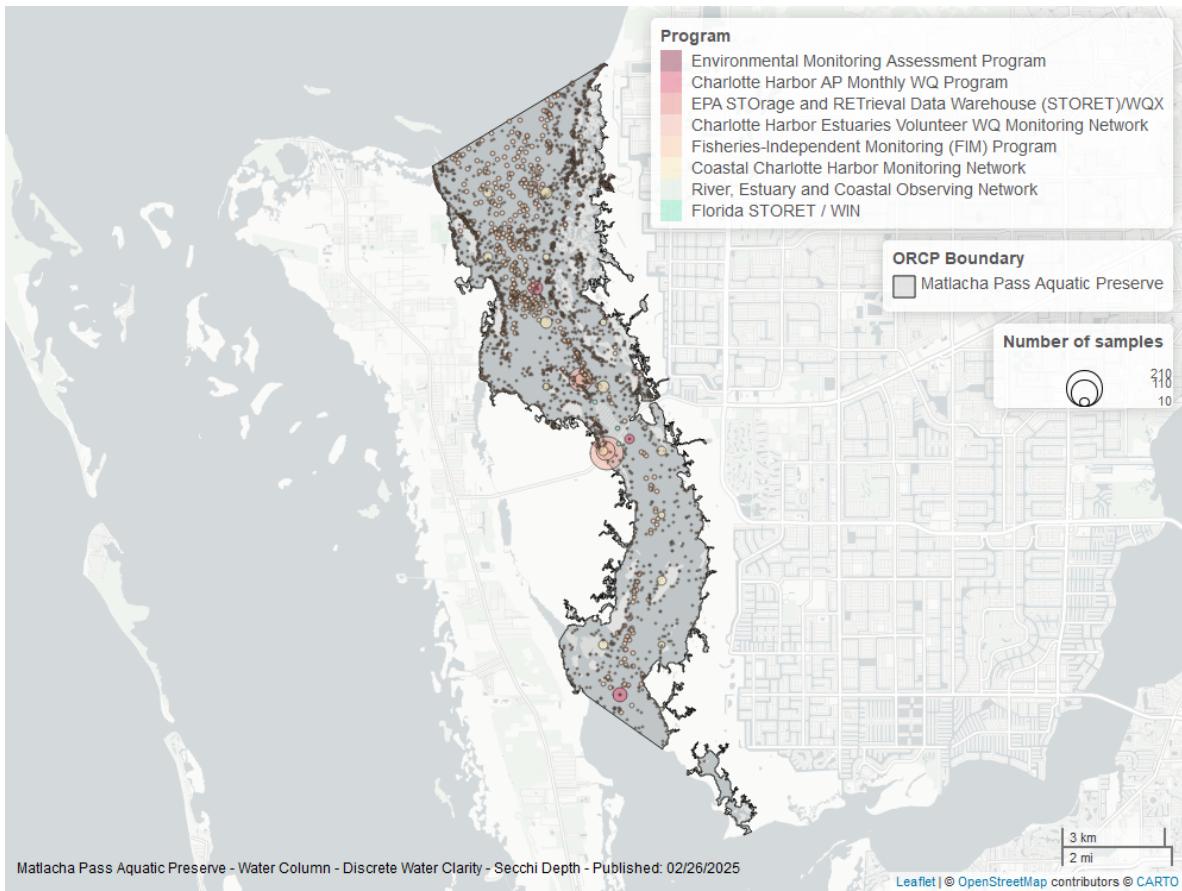


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth

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	6497	31	1994 - 2024	-1	-0.104	-1.06555	-0.00528	0.0060



## Colored Dissolved Organic Matter - Discrete

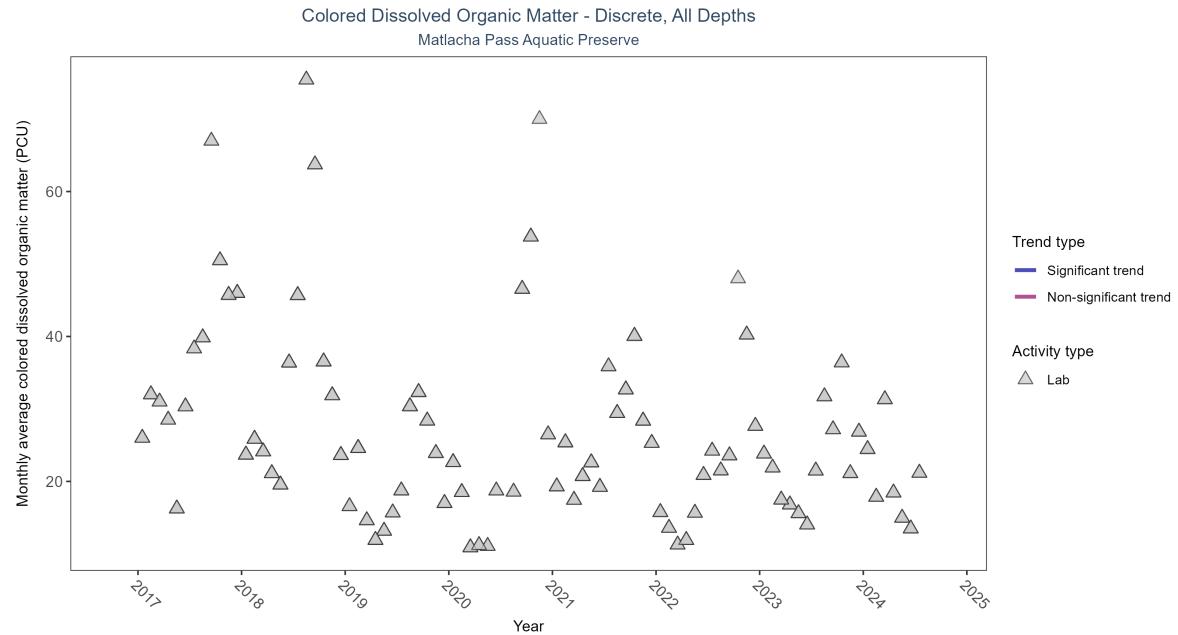


Table 19: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

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	493	8	2017 - 2024	25	-	-	-	NA

