

Pine Island Sound Aquatic Preserve

SEACAR Water Quality Analysis

Last compiled on 18 March, 2025

Contents

Indicators	2
Nutrients	2
Total Nitrogen - Discrete	2
Total Phosphorus - Discrete	4
Water Quality	6
Dissolved Oxygen - Discrete	6
Dissolved Oxygen - Continuous	8
Dissolved Oxygen Saturation - Discrete	10
Salinity - Discrete	12
Salinity - Continuous	14
Water Temperature - Discrete	16
Water Temperature - Continuous	18
pH - Discrete	20
pH - Continuous	22
Water Clarity	24
Turbidity - Discrete	24
Turbidity - Continuous	26
Total Suspended Solids - Discrete	28
Chlorophyll a, Uncorrected for Pheophytin - Discrete	30
Chlorophyll a, Corrected for Pheophytin - Discrete	32
Secchi Depth - Discrete	34
Colored Dissolved Organic Matter - Discrete	36

Indicators

Nutrients

Total Nitrogen - Discrete

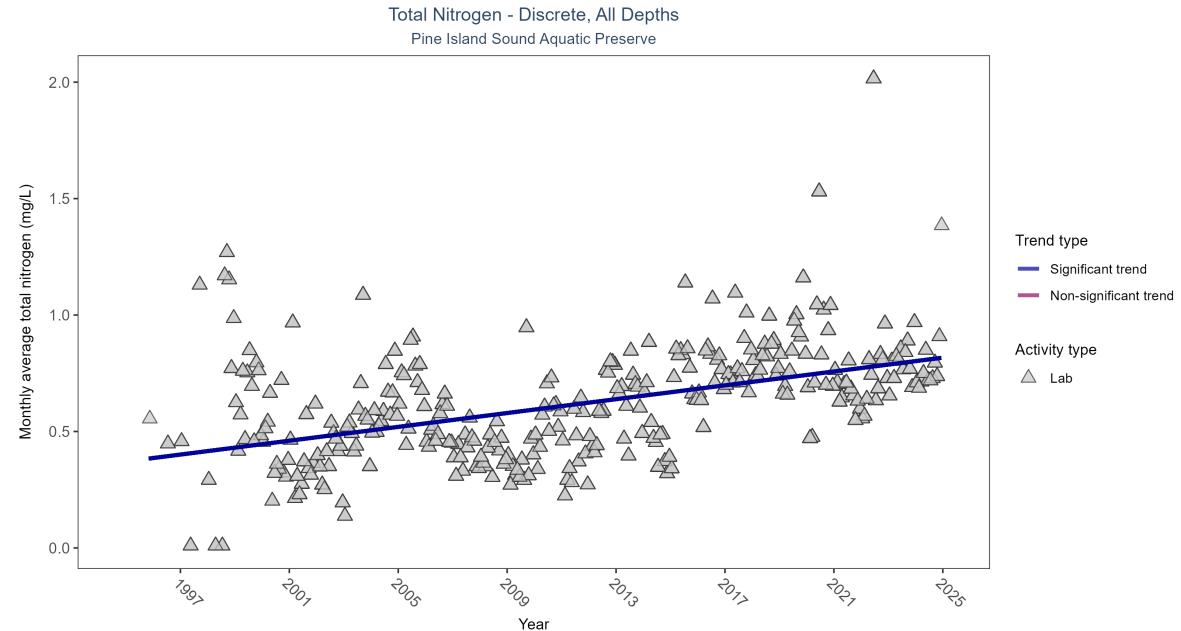
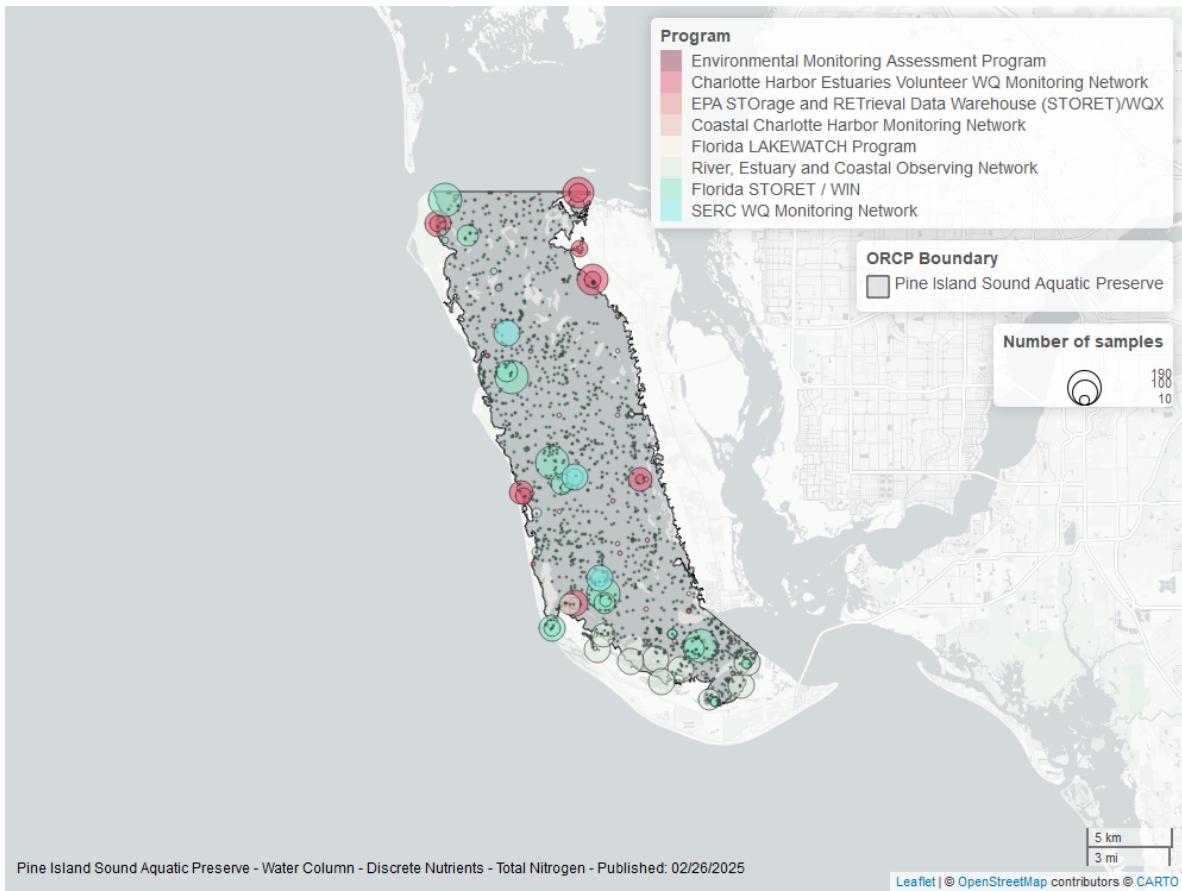


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

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	5992	30	1995 - 2024	0.605	0.34847	0.37119	0.01486	0.0000000000000000104784236703



Total Phosphorus - Discrete

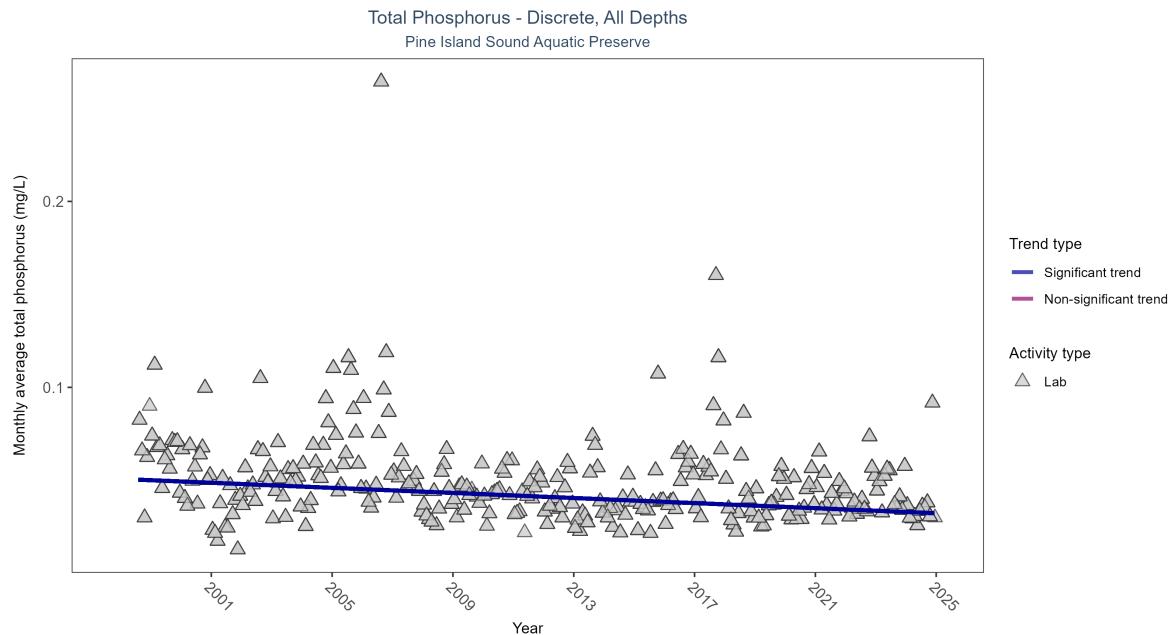
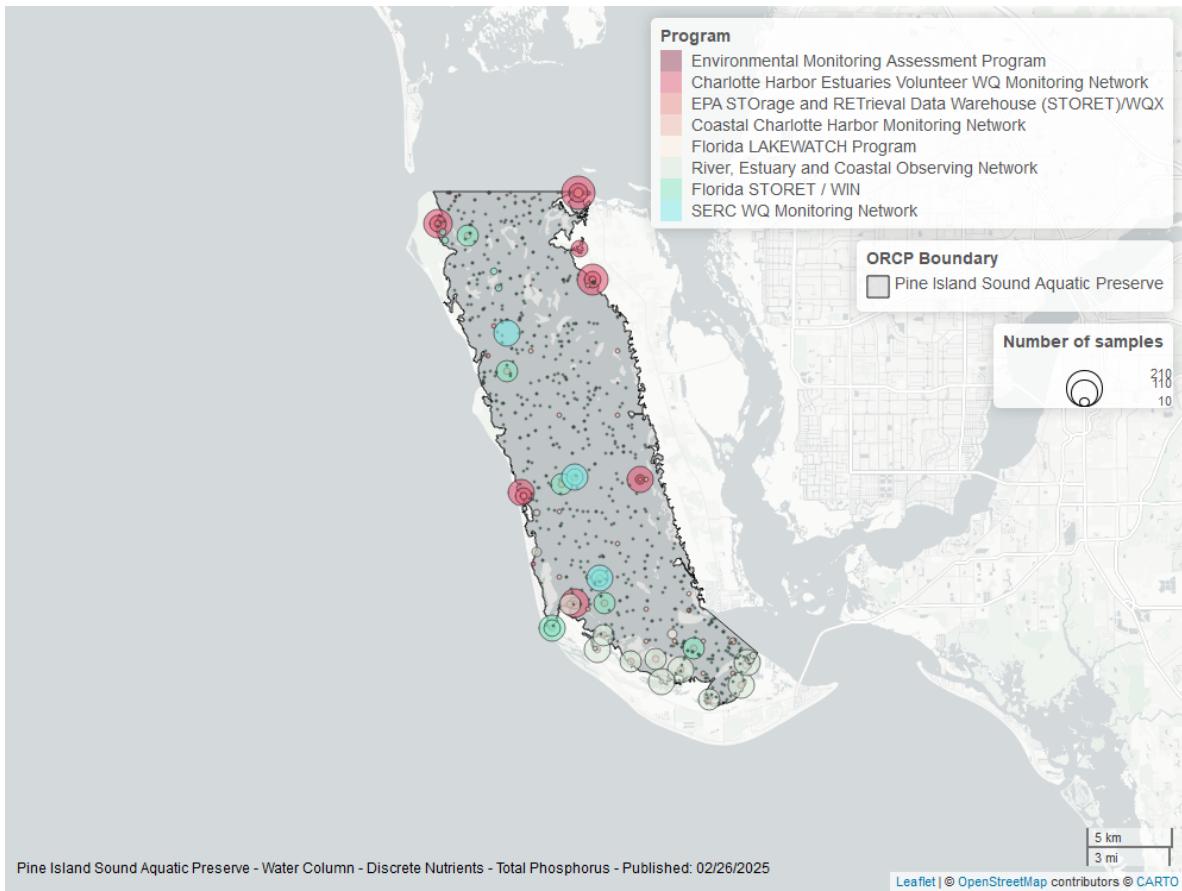


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

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	4367	27	1998 - 2024	0.038	-0.22559	0.05074	-0.00068	0.0000001693655193860790317056039255838584267621627077460289001465



Water Quality

Dissolved Oxygen - Discrete

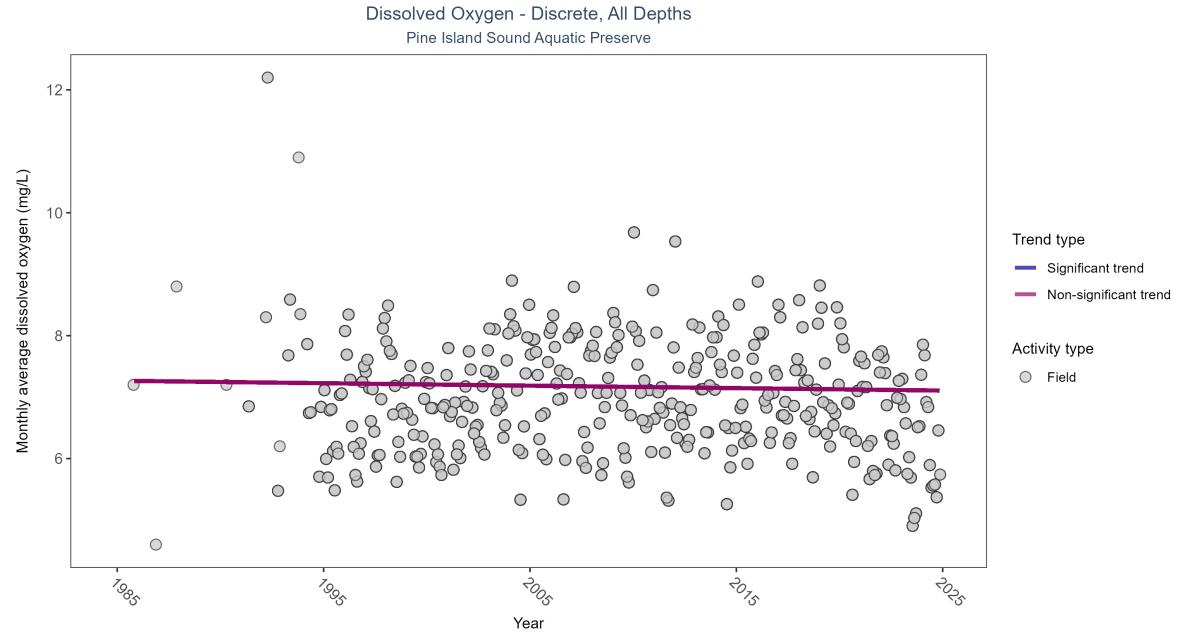
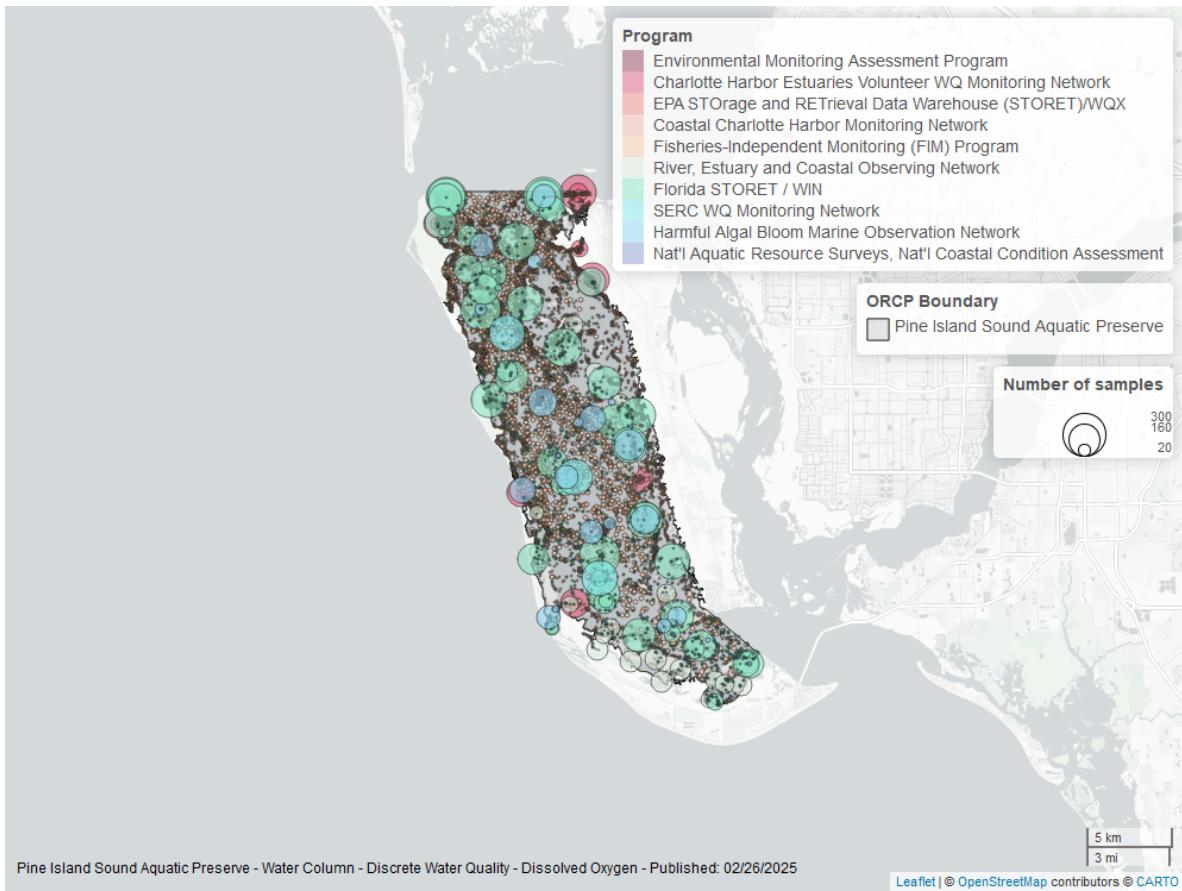


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

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	34710	38	1985 - 2024	6.9	-0.03655	7.26644	-0.004	0.30003066365768499



Dissolved Oxygen - Continuous

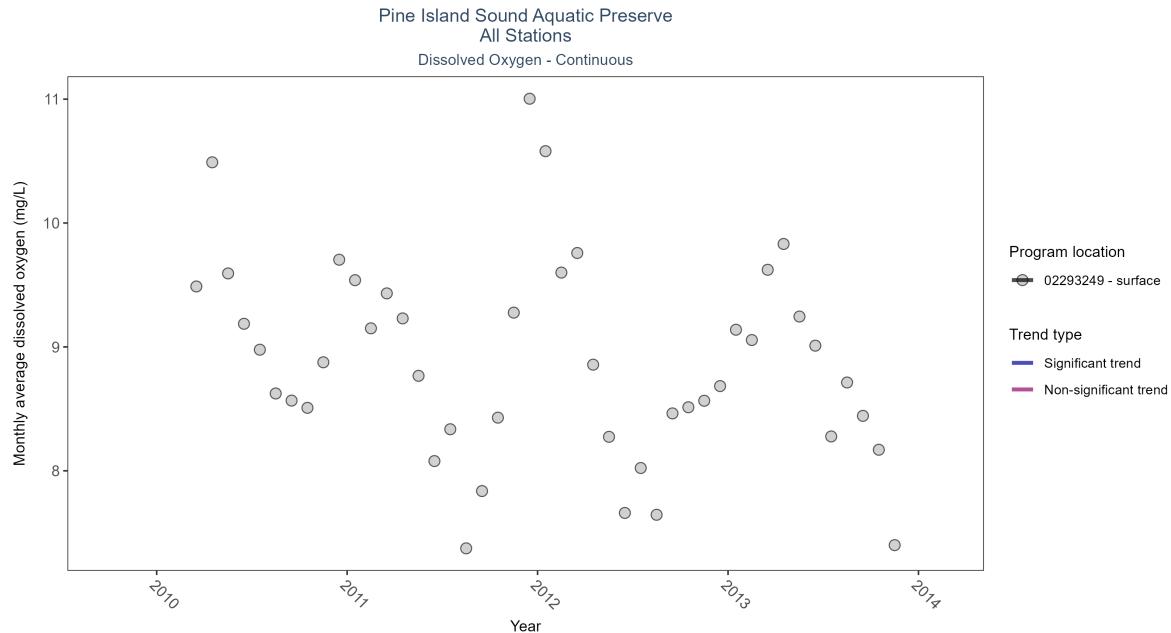
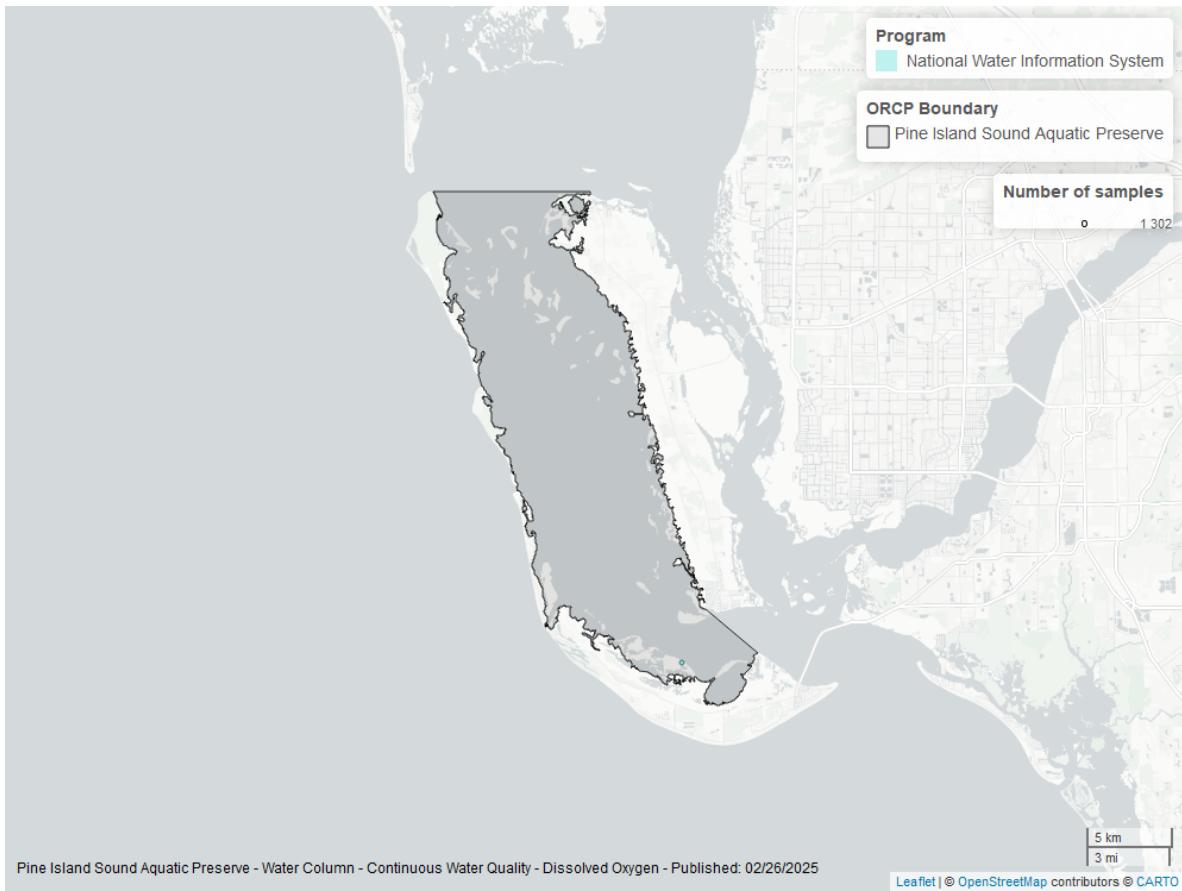


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
02293249	Insufficient data to calculate trend	1302	4	2010 - 2013	8.8	-	-	-	NA



Dissolved Oxygen Saturation - Discrete

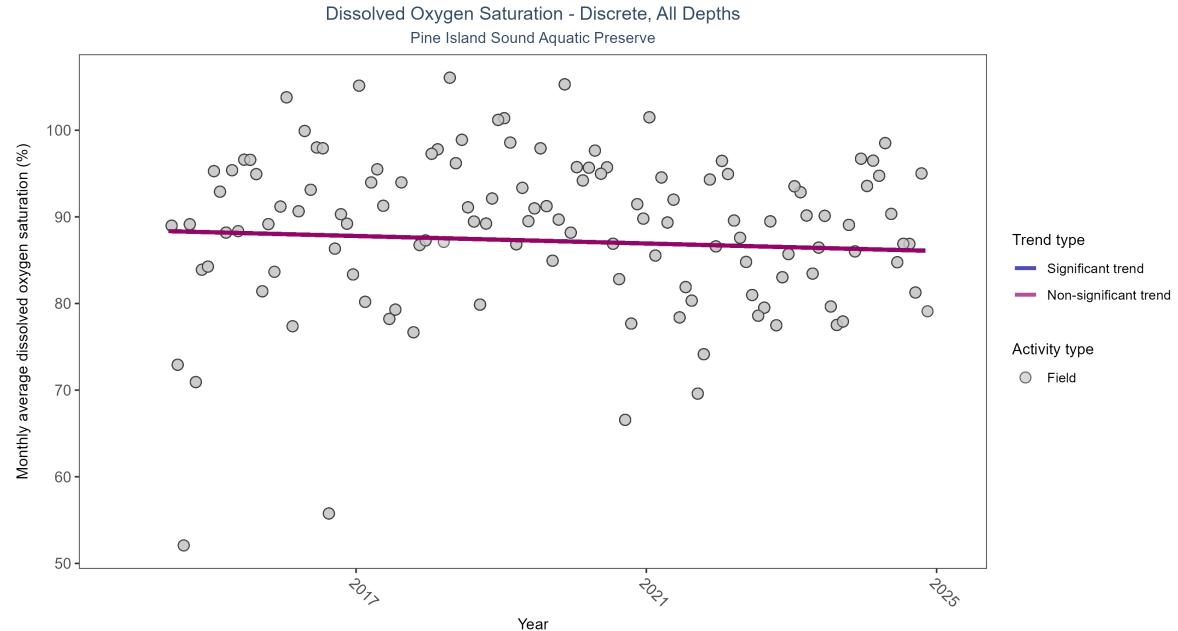
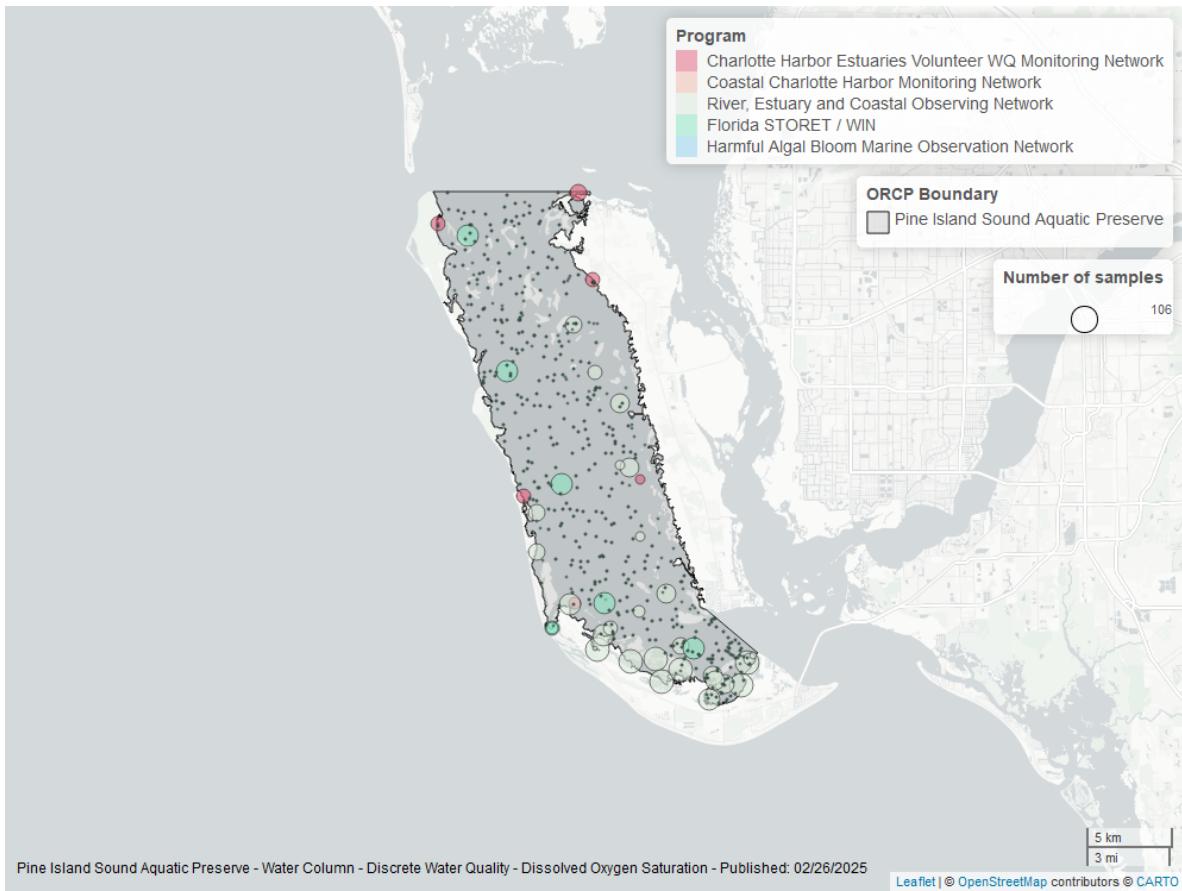


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation



Salinity - Discrete

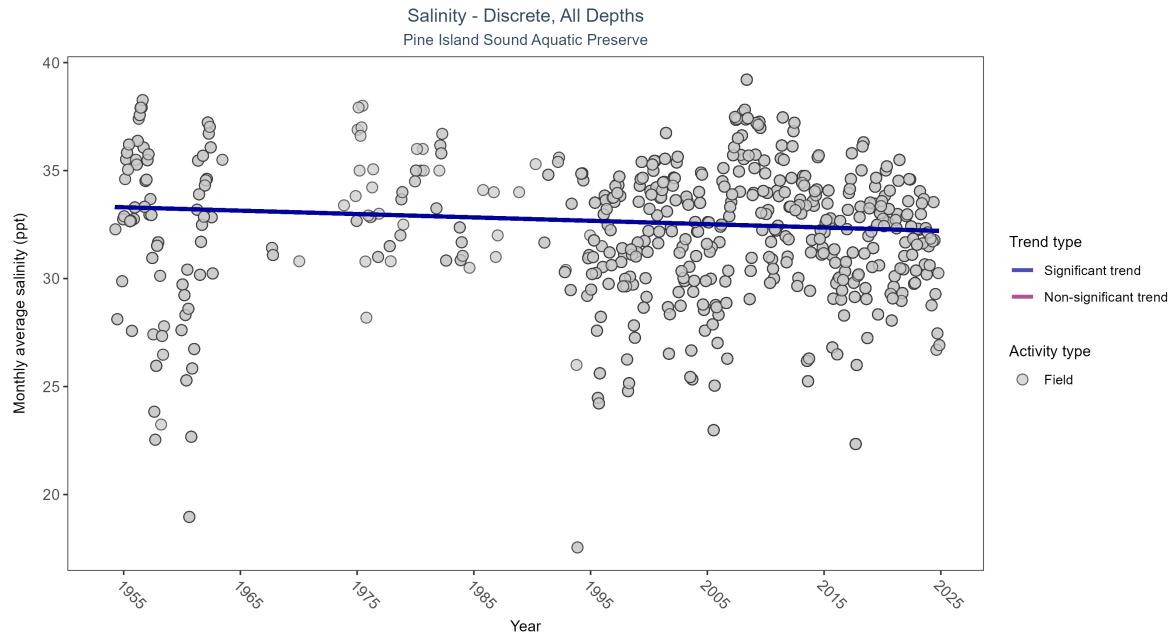
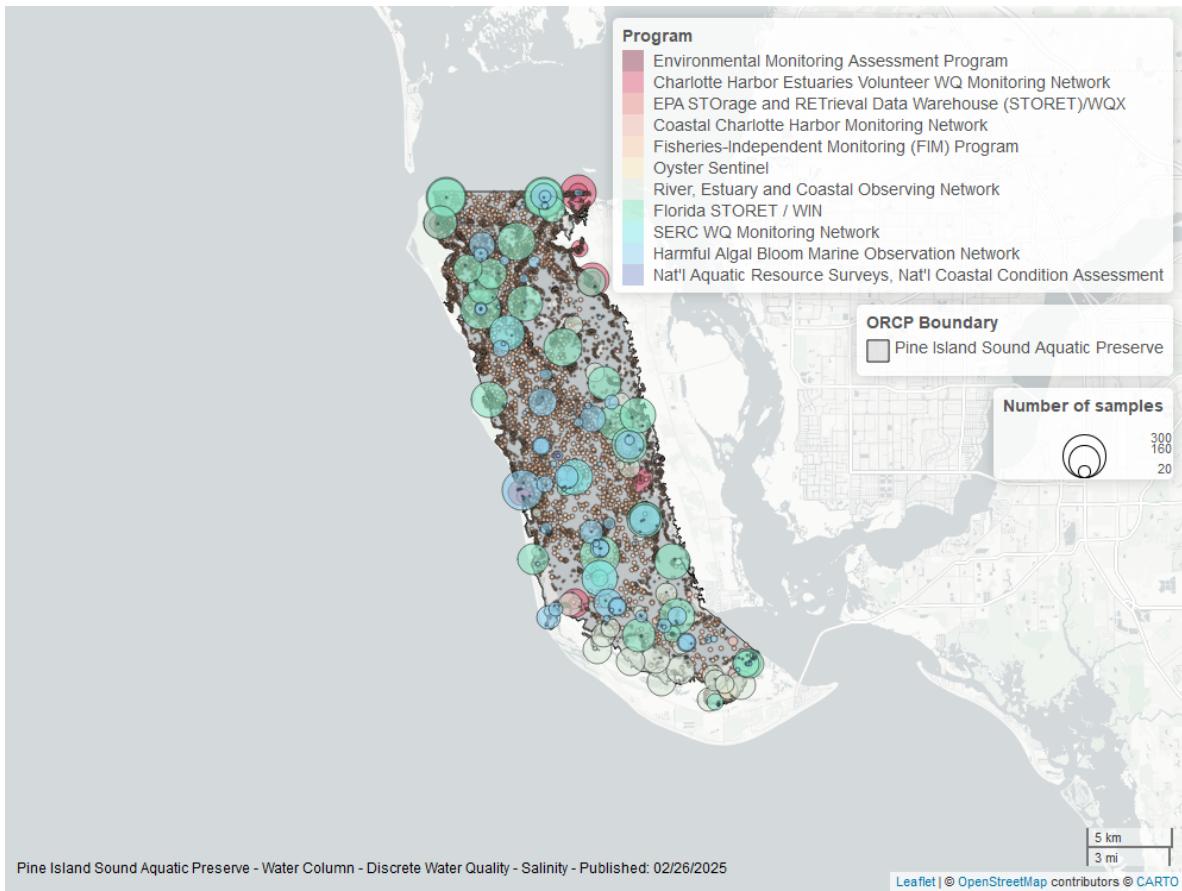


Table 6: Seasonal Kendall-Tau Results for - Salinity

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	33544	63	1954 - 2024	32.8	-0.0849	33.31632	-0.01564	0.006709495563461980414954322071707792937368155



Salinity - Continuous

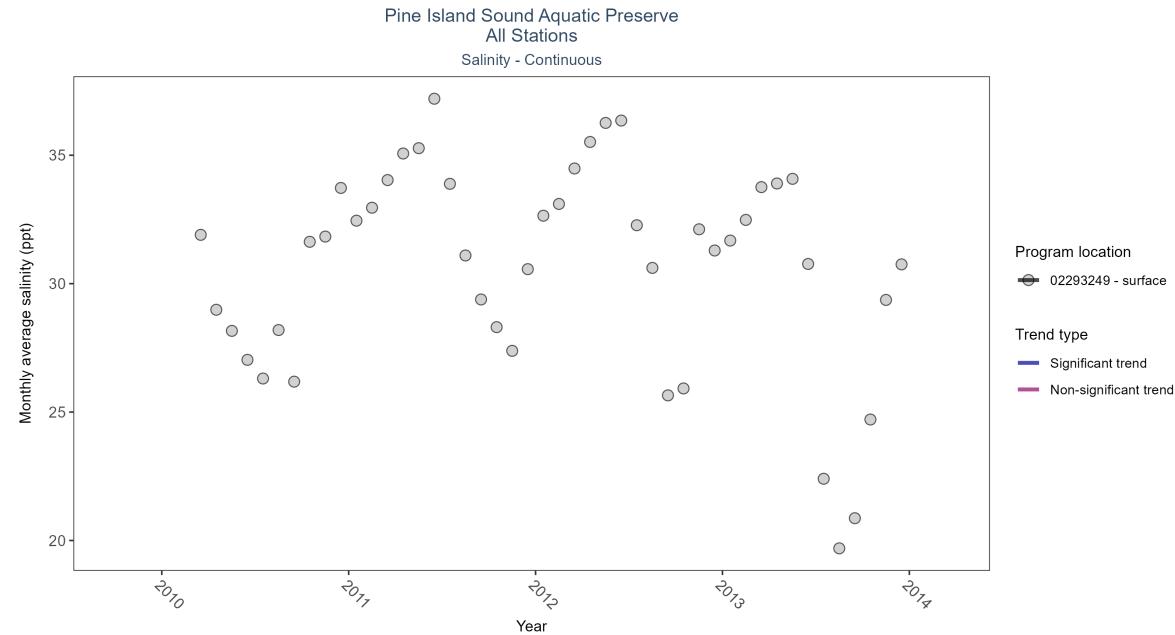
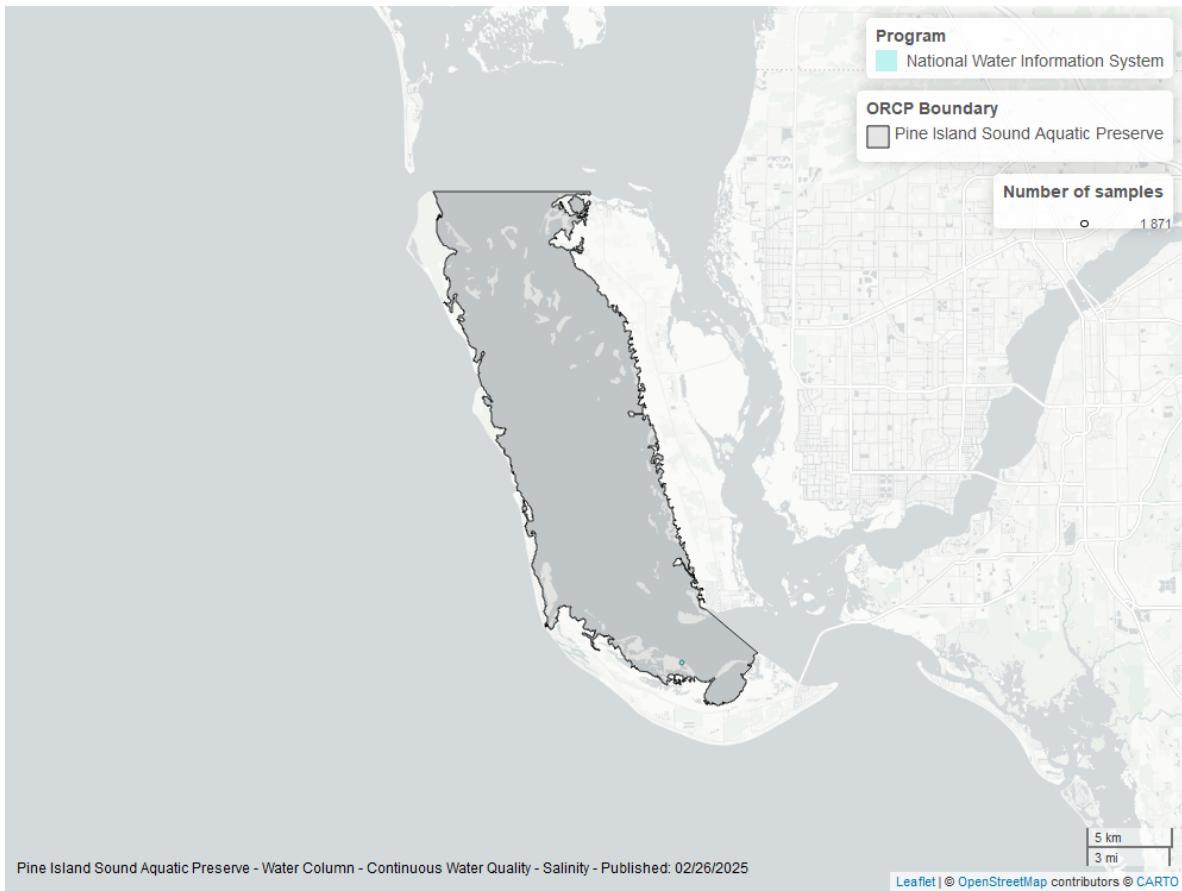


Table 7: Seasonal Kendall-Tau Results for All Stations - Salinity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
02293249	Insufficient data to calculate trend	1871	4	2010 - 2013	32	-	-	-	NA



Water Temperature - Discrete

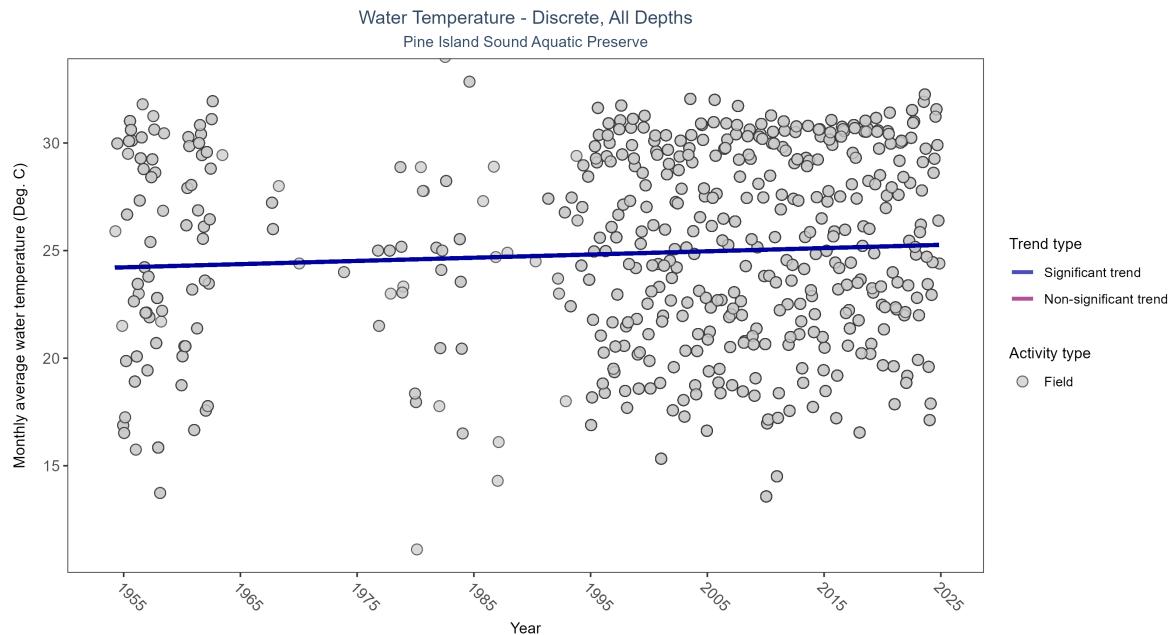
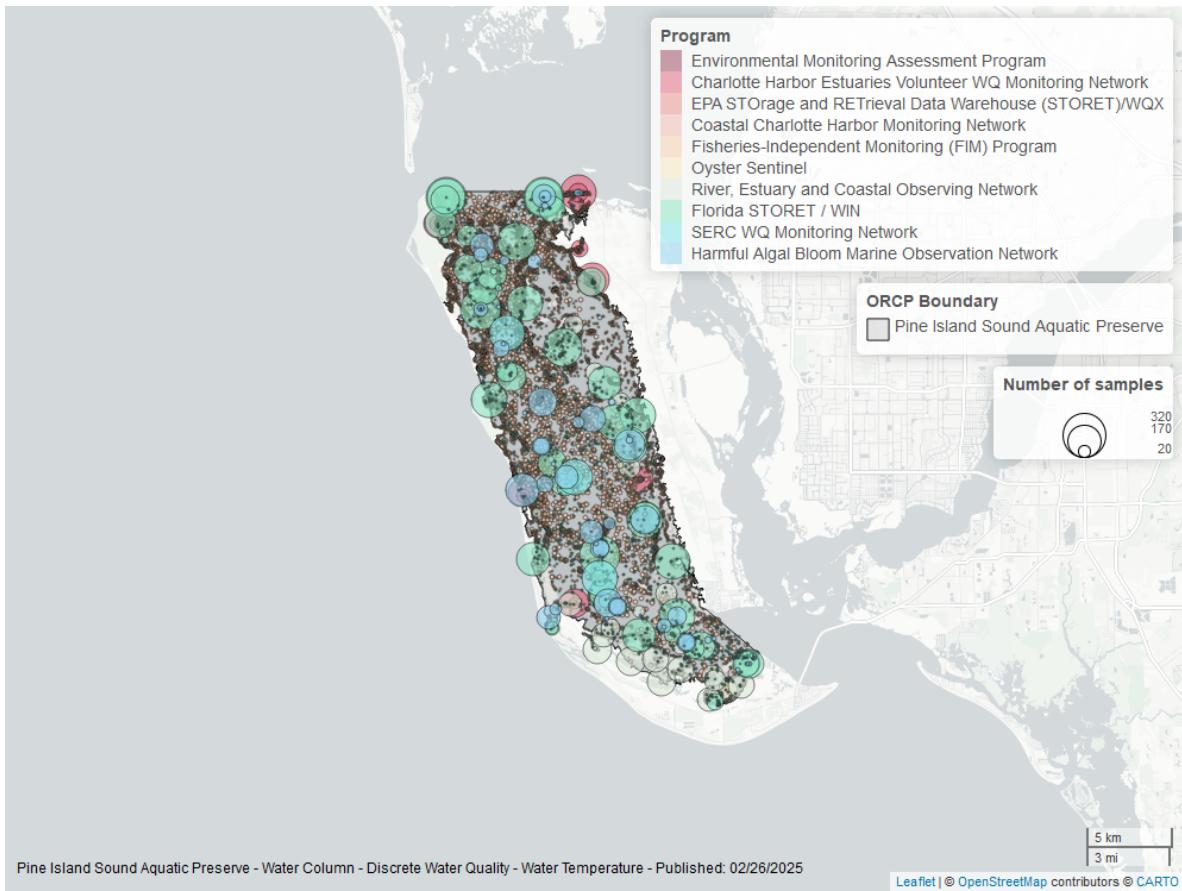


Table 8: Seasonal Kendall-Tau Results for - Water Temperature

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	36824	61	1954 - 2024	26.4	0.14896	24.20632	0.01492	0.000003461889510646



Water Temperature - Continuous

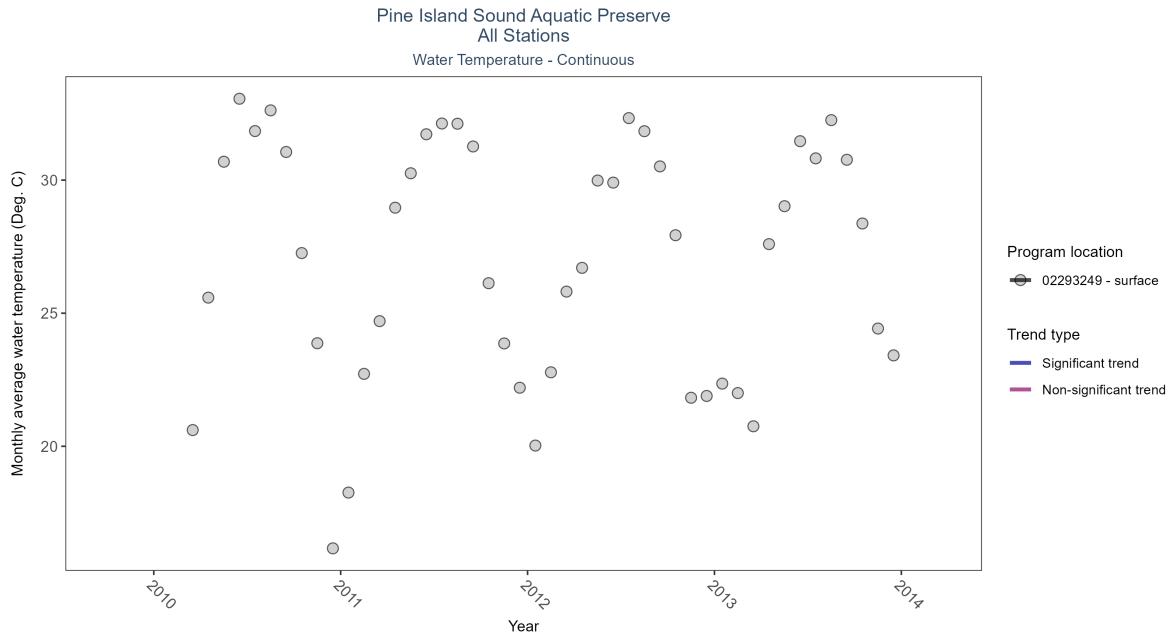
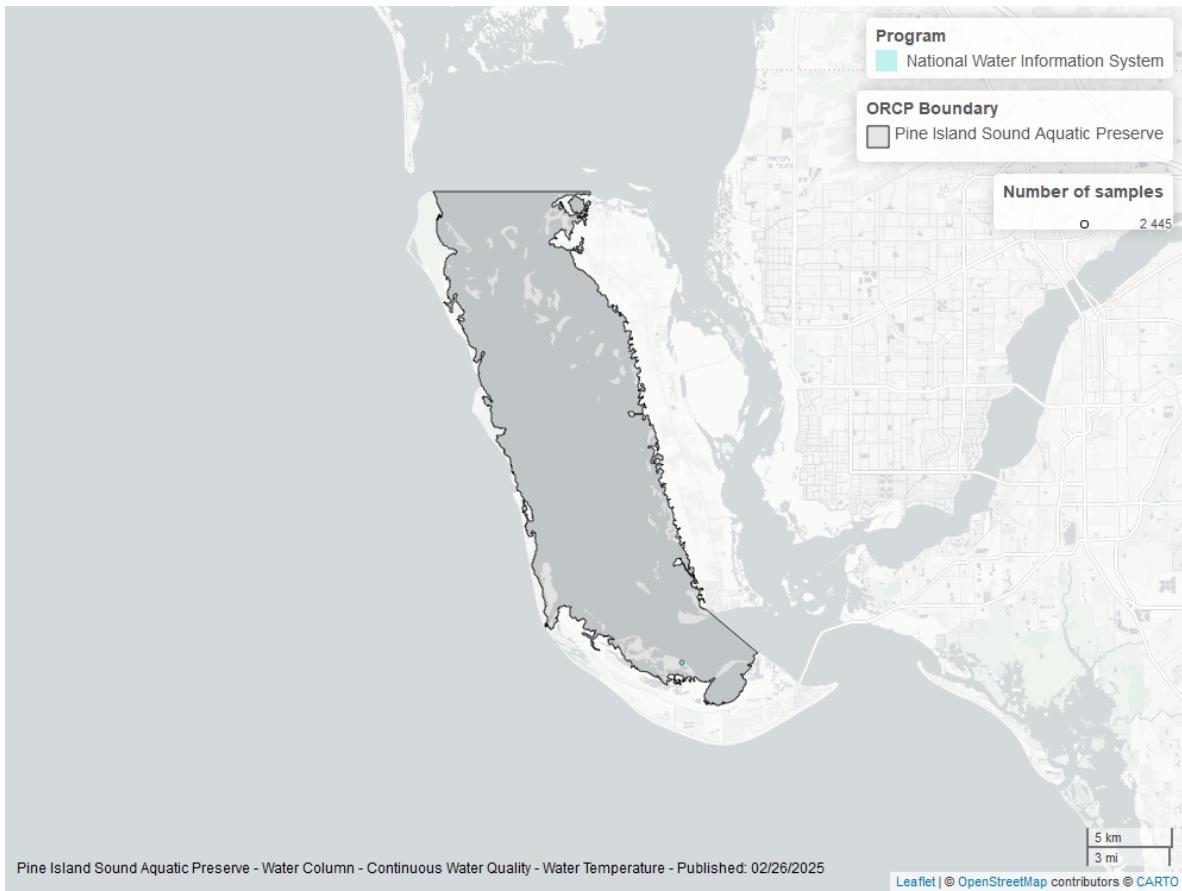


Table 9: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
02293249	Insufficient data to calculate trend	2445	4	2010 - 2013	28.1	-	-	-	NA



pH - Discrete

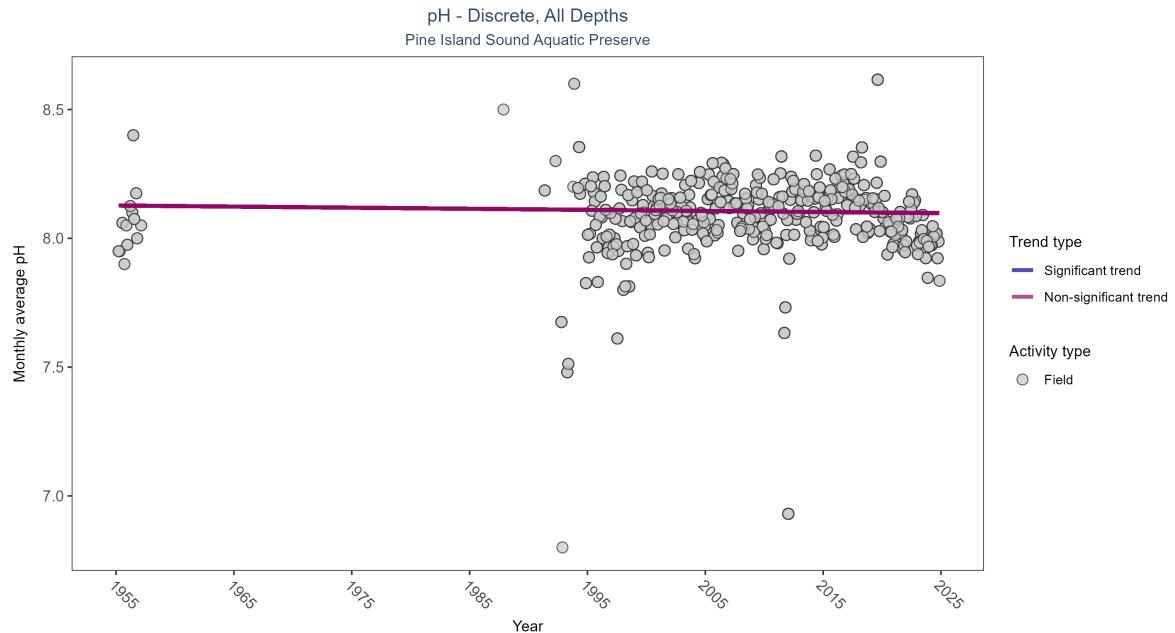
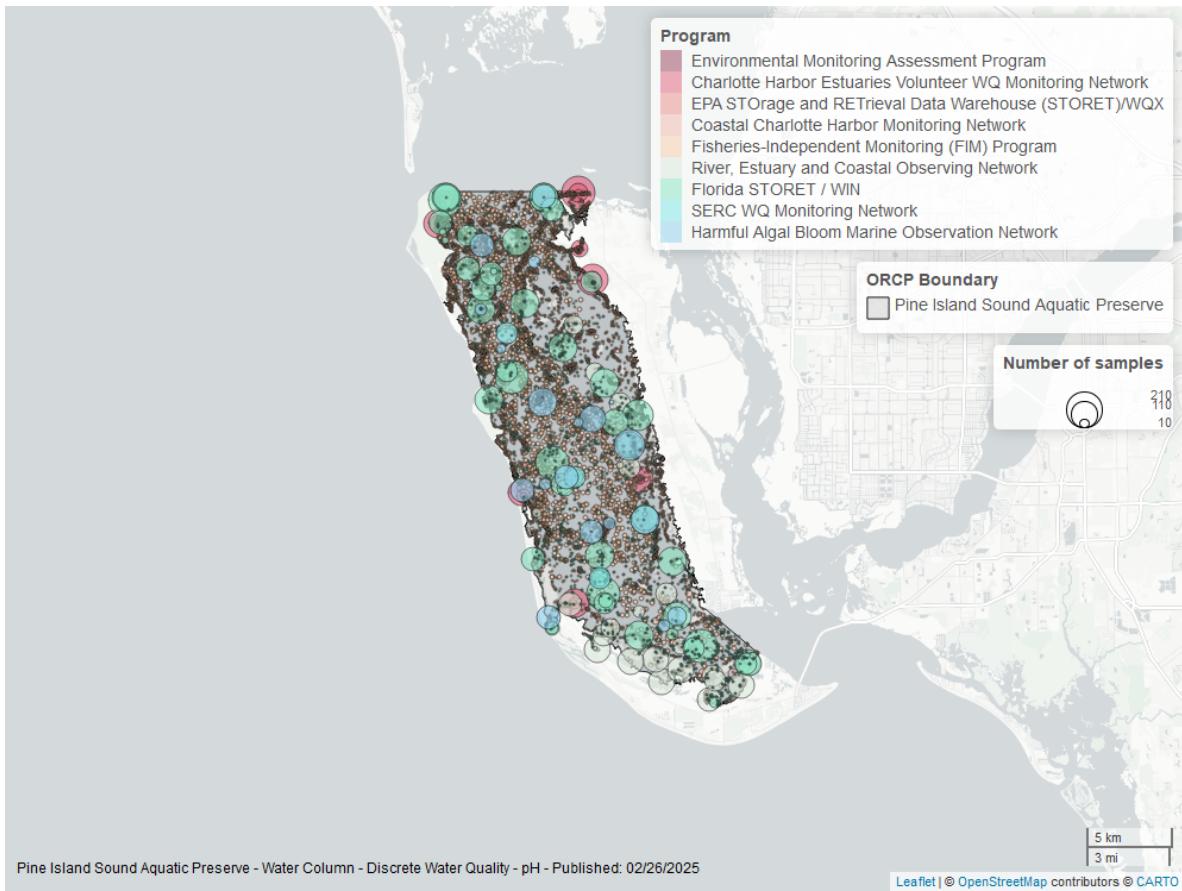


Table 10: Seasonal Kendall-Tau Results for - pH

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	32410	38	1955 - 2024	8.1	-0.03131	8.12735	-0.00042	0.38637153432969717492539984959876164793968



pH - Continuous

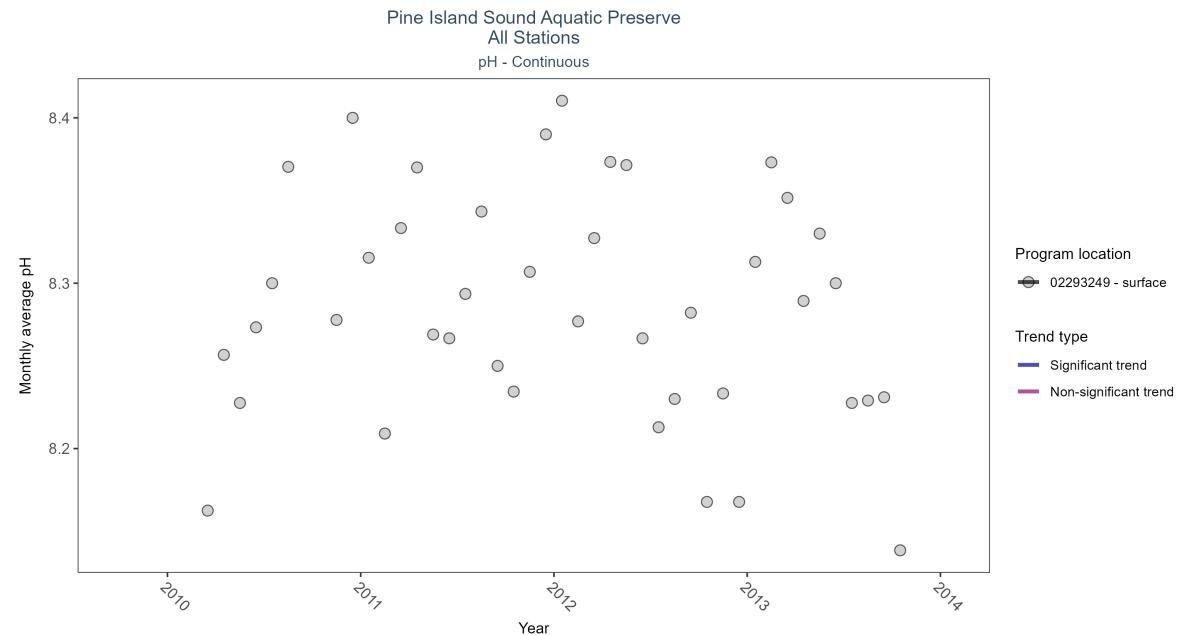
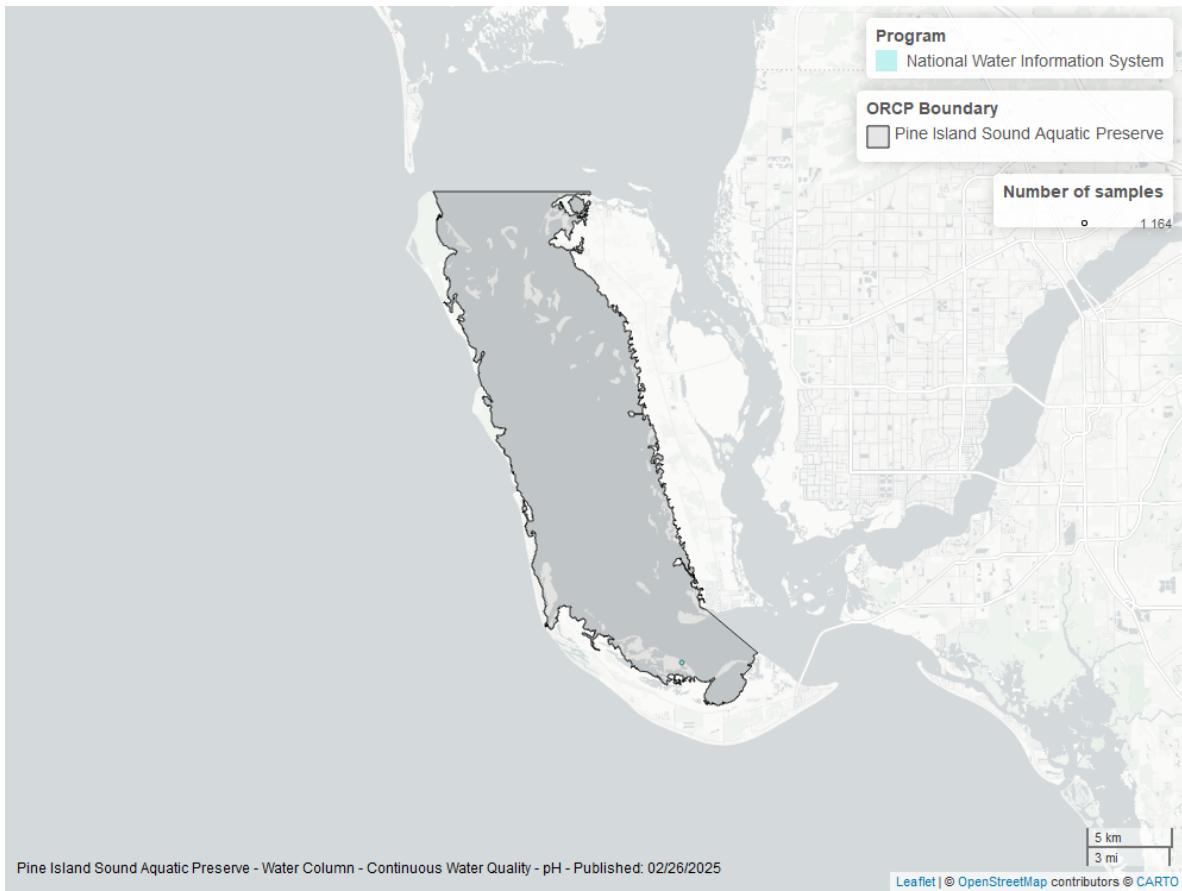


Table 11: Seasonal Kendall-Tau Results for All Stations - pH

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
02293249	Insufficient data to calculate trend	1164	4	2010 - 2013	8.3	-	-	-	NA



Water Clarity

Turbidity - Discrete

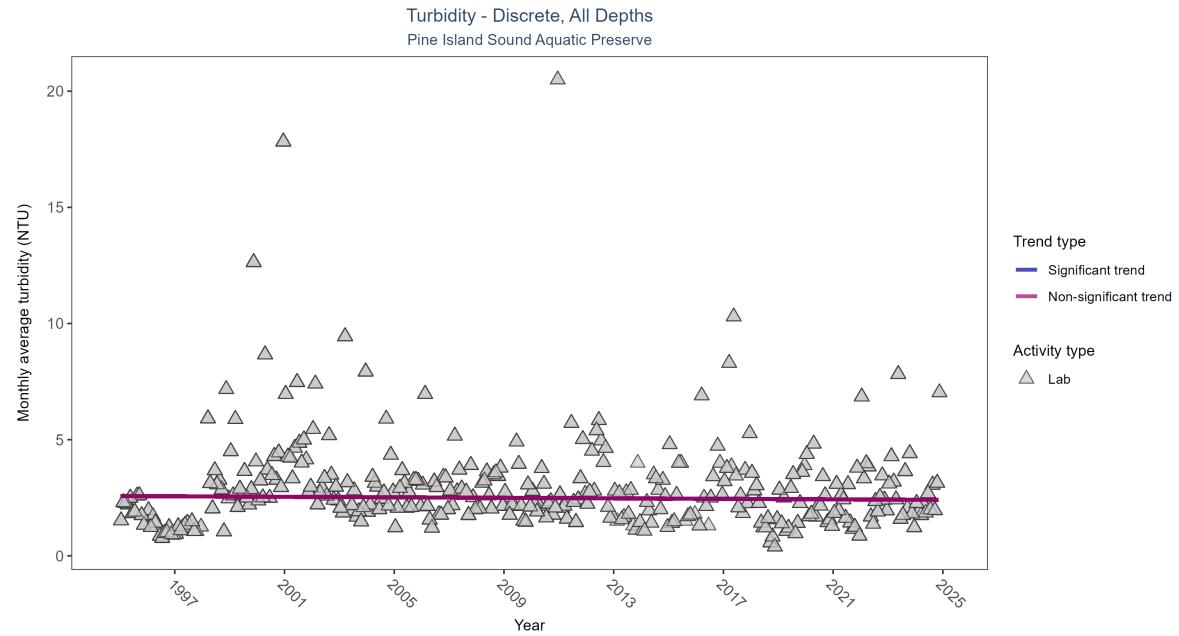
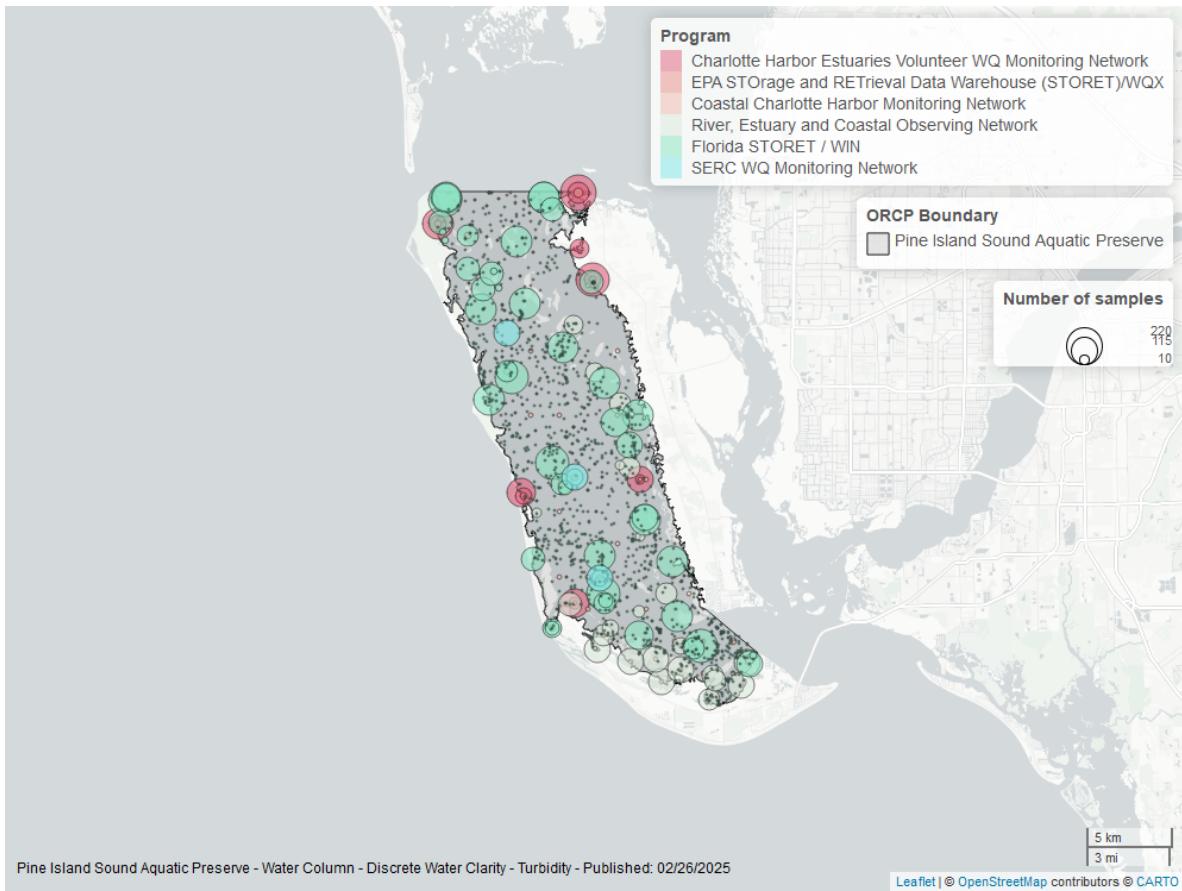


Table 12: Seasonal Kendall-Tau Results for - Turbidity

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	6642	30	1995 - 2024	2	-0.02261	2.57211	-0.00545	0.56240632801543677388



Turbidity - Continuous

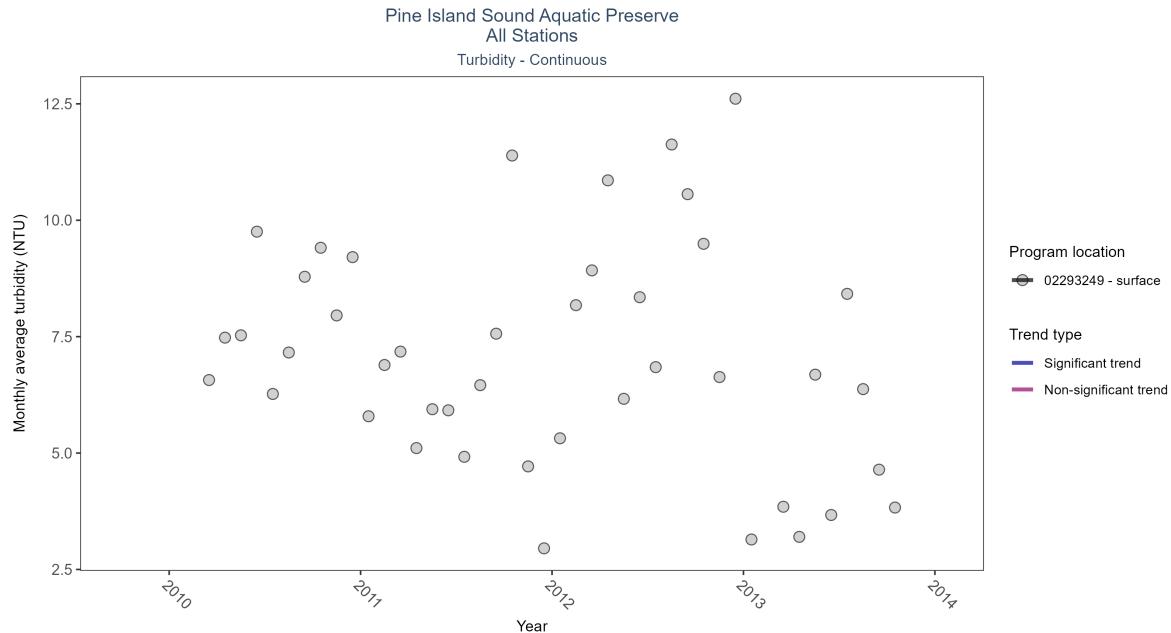
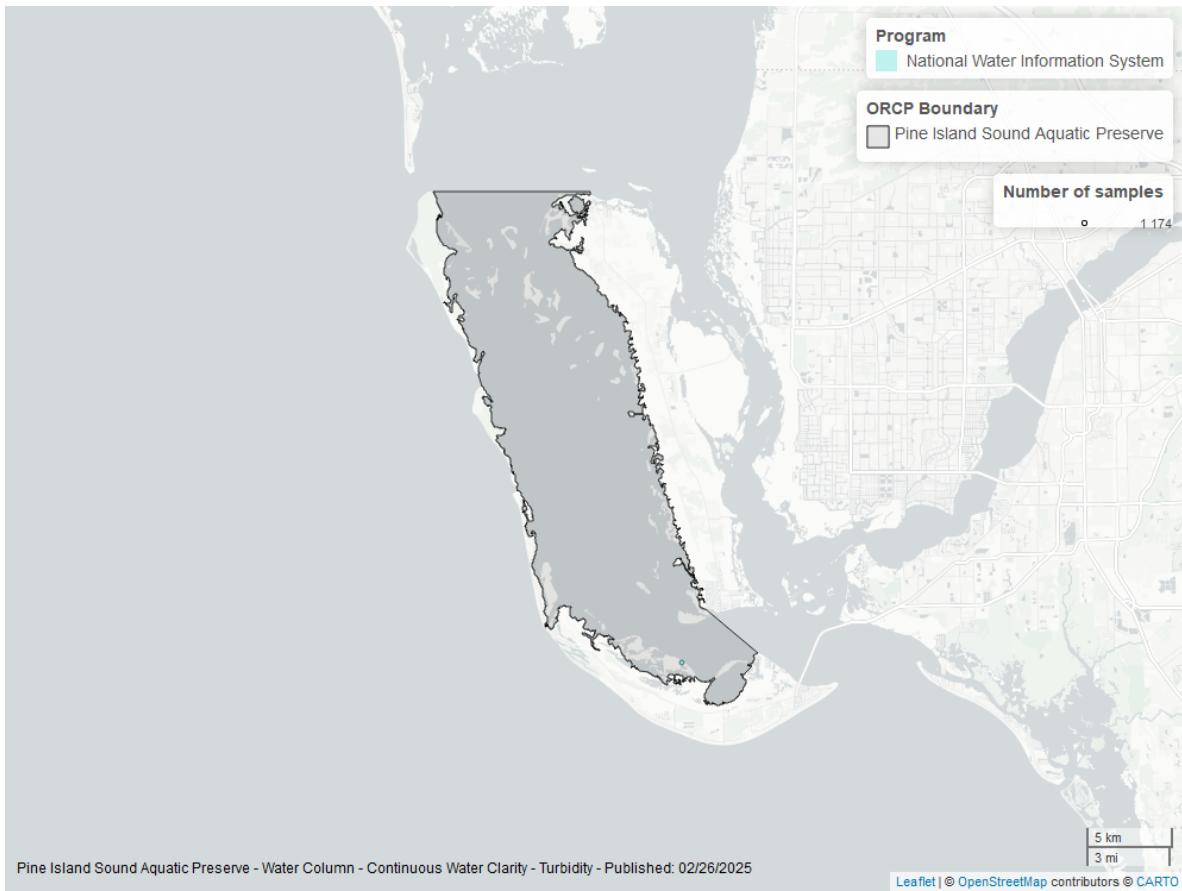


Table 13: Seasonal Kendall-Tau Results for All Stations - Turbidity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
02293249	Insufficient data to calculate trend	1174	4	2010 - 2013	5.4	-	-	-	NA



Total Suspended Solids - Discrete

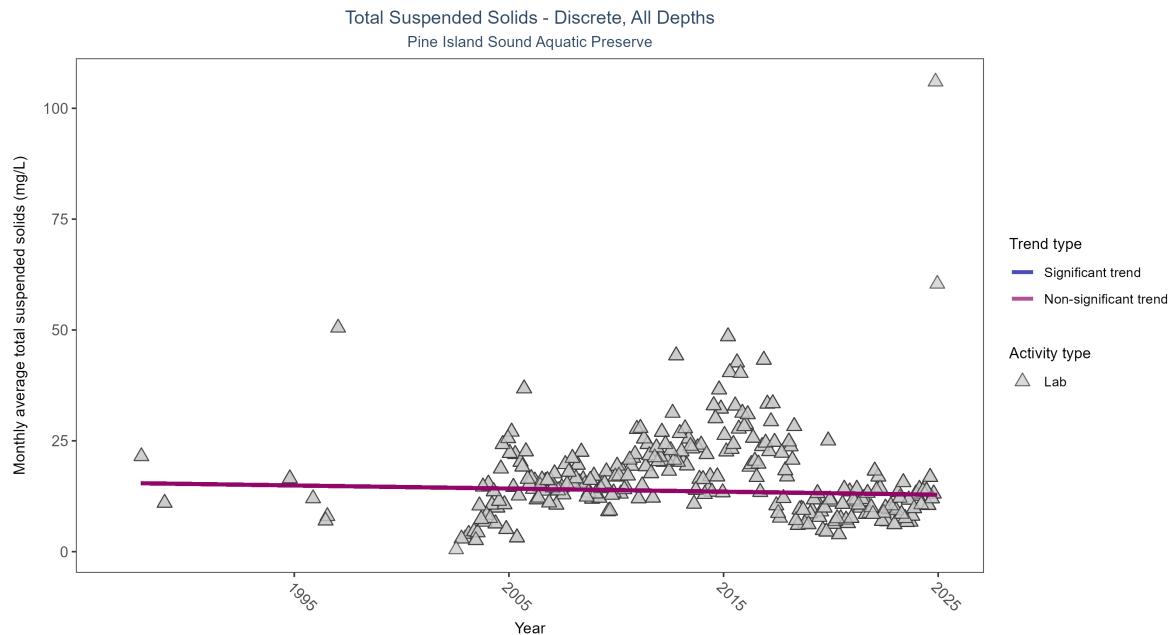
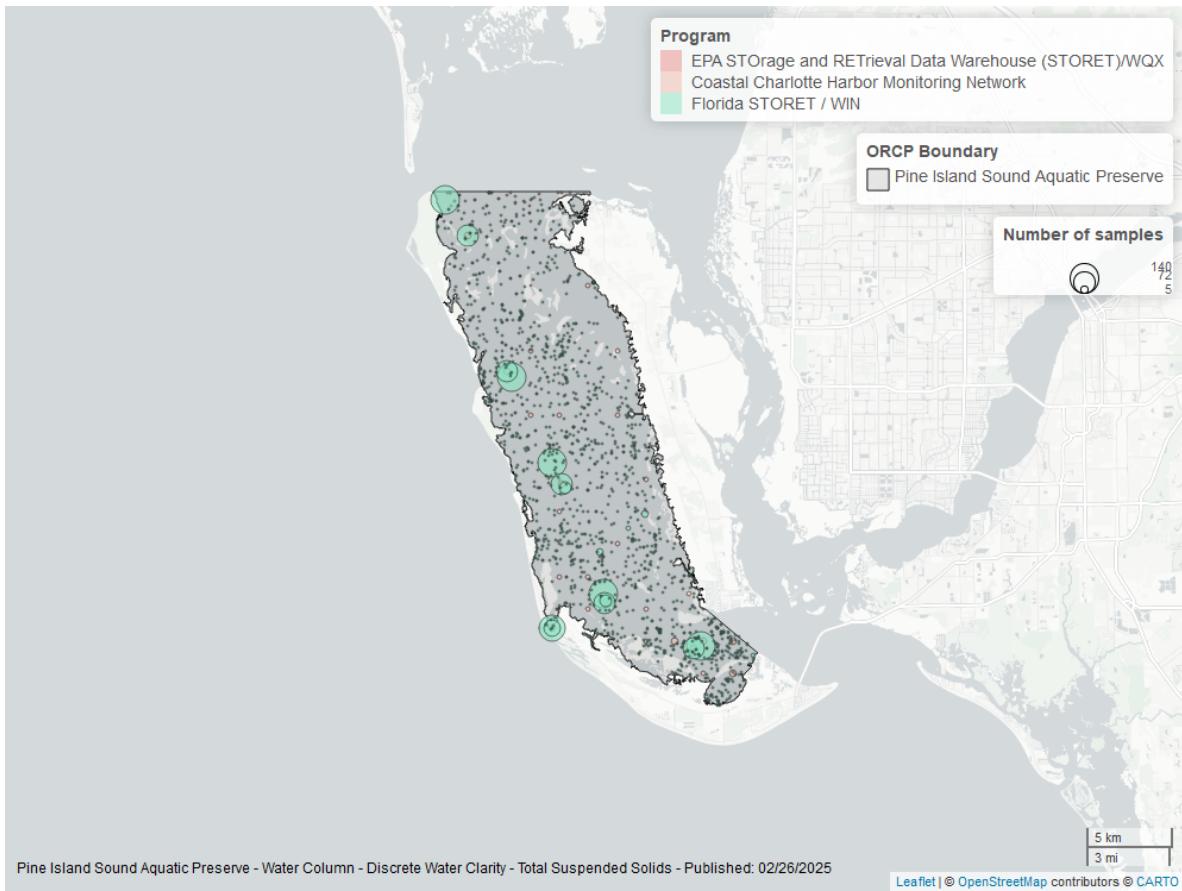


Table 14: Seasonal Kendall-Tau Results for - Total Suspended Solids

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	2820	29	1987 - 2024	12.3	-0.03673	15.48956	-0.07006	0.430534667608048871034753801723127



Chlorophyll a, Uncorrected for Pheophytin - Discrete

Chlorophyll a, Uncorrected for Pheophytin - Discrete, All Depths
Pine Island Sound Aquatic Preserve

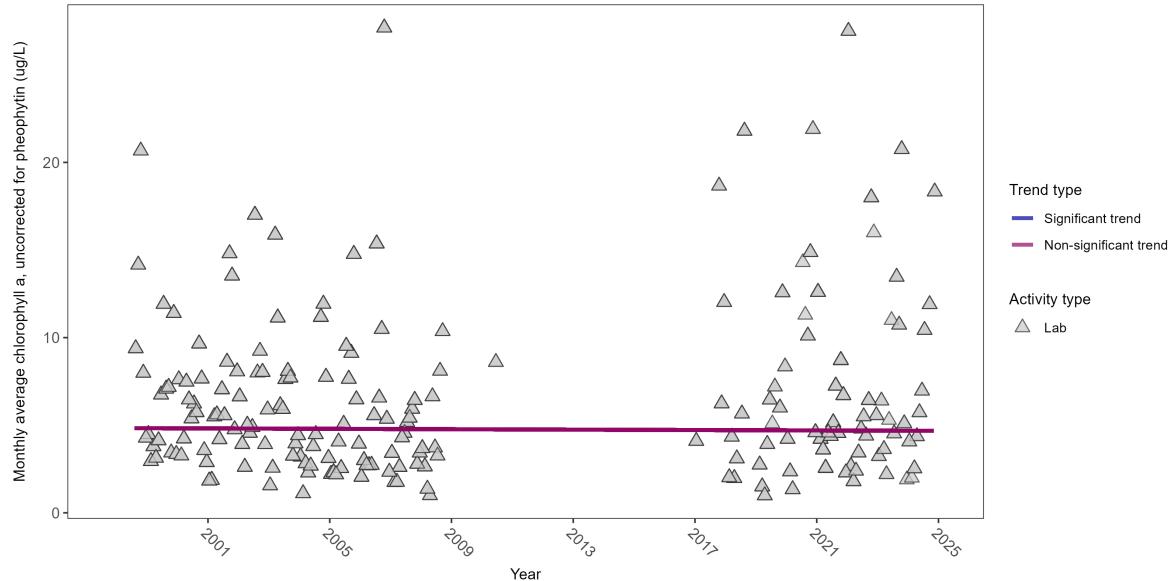
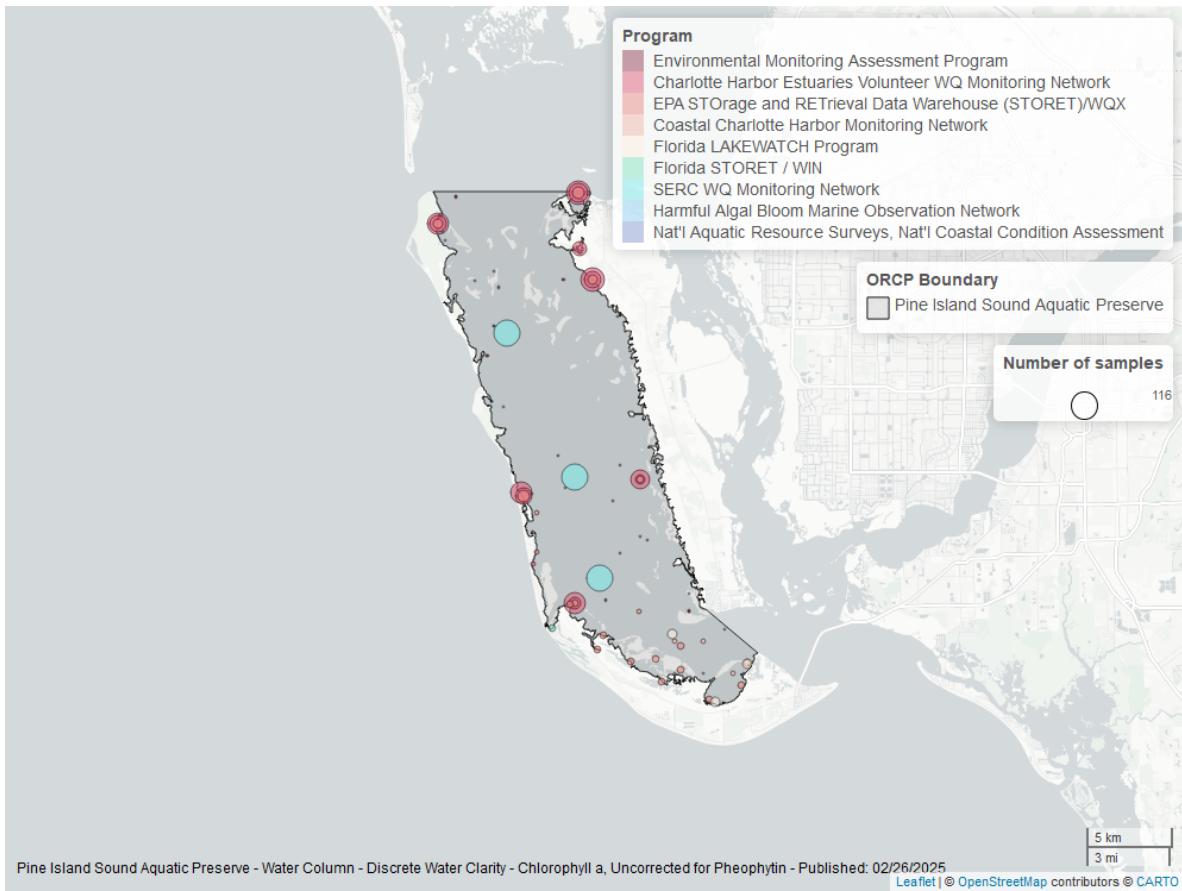


Table 15: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

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	1460	20	1998 - 2024		4.3	-0.01531	4.8348	-0.00581	0.77206043467316642914255453



Chlorophyll a, Corrected for Pheophytin - Discrete

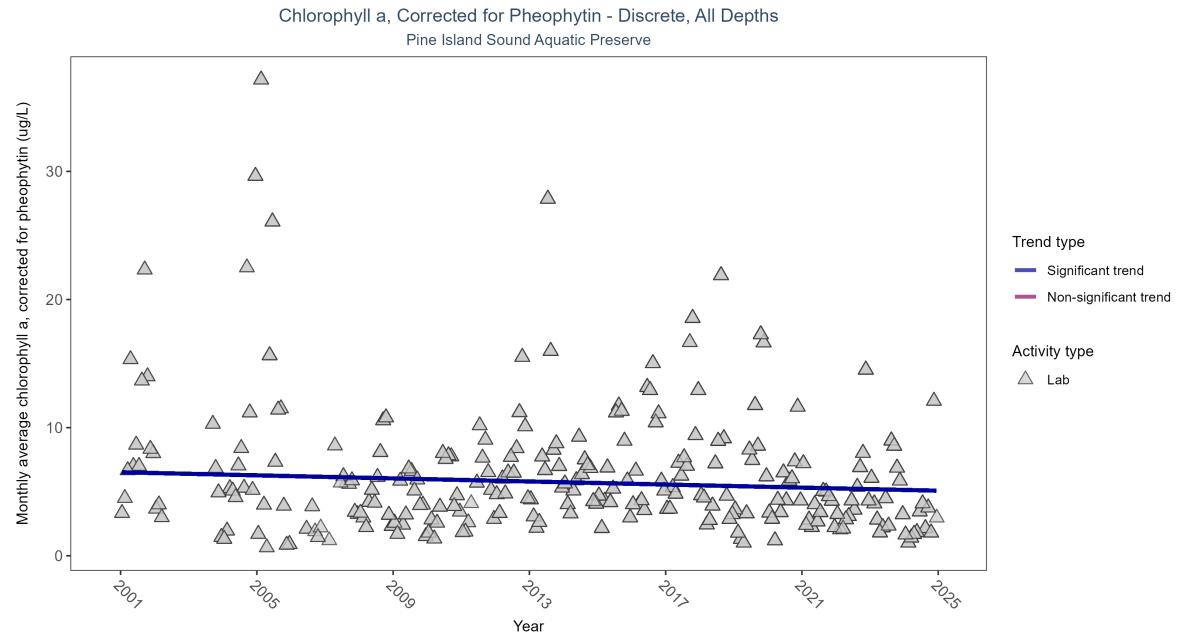
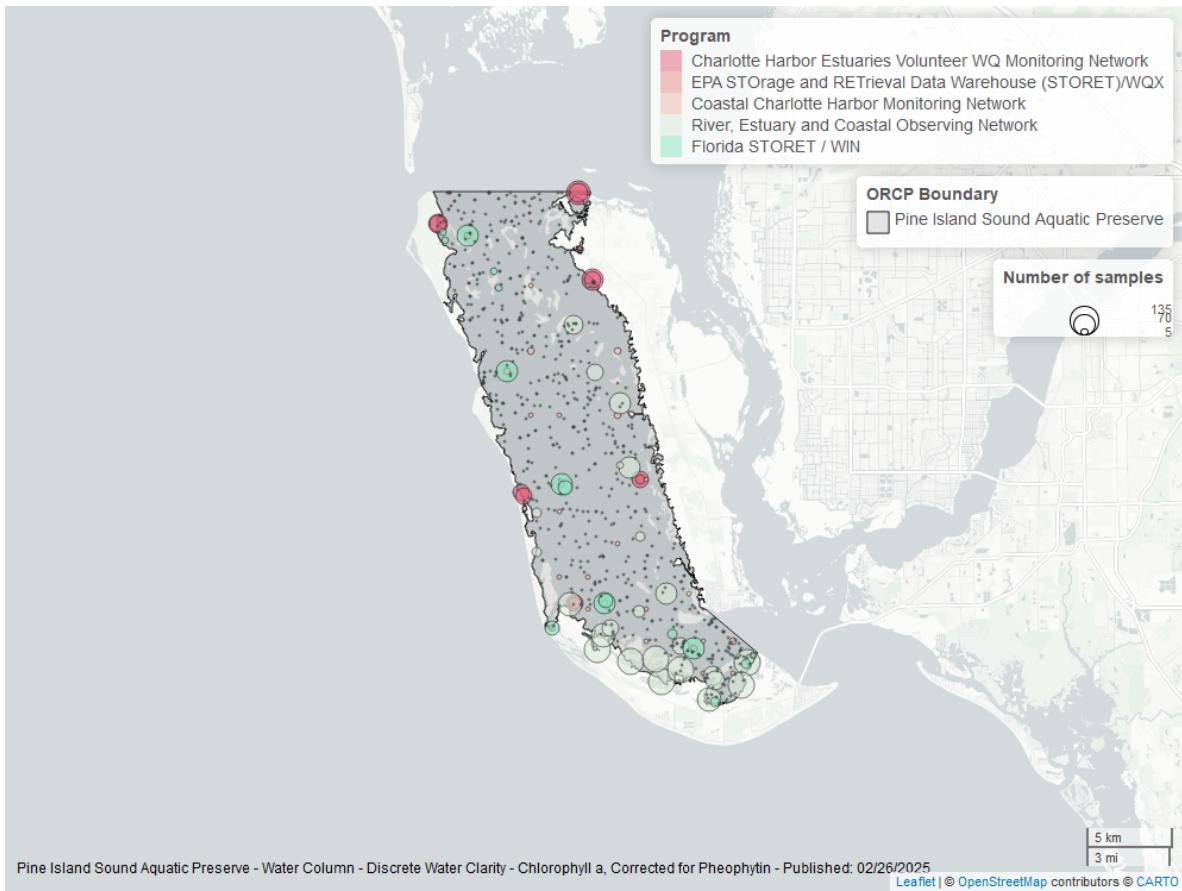


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

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	3936	24	2001 - 2024	3.9	-0.10103	6.51699	-0.05991	0.0365932953866955762434187704



Secchi Depth - Discrete

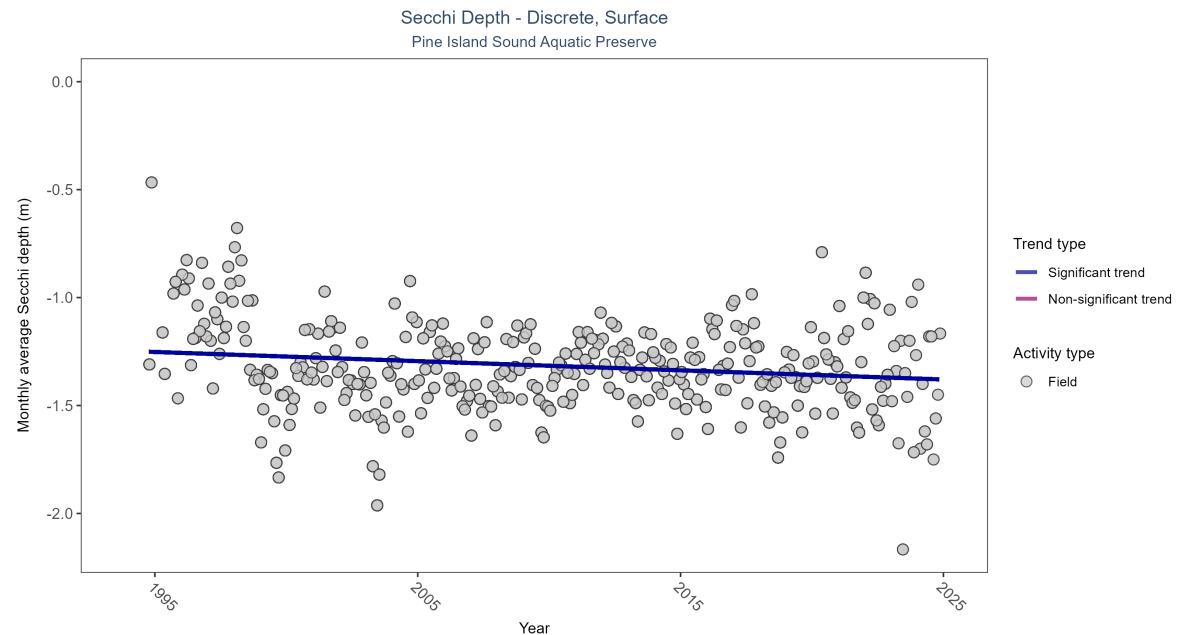
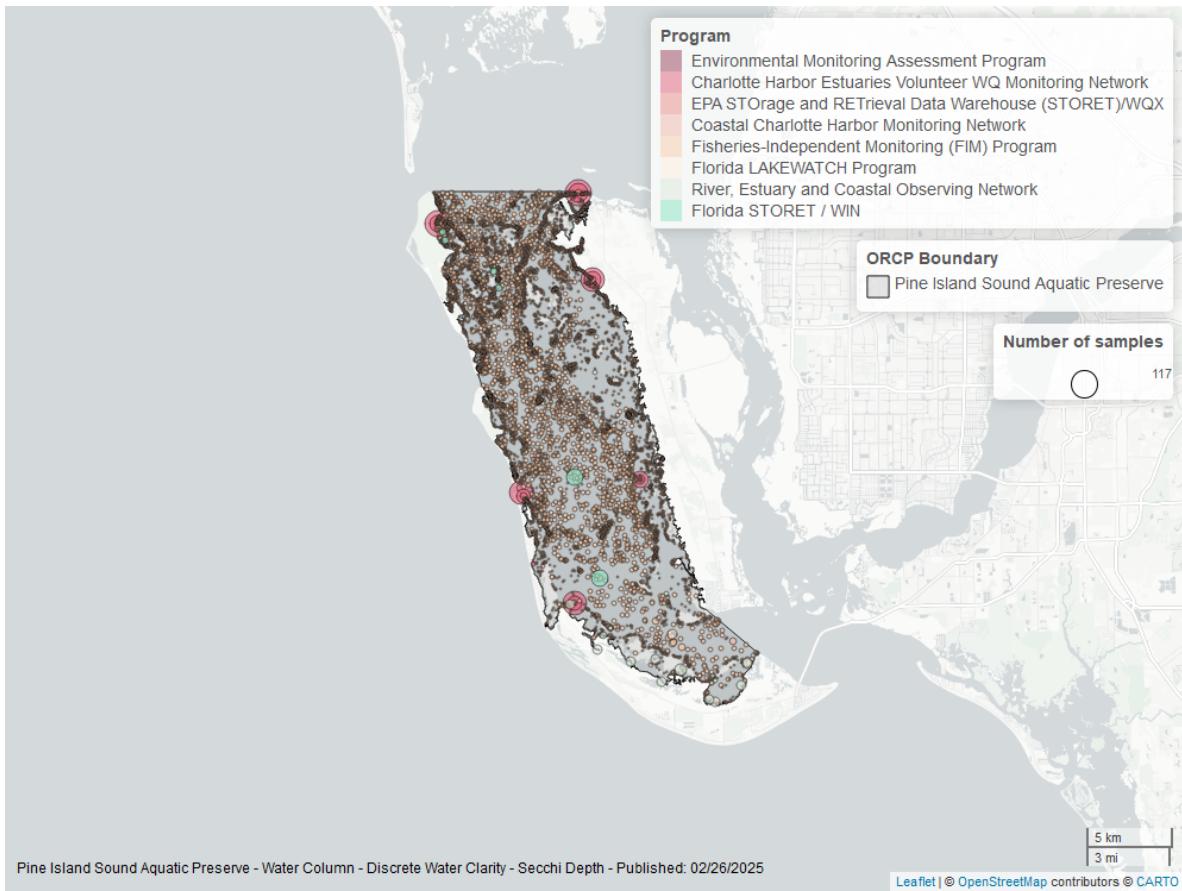


Table 17: Seasonal Kendall-Tau Results for - Secchi Depth

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	21128	31	1994 - 2024	-1.2	-0.1126	-1.2477	-0.00425	0.0024115487851394533554139076870



Colored Dissolved Organic Matter - Discrete

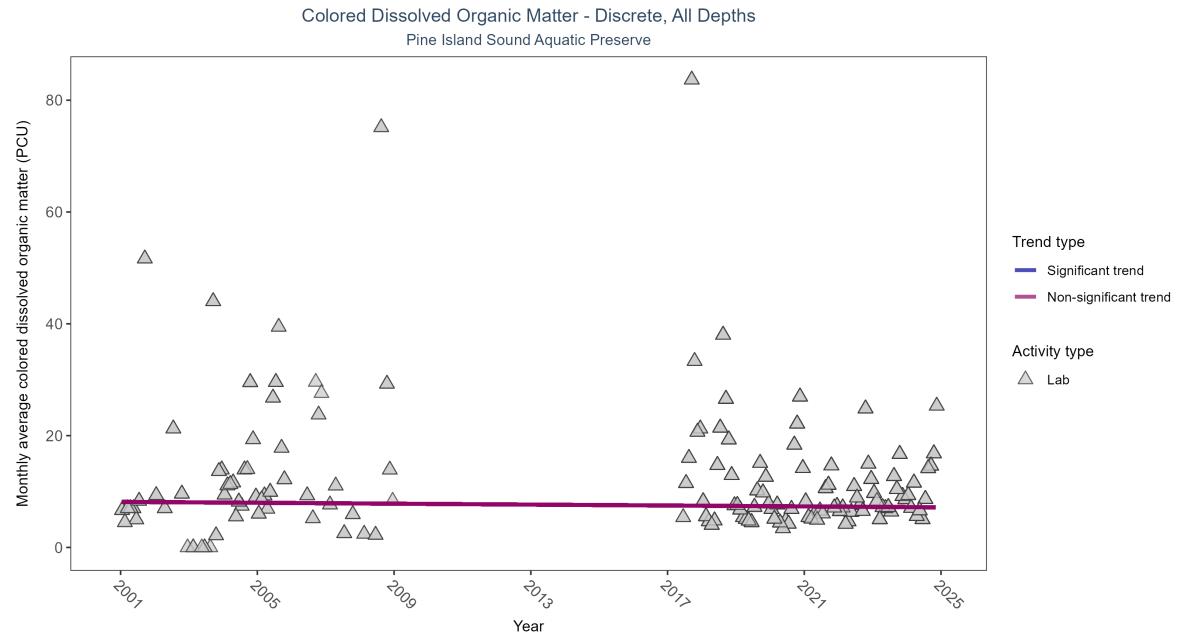


Table 18: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	1506	16	2001 - 2024	7.615	-0.04717	8.15217	-0.04077	0.500919185662057175889572

