

Alligator Harbor 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
Dissolved Oxygen Saturation - Continuous	12
Salinity - Discrete	14
Salinity - Continuous	16
Water Temperature - Discrete	18
Water Temperature - Continuous	20
pH - Discrete	22
pH - Continuous	24
Water Clarity	26
Turbidity - Discrete	26
Turbidity - Continuous	28
Total Suspended Solids - Discrete	30
Chlorophyll a, Uncorrected for Pheophytin - Discrete	32
Chlorophyll a, Corrected for Pheophytin - Discrete	34
Secchi Depth - Discrete	36
Colored Dissolved Organic Matter - Discrete	38

Indicators

Nutrients

Total Nitrogen - Discrete

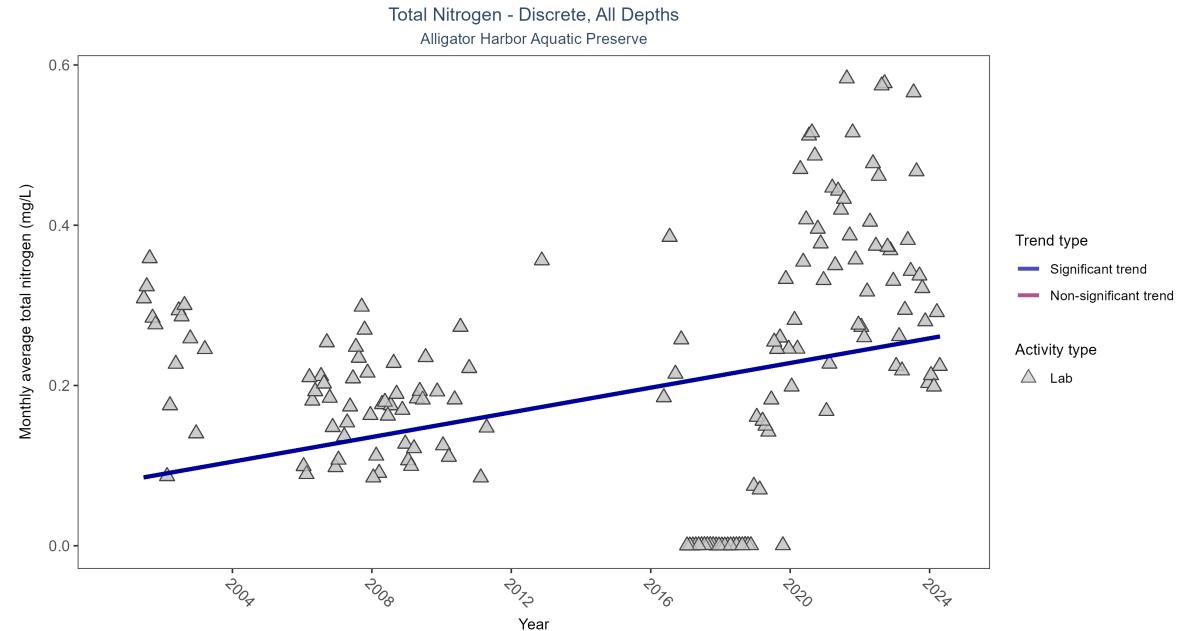
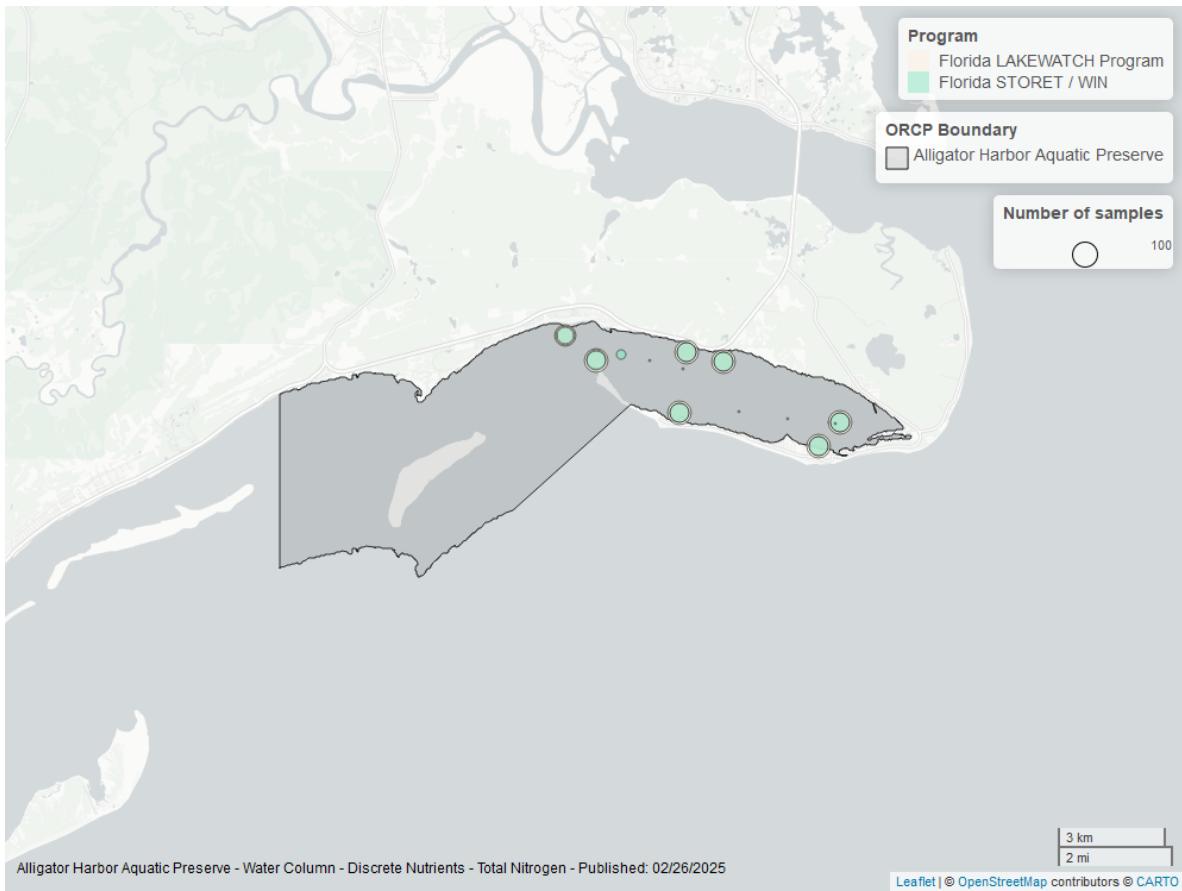


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

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	1585	19	2001 - 2024	0.19	0.28129	0.08179	0.0077	0.00000454353911356181799962098



Total Phosphorus - Discrete

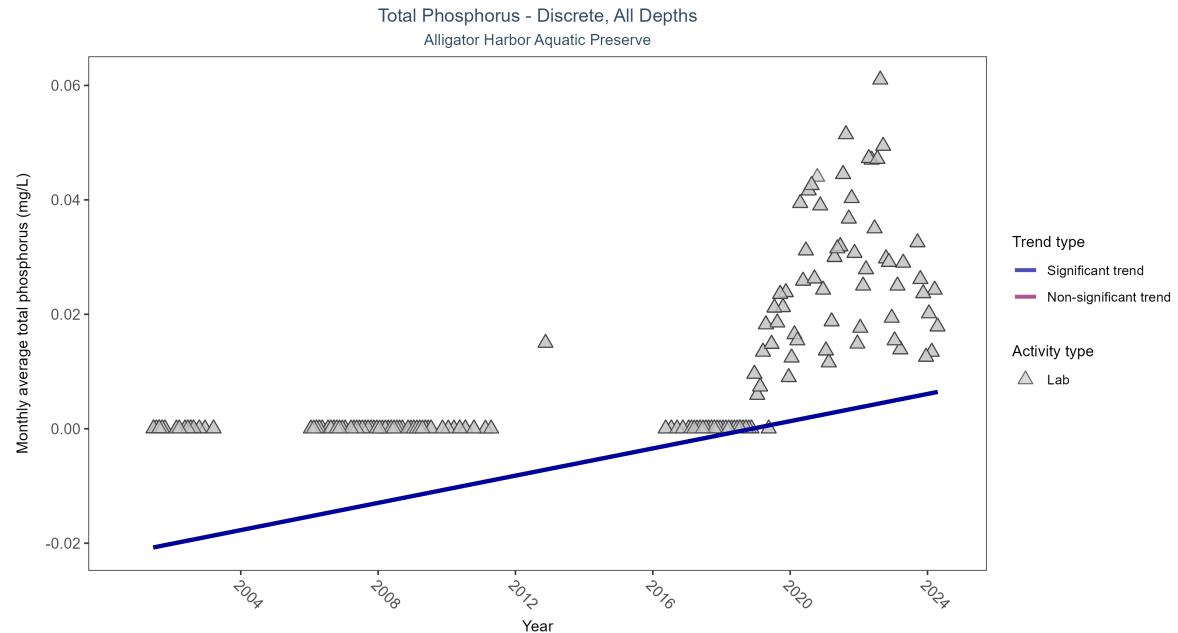
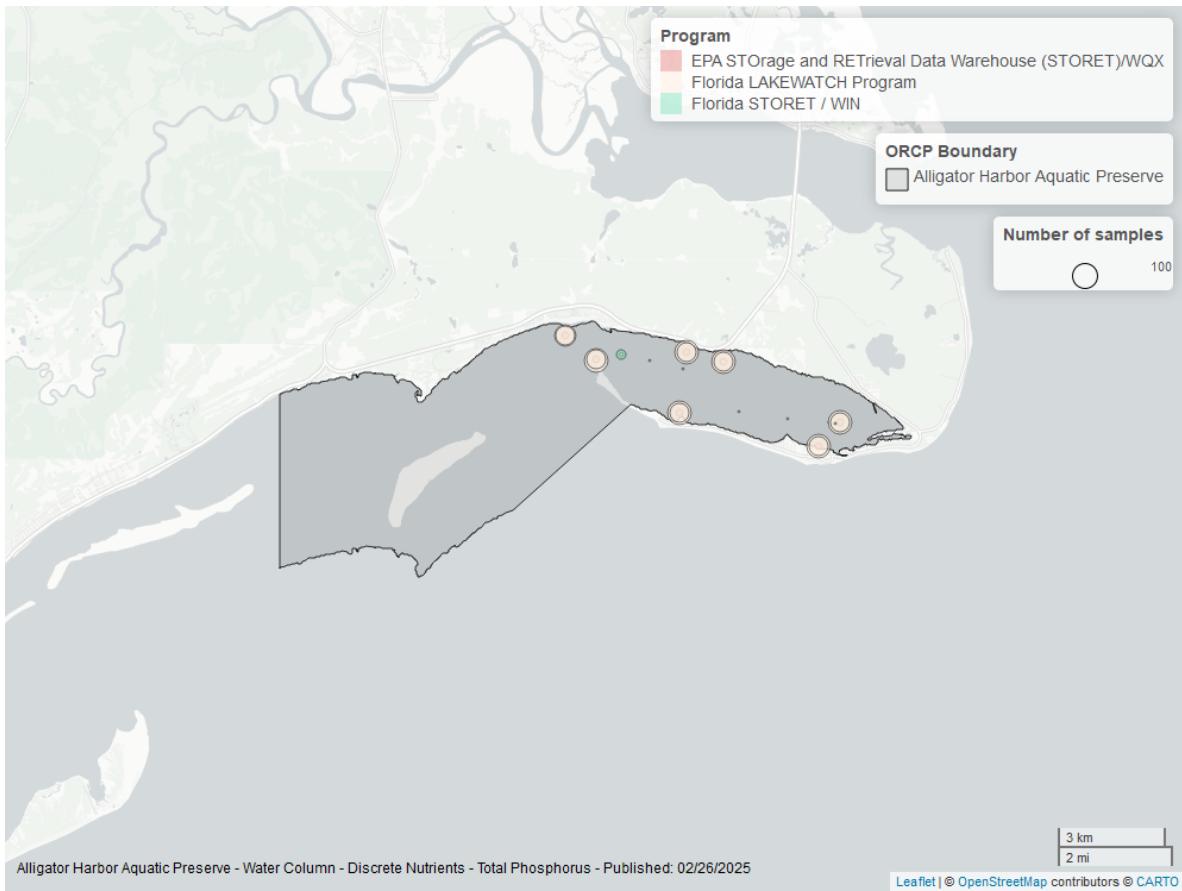


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly increasing trend	1149	19	2001 - 2024	0.00005	0.56772	-0.02128	0.00119	0.00000000000000000851565975784921981022086079349264764459803700



Water Quality

Dissolved Oxygen - Discrete

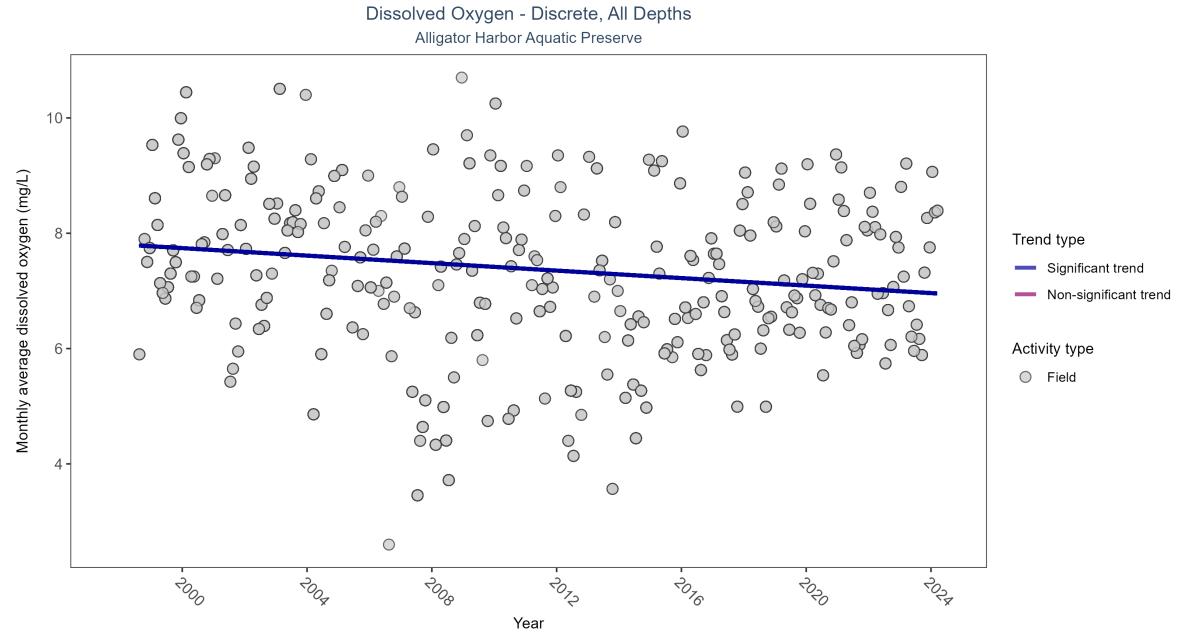
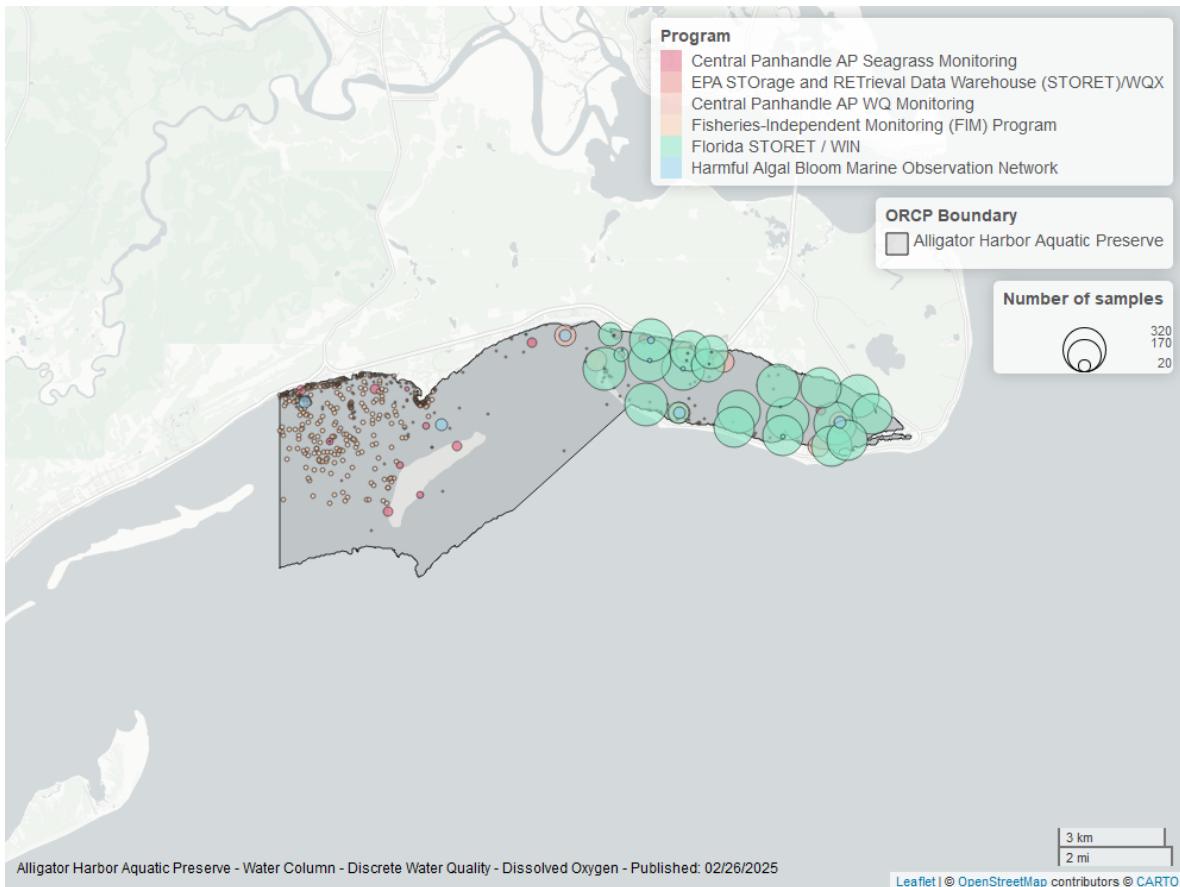


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

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	8140	27	1998 - 2024	7.2	-0.16645	7.8071	-0.0325	0.00008344080000170



Dissolved Oxygen - Continuous

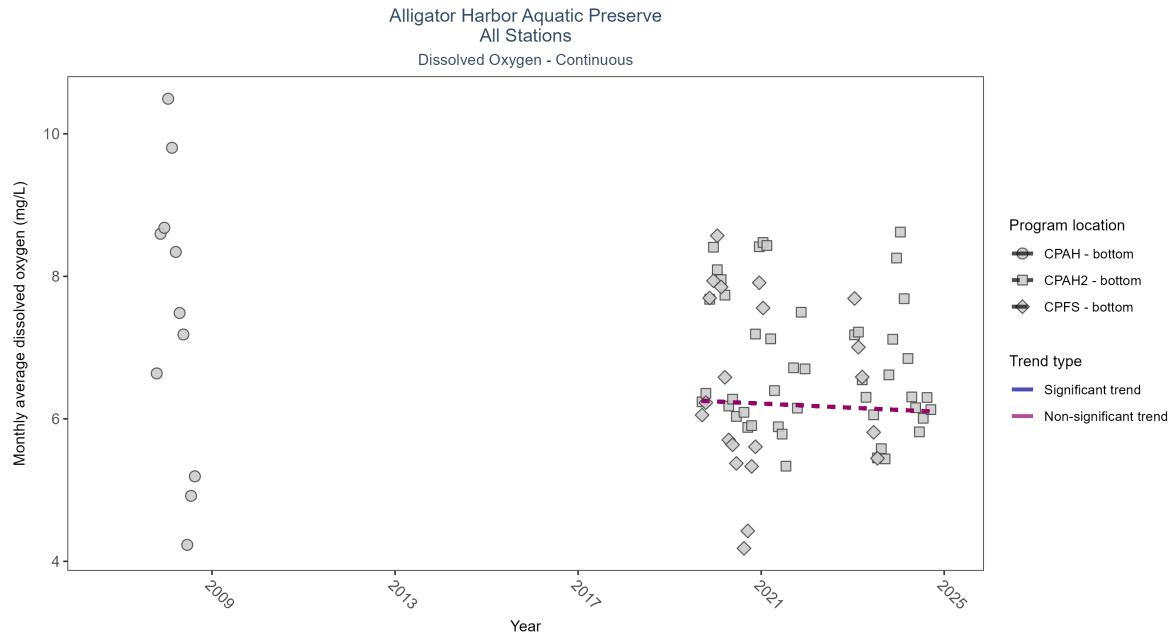
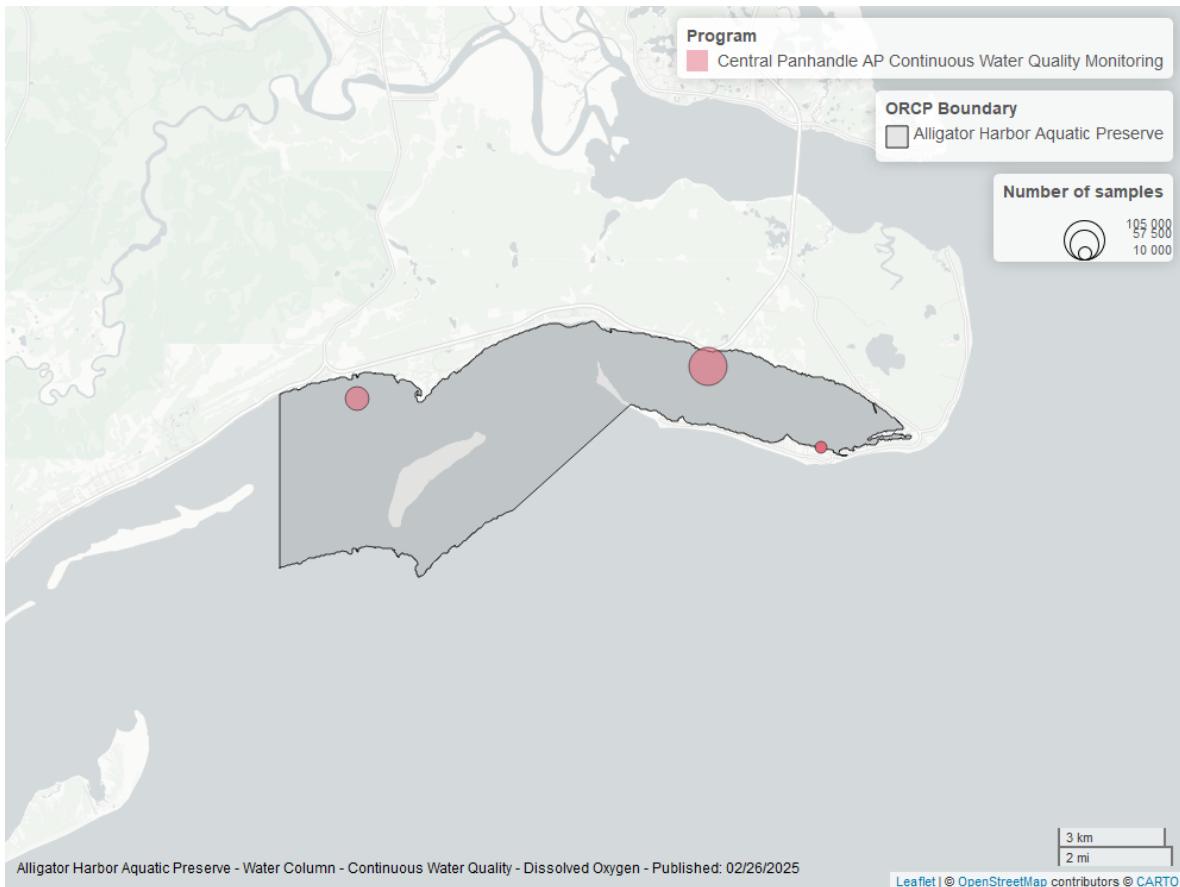


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
CPFS	Insufficient data to calculate trend	39993	4	2019 - 2023	6.4	-	-	-	NA
CPAH2	No significant trend	106054	5	2019 - 2024	6.9	-0.04	6.27	-0.03	0.6846408637514223017
CPAH	Insufficient data to calculate trend	11557	2	2007 - 2008	8.0	-	-	-	NA



Dissolved Oxygen Saturation - Discrete

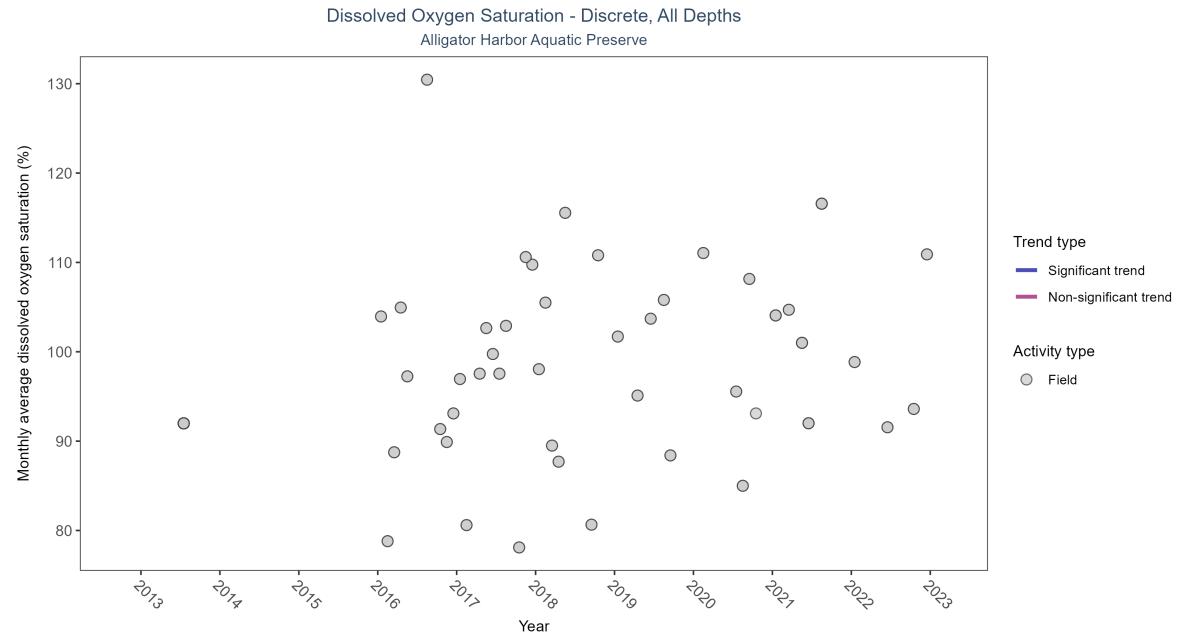
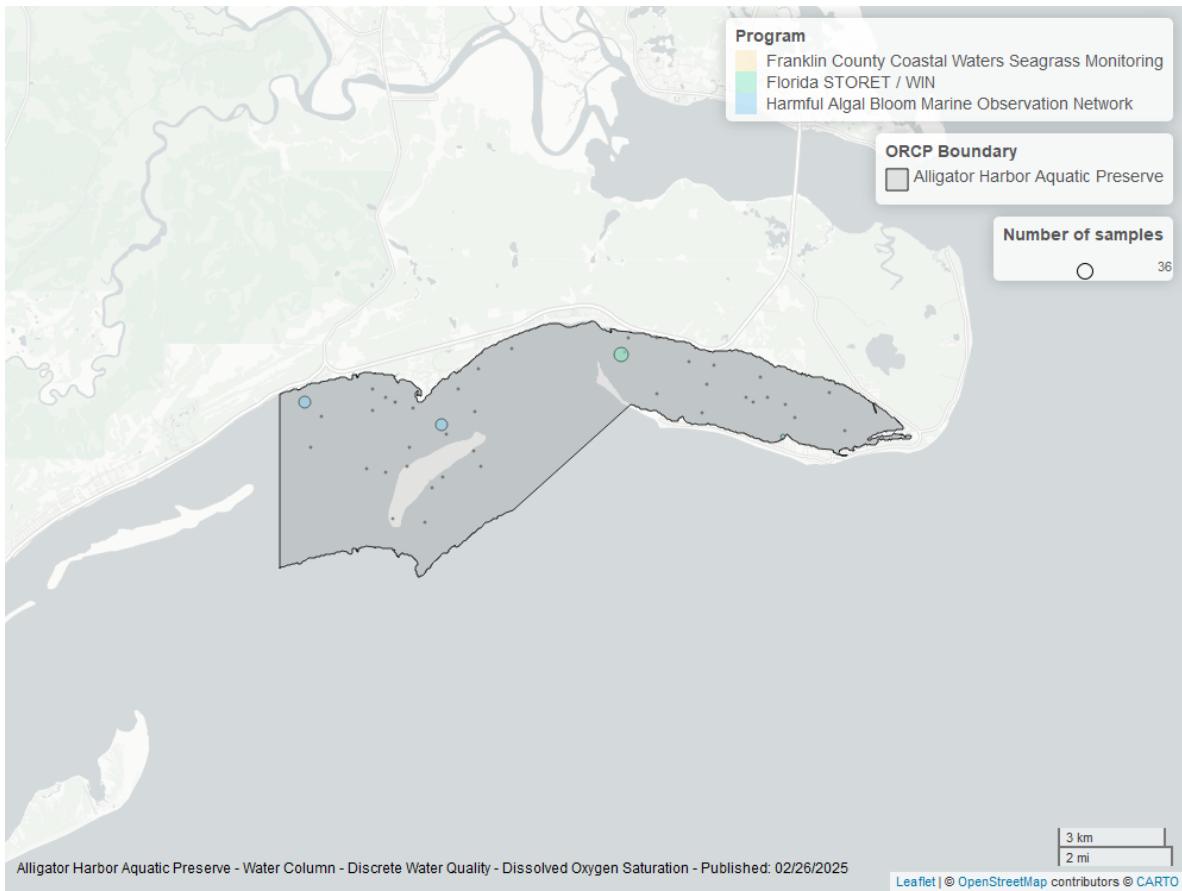


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Insufficient data to calculate trend	131	8	2013 - 2022	96.8	-	-	-	NA



Dissolved Oxygen Saturation - Continuous

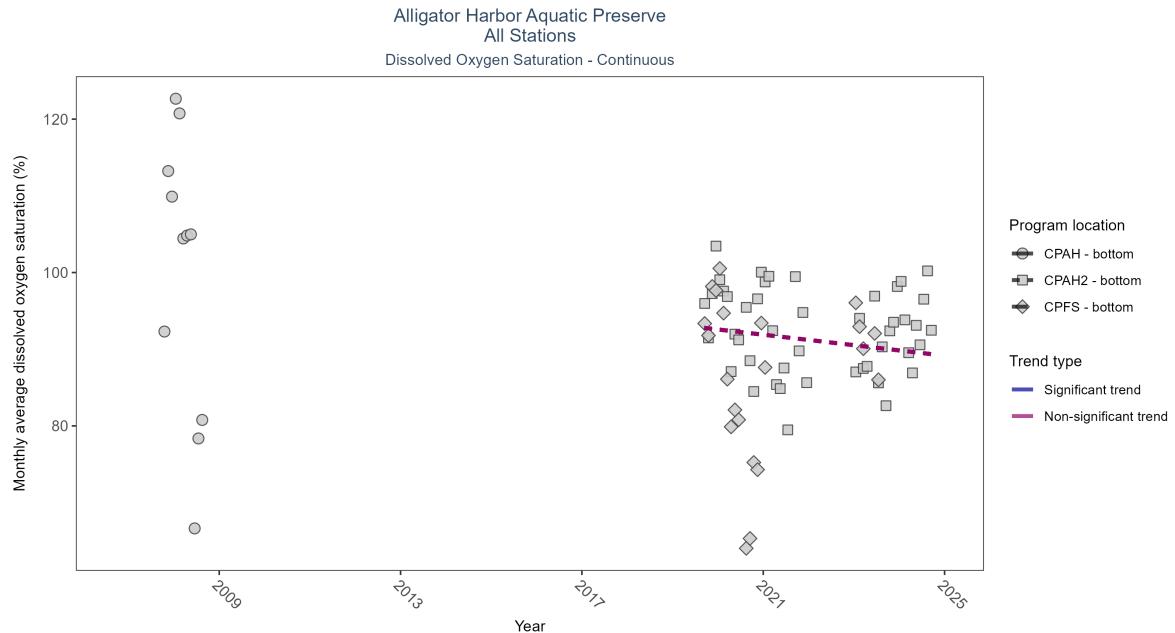
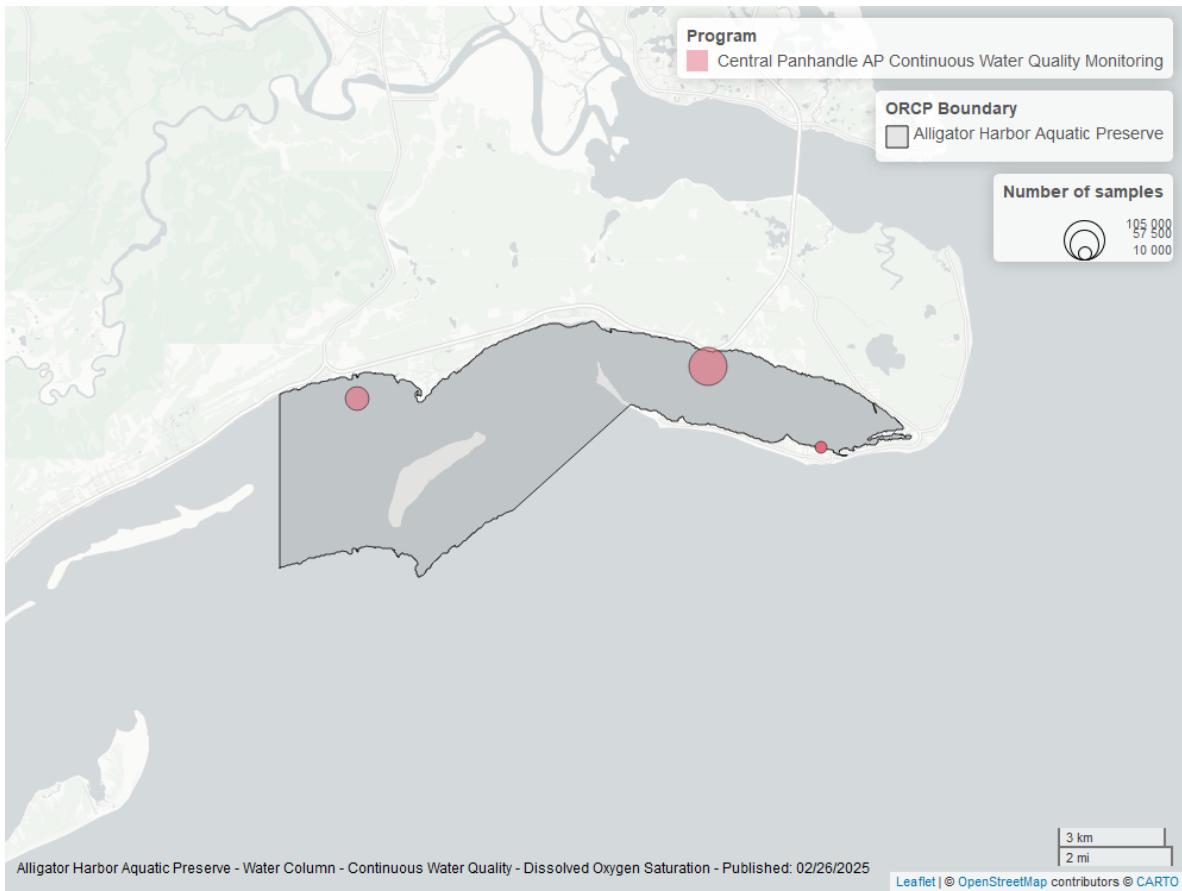


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
CPFS	Insufficient data to calculate trend	39993	4	2019 - 2023	90.4	-	-	-	NA
CPAH2	No significant trend	106054	5	2019 - 2024	94.0	-0.17	93.26	-0.68	0.15517591839325412
CPAH	Insufficient data to calculate trend	11557	2	2007 - 2008	105.6	-	-	-	NA



Salinity - Discrete

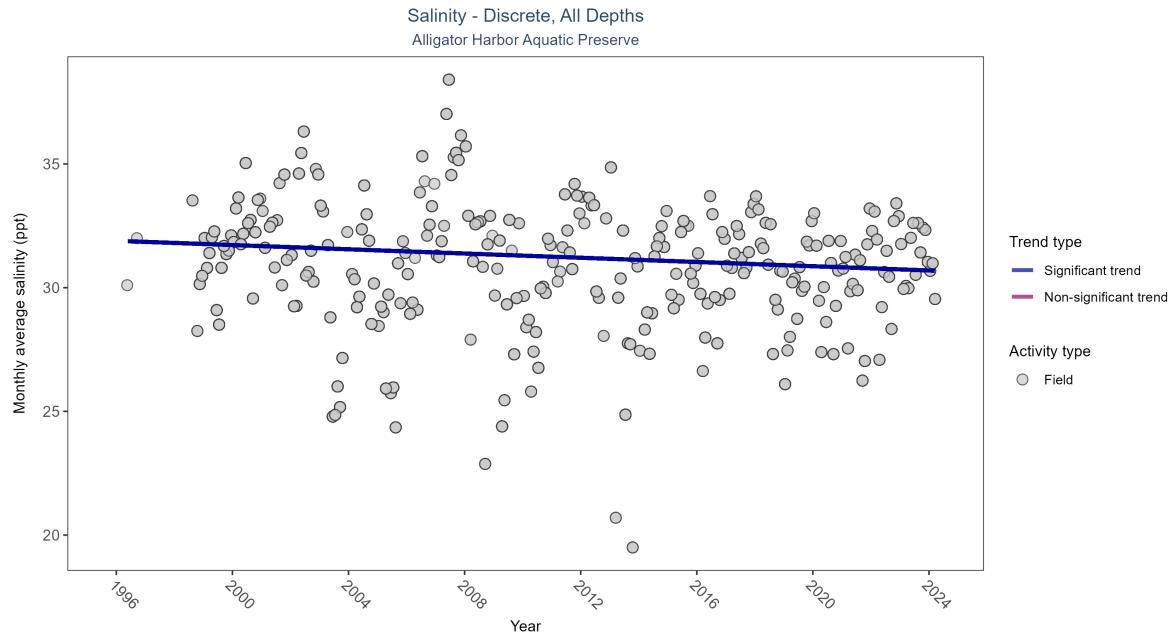
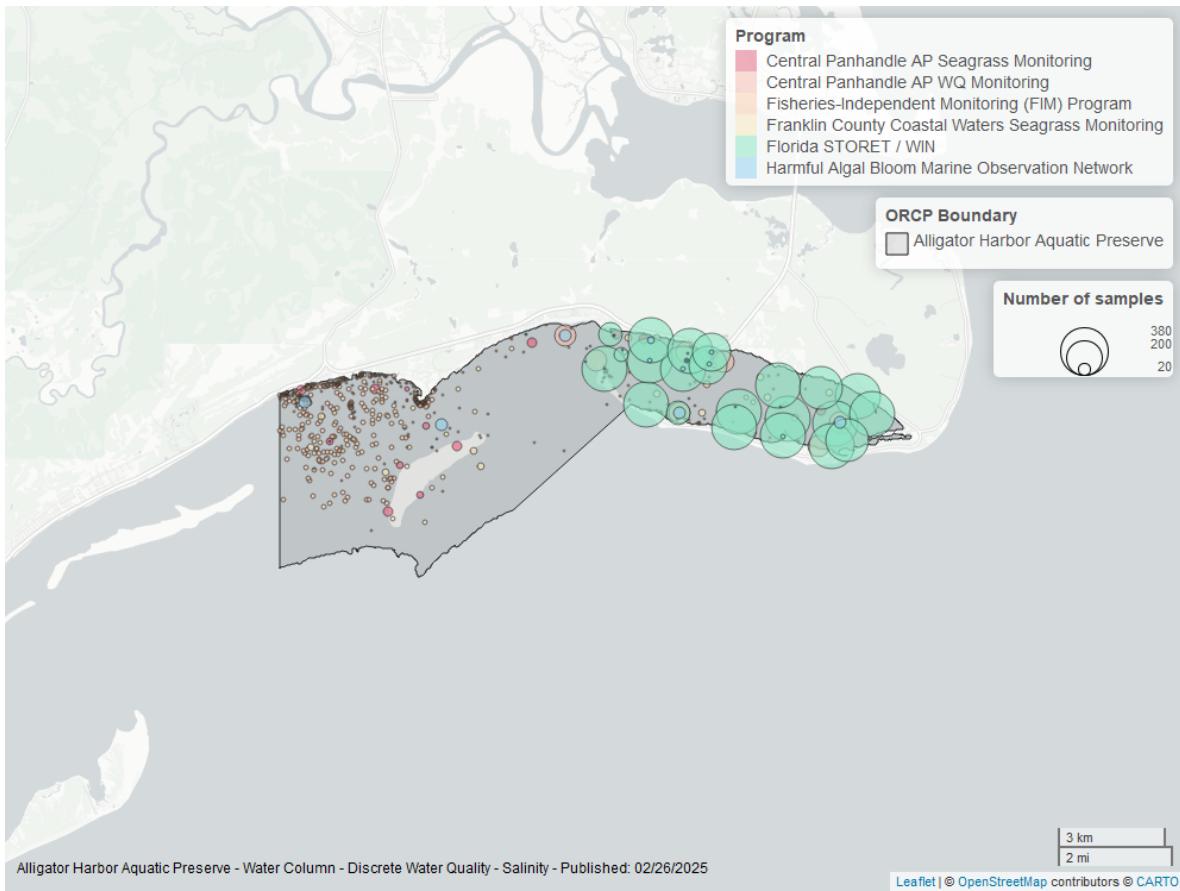


Table 7: Seasonal Kendall-Tau Results for - Salinity

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	9377	28	1996 - 2024	31.2	-0.10569	31.89388	-0.04281	0.01097092641331480142308230085745890391990542412



Salinity - Continuous

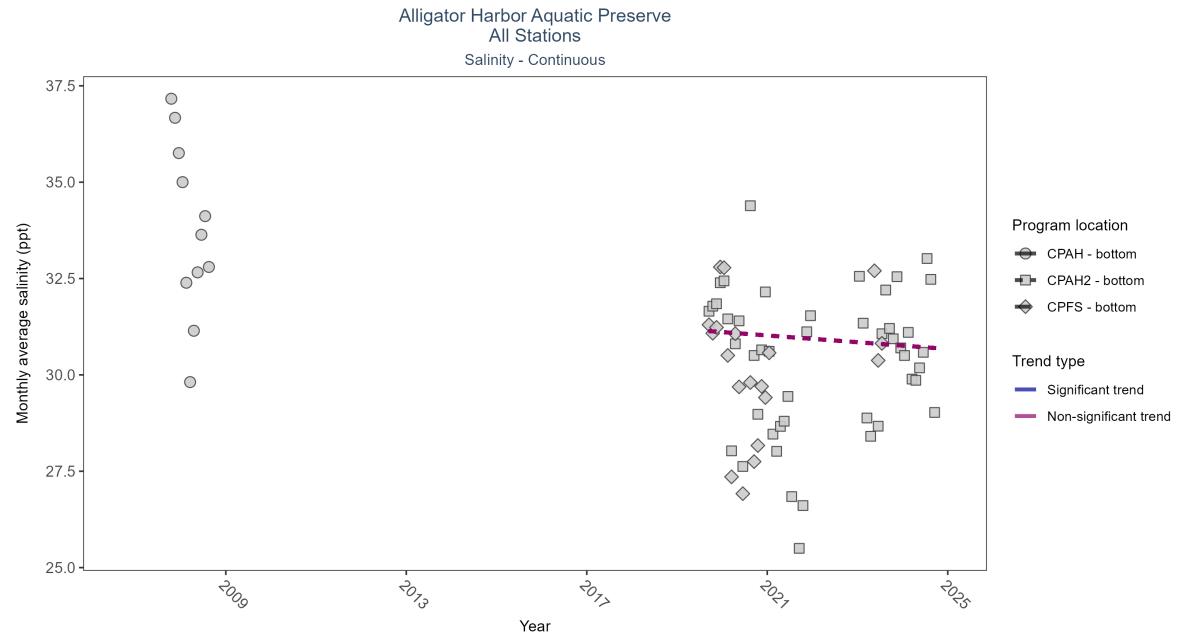
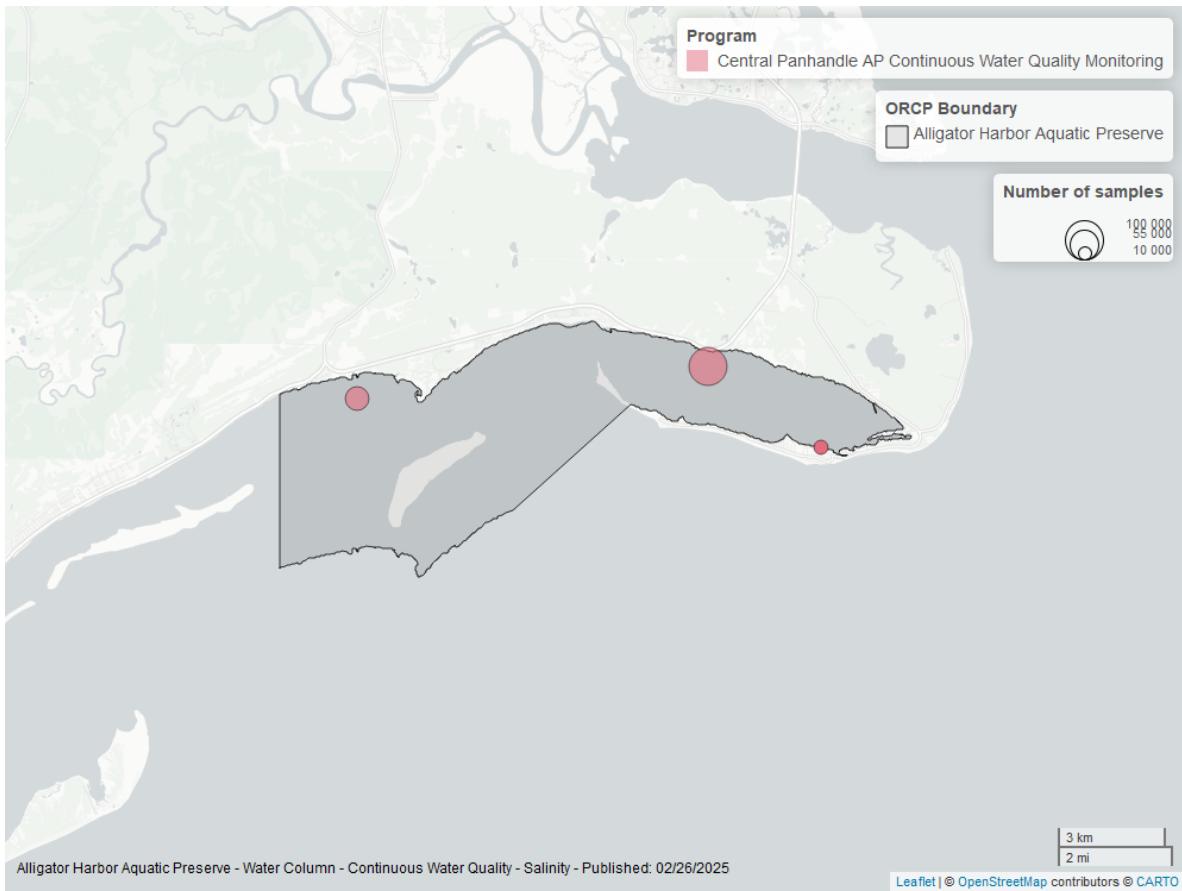


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
CPFS	Insufficient data to calculate trend	38401	4	2019 - 2023	30.7	-	-	-	NA
CPAH2	No significant trend	102479	5	2019 - 2024	30.7	-0.08	31.2	-0.09	0.54238677752407734
CPAH	Insufficient data to calculate trend	13034	2	2007 - 2008	34.0	-	-	-	NA



Water Temperature - Discrete

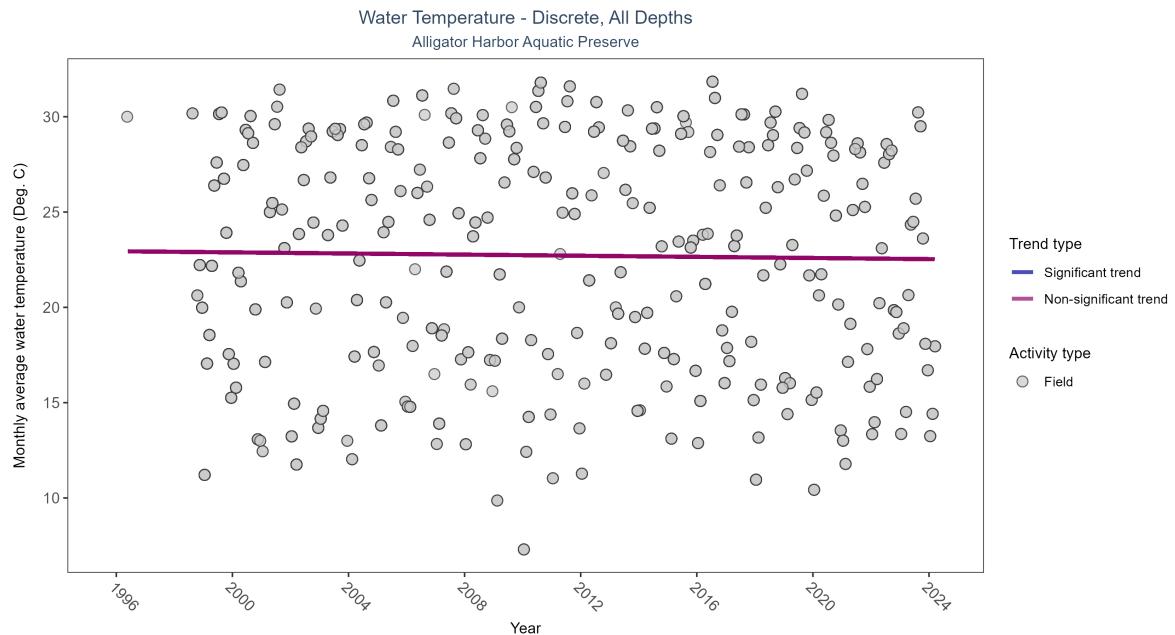
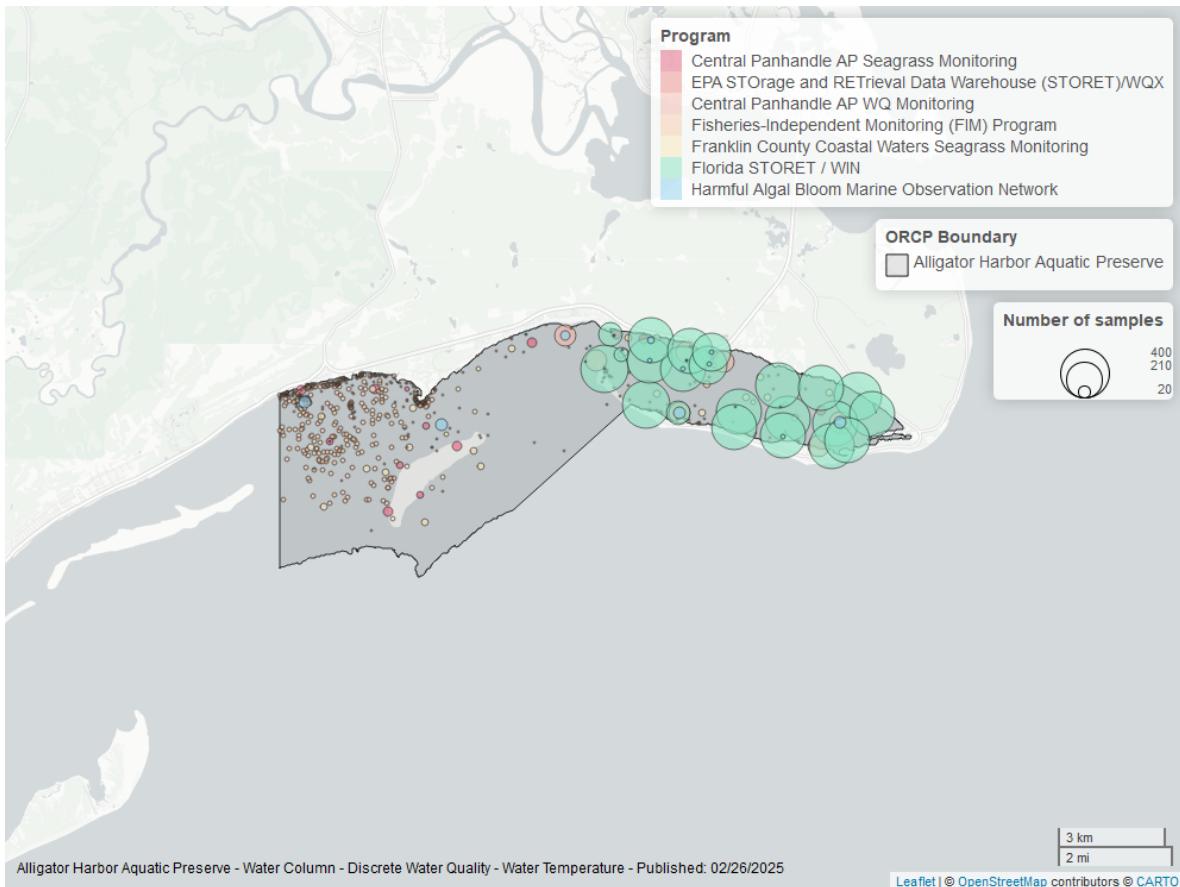


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	No significant trend	9633	28	1996 - 2024	25.8	-0.04668	22.94377	-0.01477	0.232135208556790318



Water Temperature - Continuous

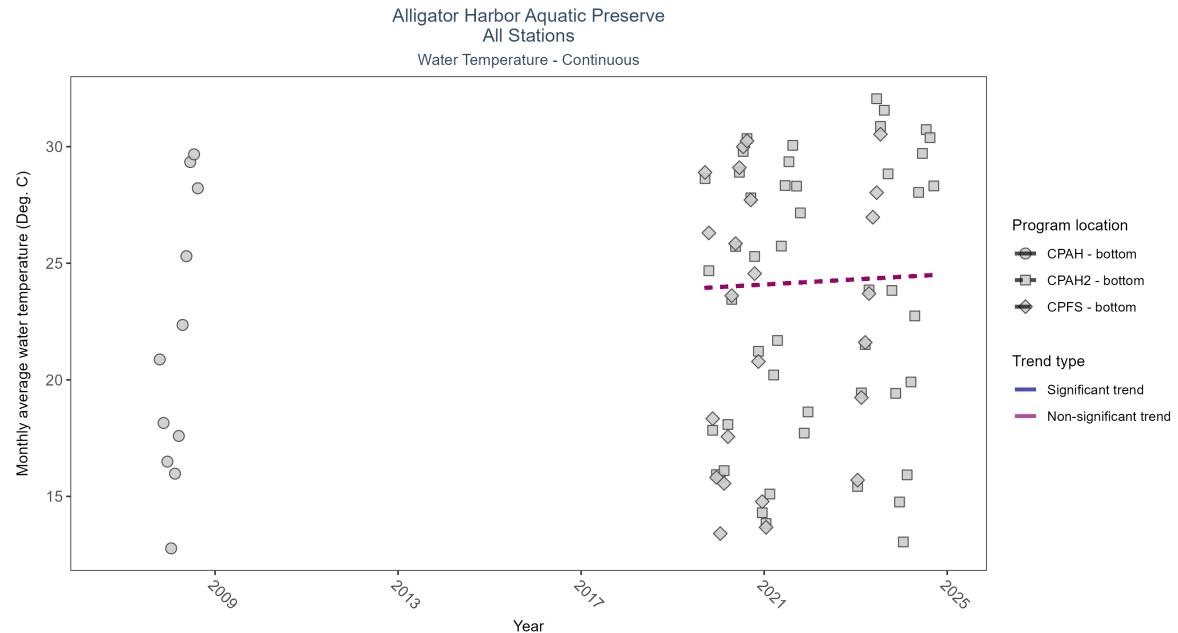
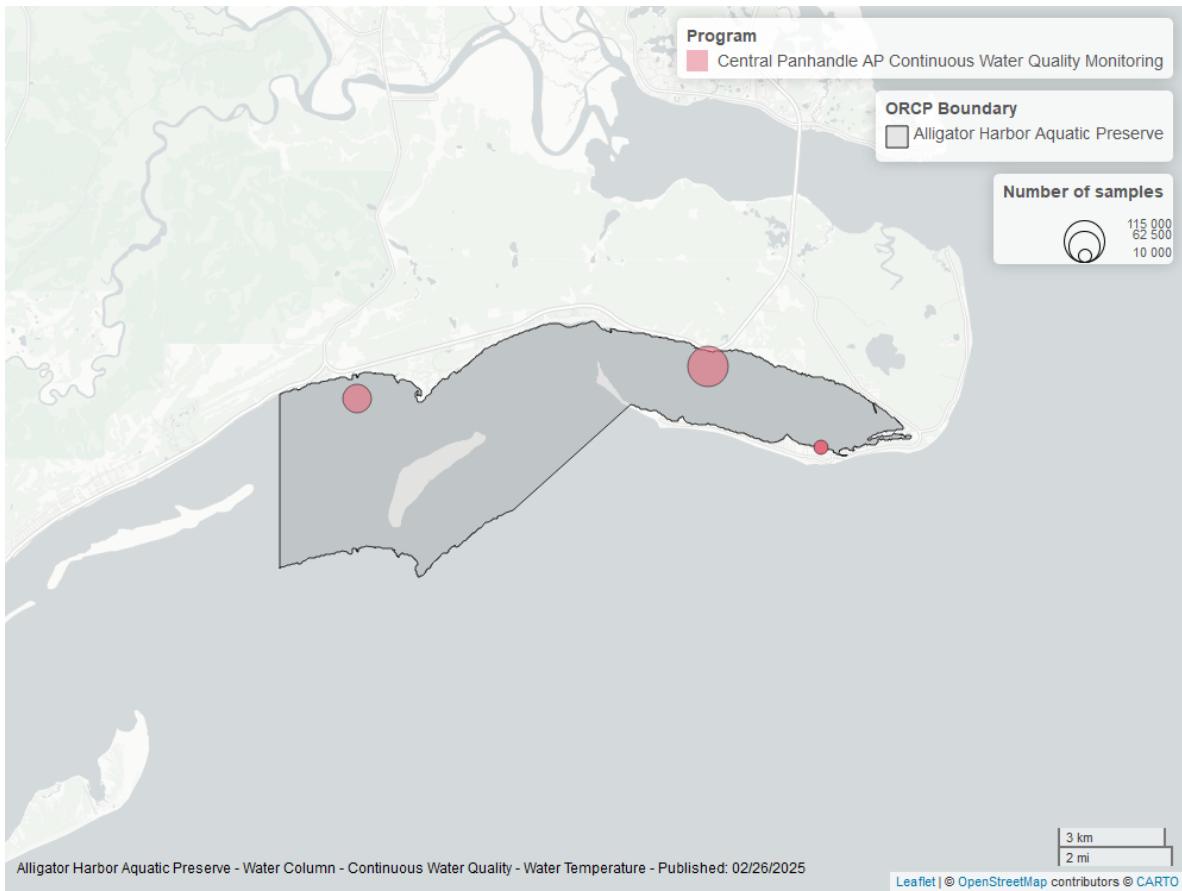


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
CPFS	Insufficient data to calculate trend	53708	4	2019 - 2023	24.2	-	-	-	NA
CPAH2	No significant trend	118901	5	2019 - 2024	23.5	0.14	23.87	0.11	0.4392920848474956008189451495127287
CPAH	Insufficient data to calculate trend	13034	2	2007 - 2008	20.9	-	-	-	NA



pH - Discrete

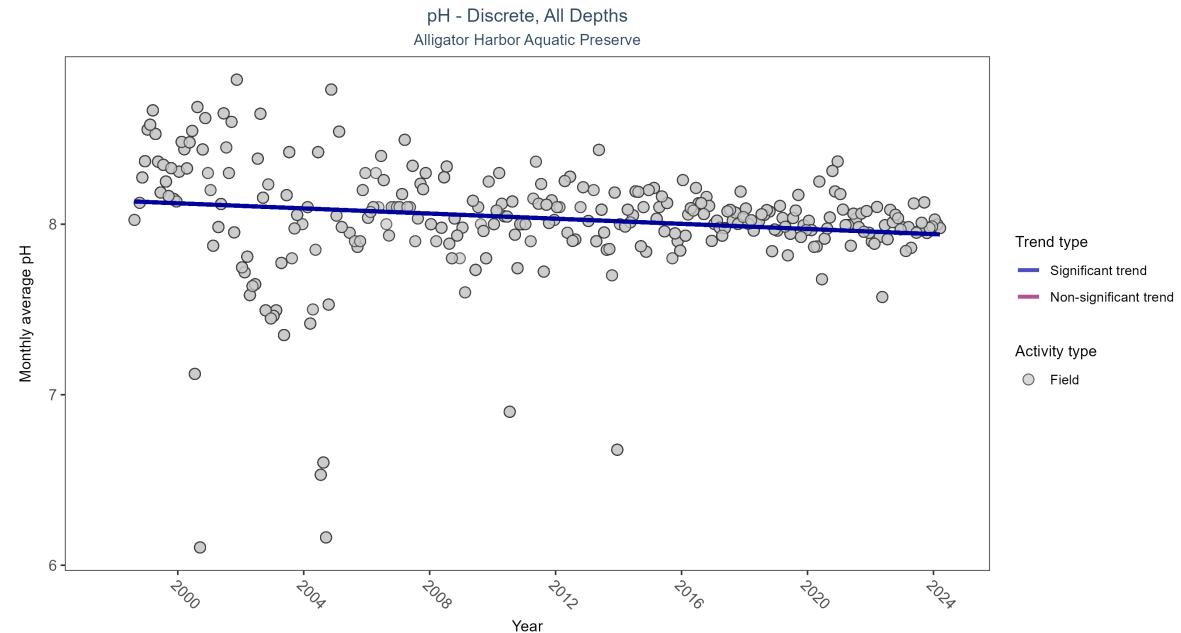
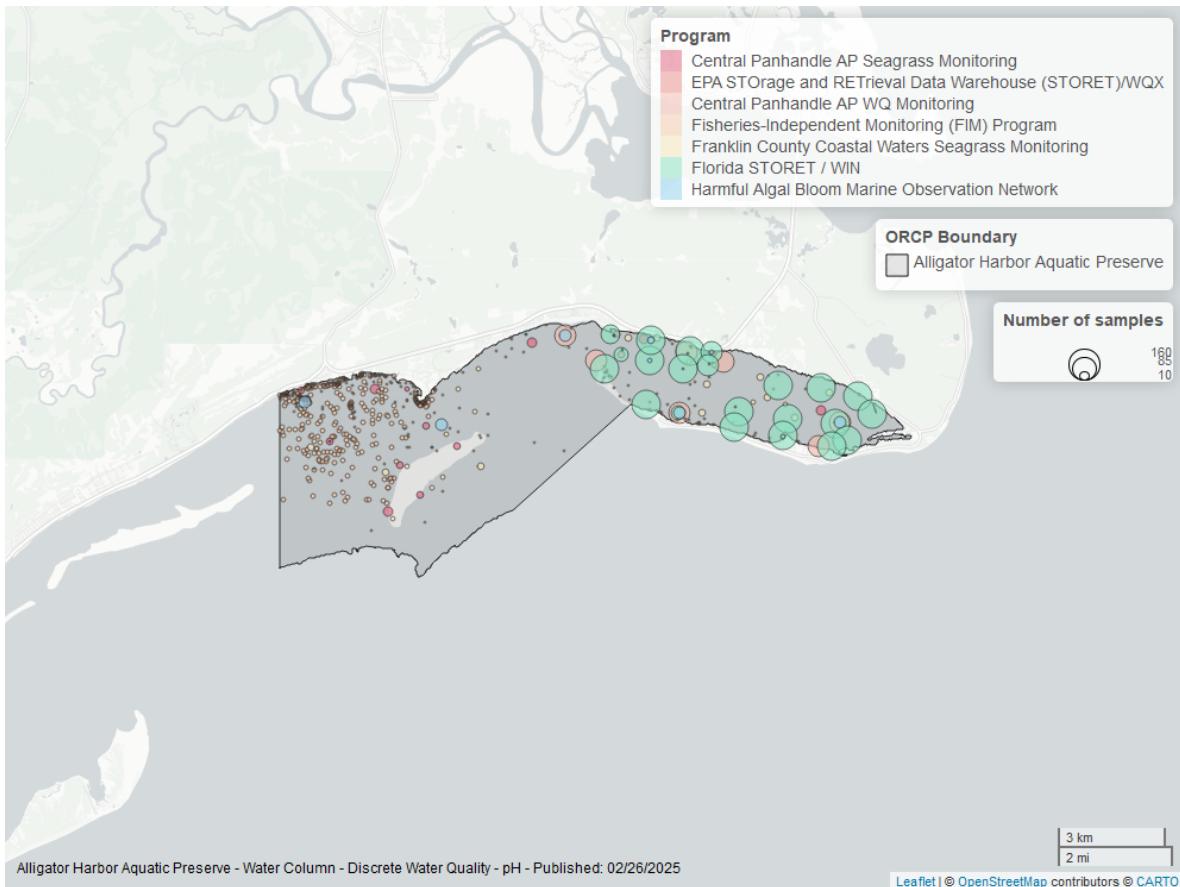


Table 11: Seasonal Kendall-Tau Results for - pH

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly decreasing trend	5266	27	1998 - 2024	8.1	-0.18549	8.13778	-0.00754	0.00001367568136924184130976712980842791012



pH - Continuous

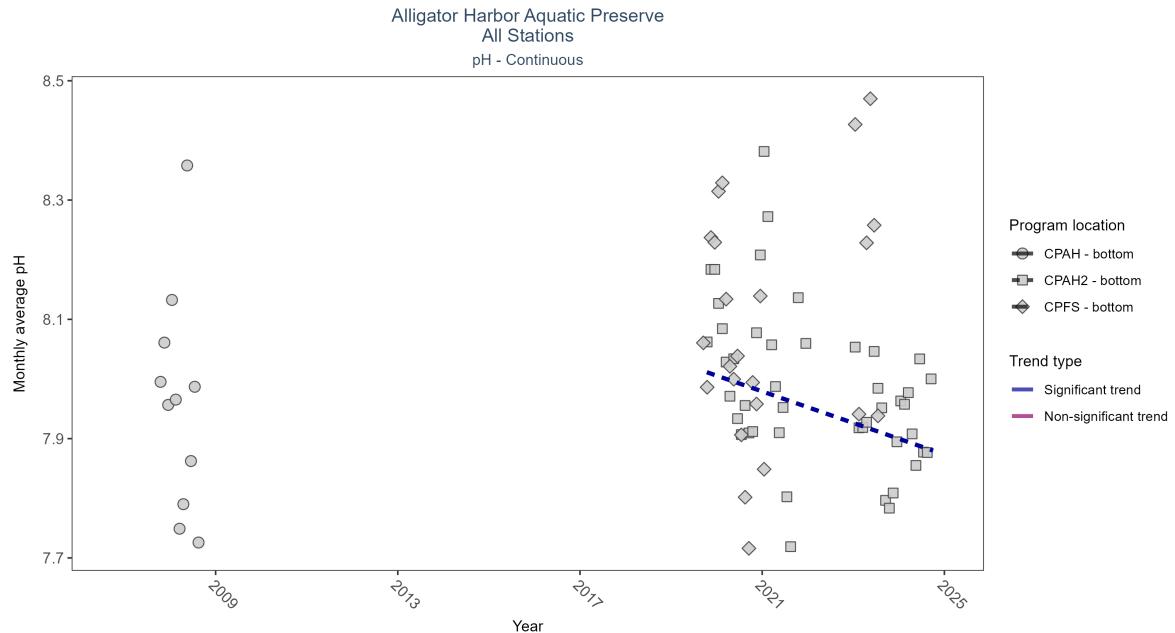
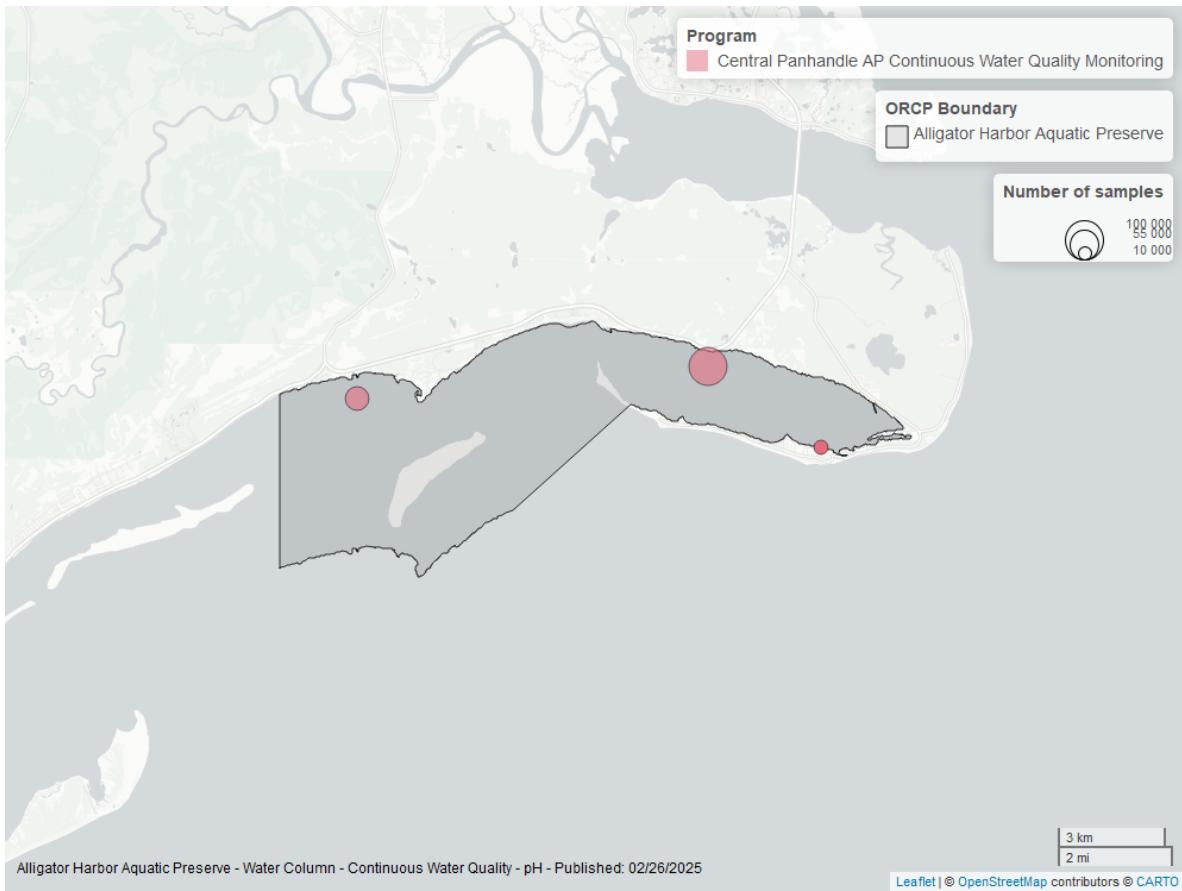


Table 12: Seasonal Kendall-Tau Results for All Stations - pH

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
CPFS	Insufficient data to calculate trend	43191	4	2019 - 2023	8.1	-	-	-	NA
CPAH2	Significantly decreasing trend	105891	5	2019 - 2024	8.0	-0.35	8.03	-0.03	0.03400640286
CPAH	Insufficient data to calculate trend	13034	2	2007 - 2008	7.9	-	-	-	NA



Water Clarity

Turbidity - Discrete

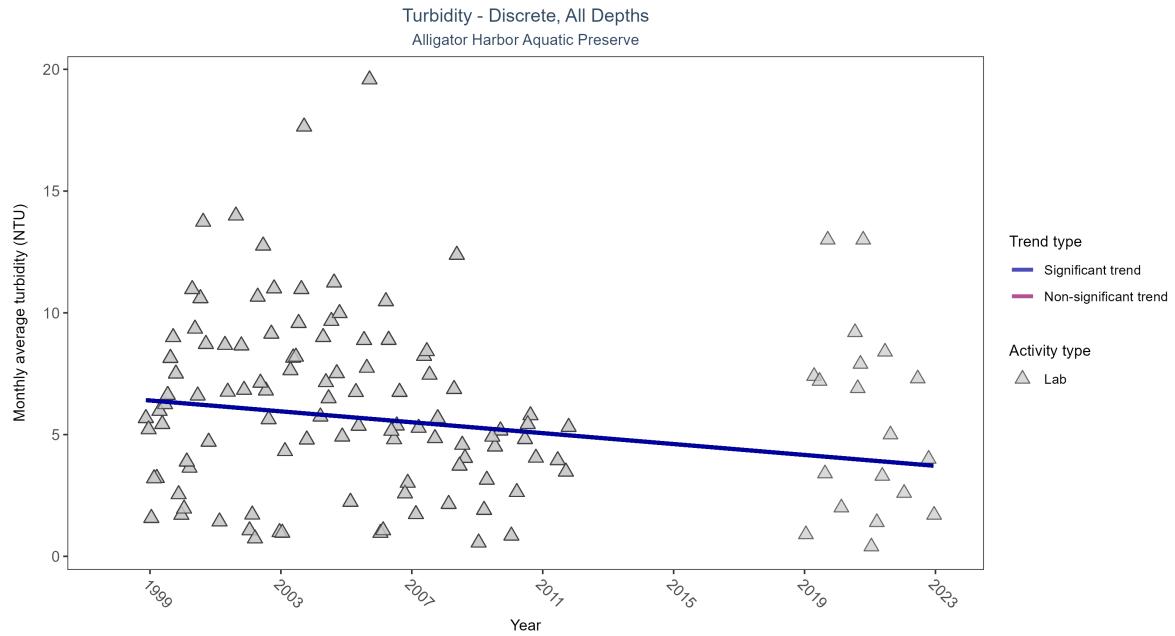
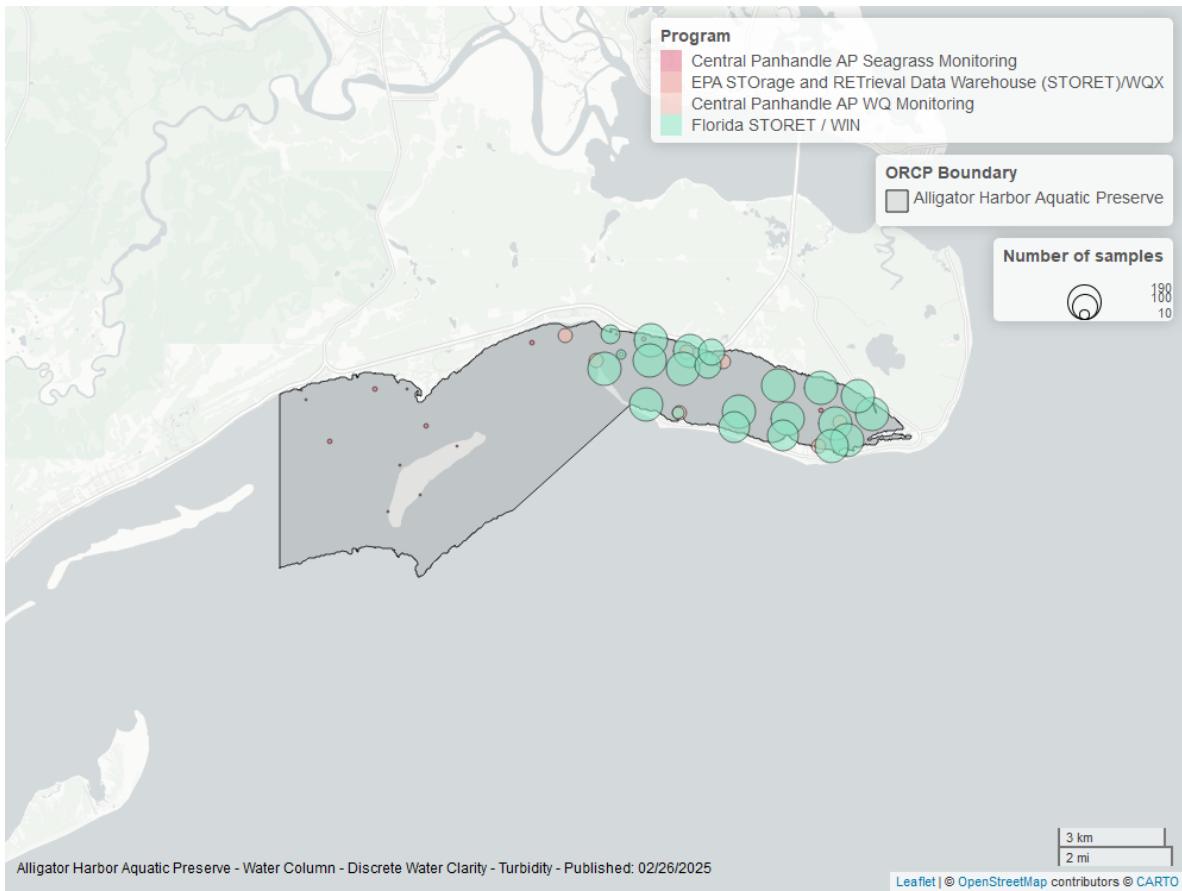


Table 13: Seasonal Kendall-Tau Results for - Turbidity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly decreasing trend	3543	18	1998 - 2022	5.3	-0.24321	6.51312	-0.11185	0.00118150359237067398



Turbidity - Continuous

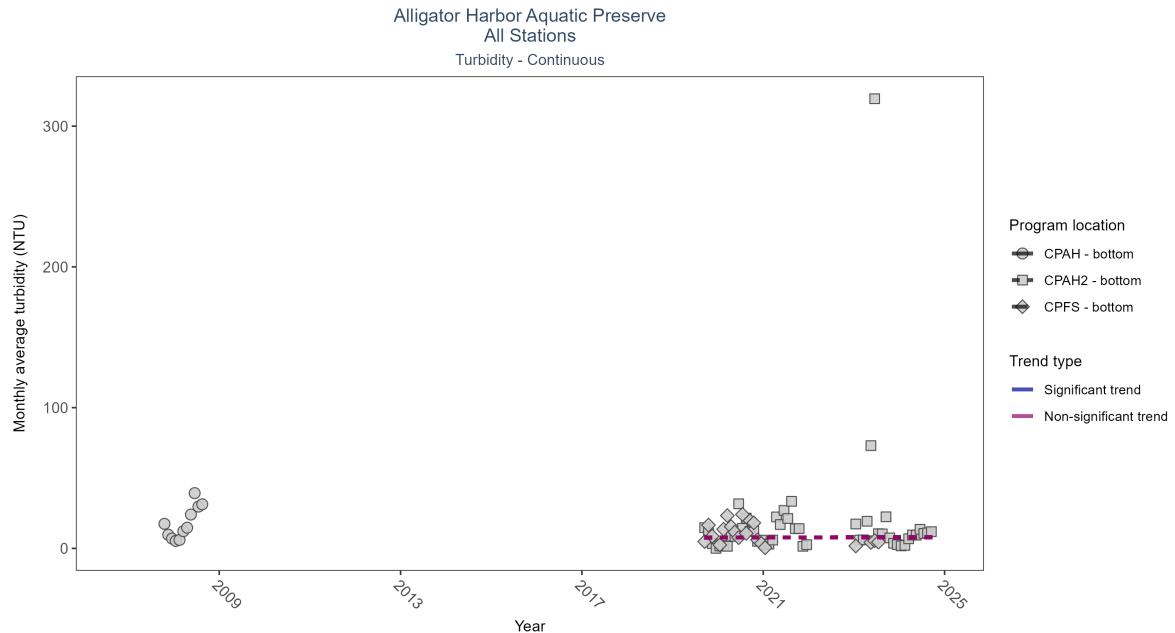
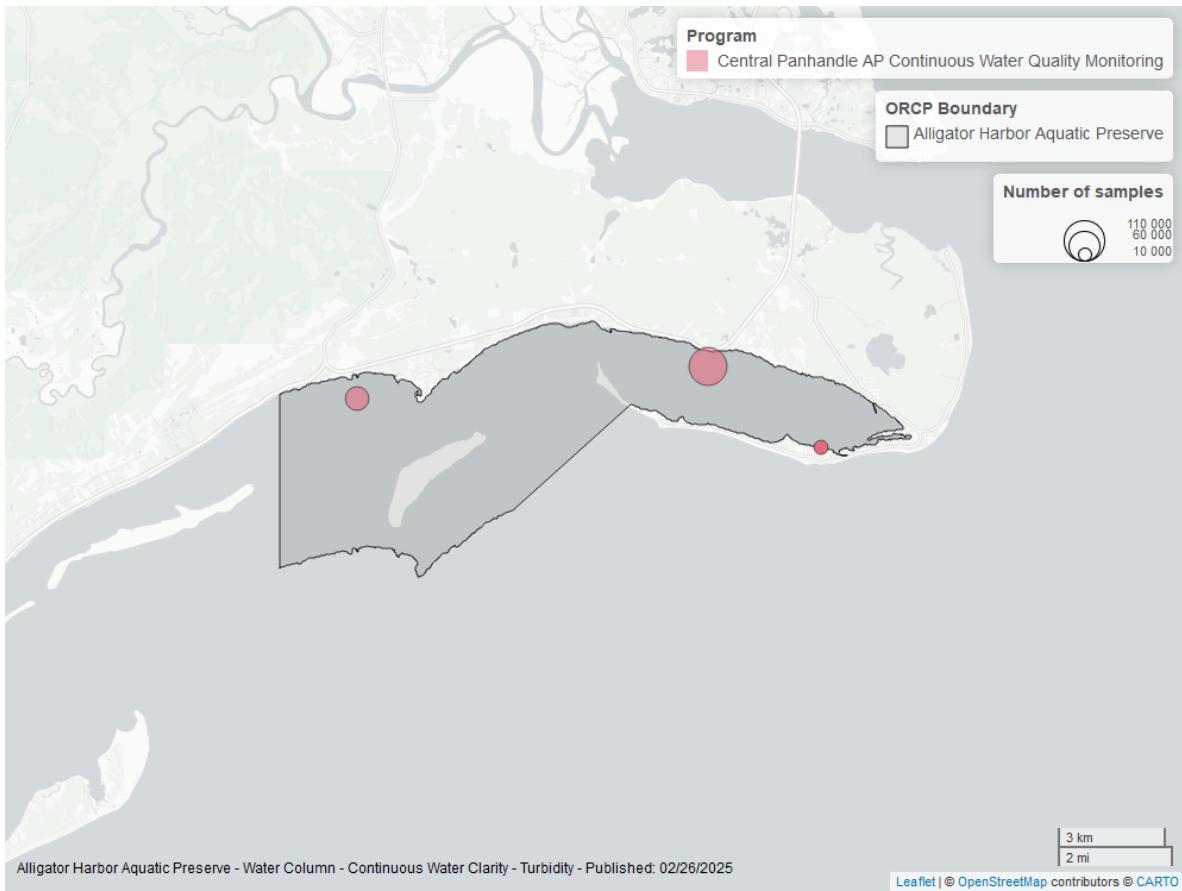


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
CPFS	Insufficient data to calculate trend	37491	4	2019 - 2023	4	-	-	-	NA
CPAH2	No significant trend	114055	5	2019 - 2024	6	0.09	7.7	0.04	0.6366016325636009
CPAH	Insufficient data to calculate trend	12558	2	2007 - 2008	10	-	-	-	NA



Total Suspended Solids - Discrete

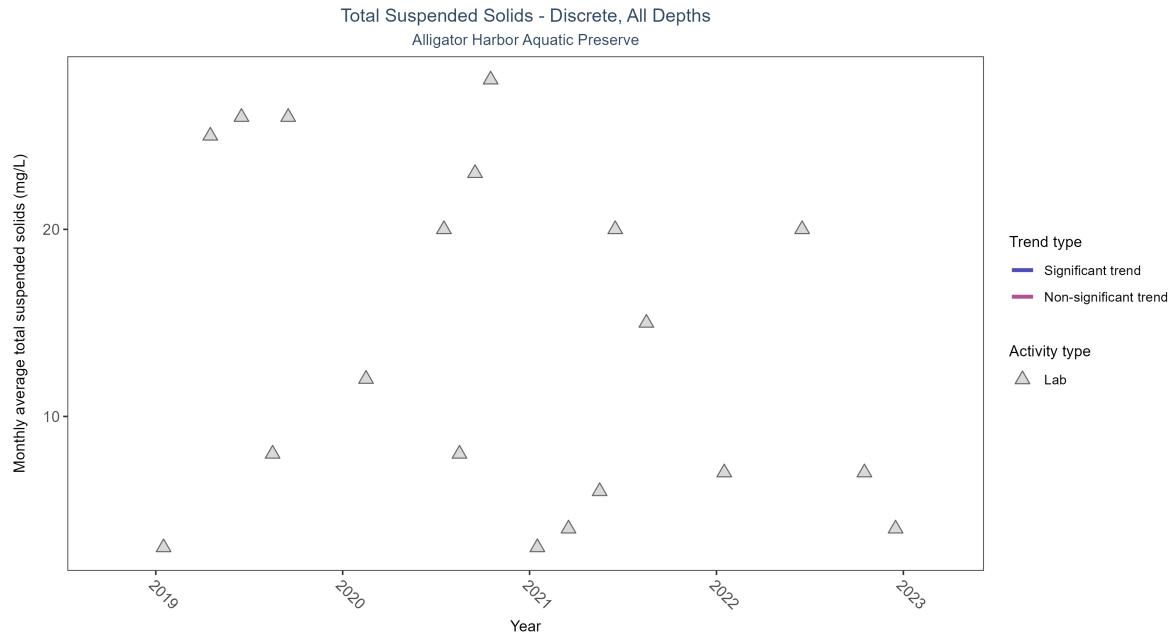
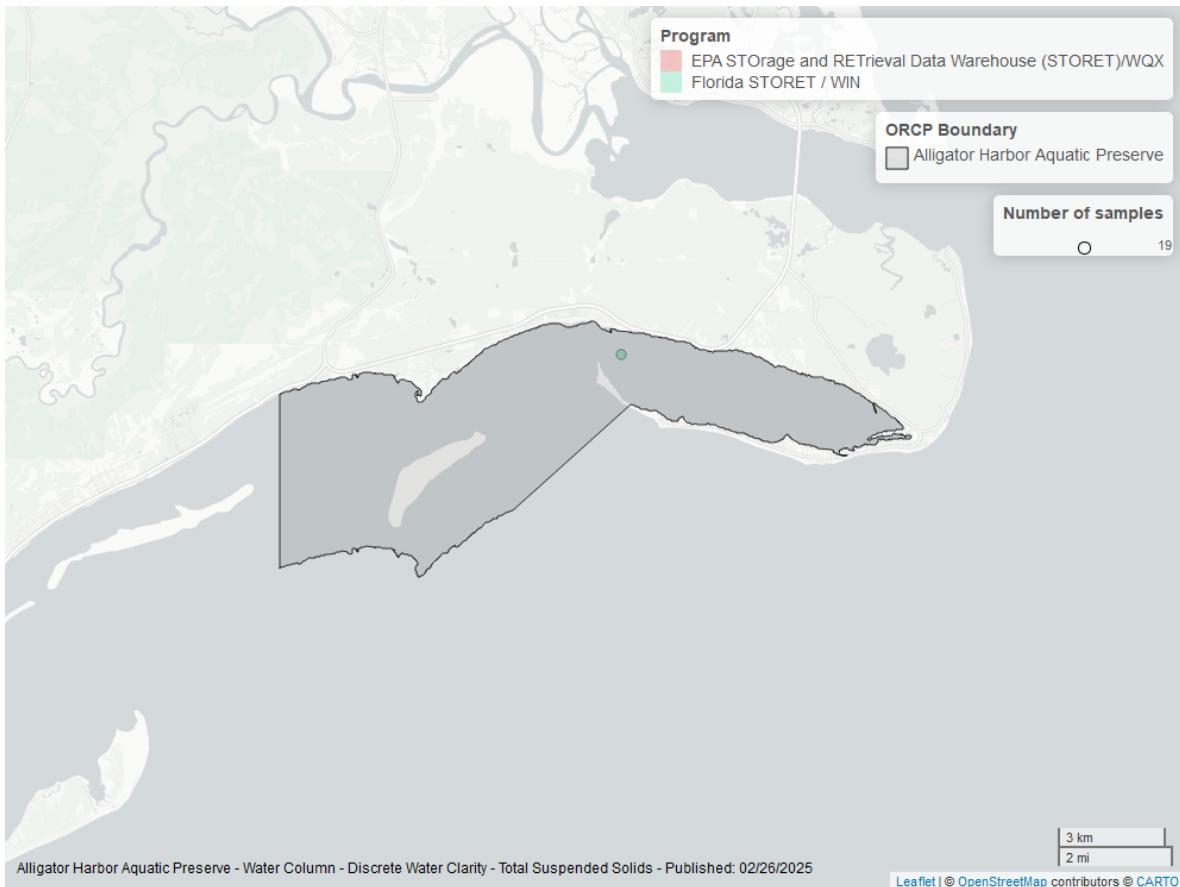


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Insufficient data to calculate trend	19	4	2019 - 2022	12	-	-	-	NA



Chlorophyll a, Uncorrected for Pheophytin - Discrete

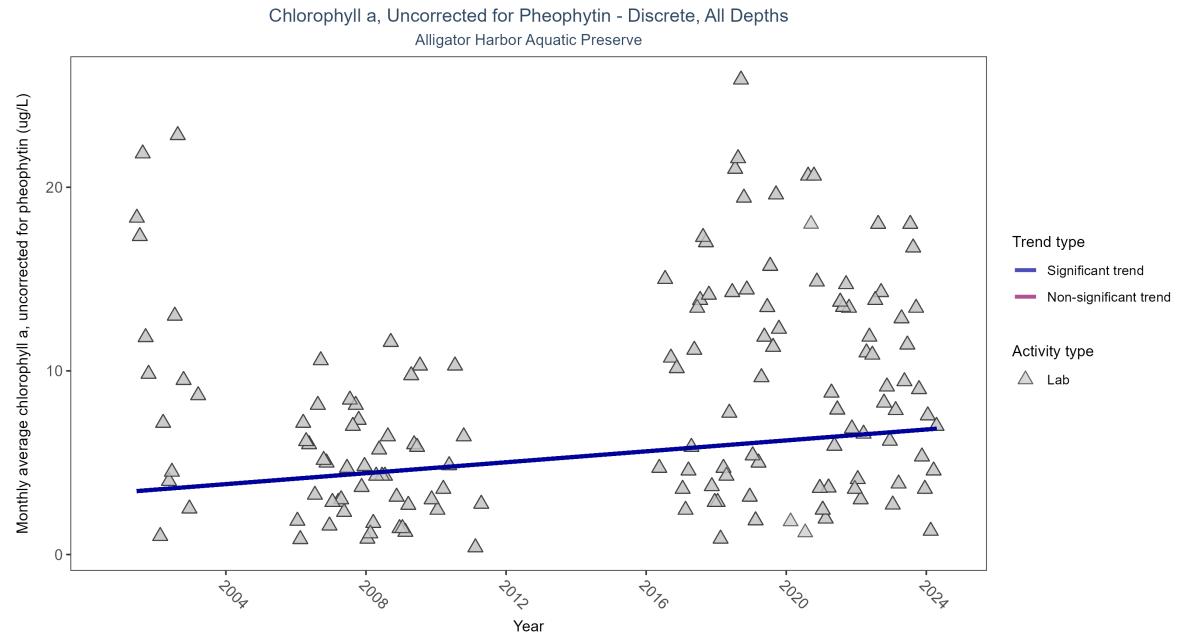
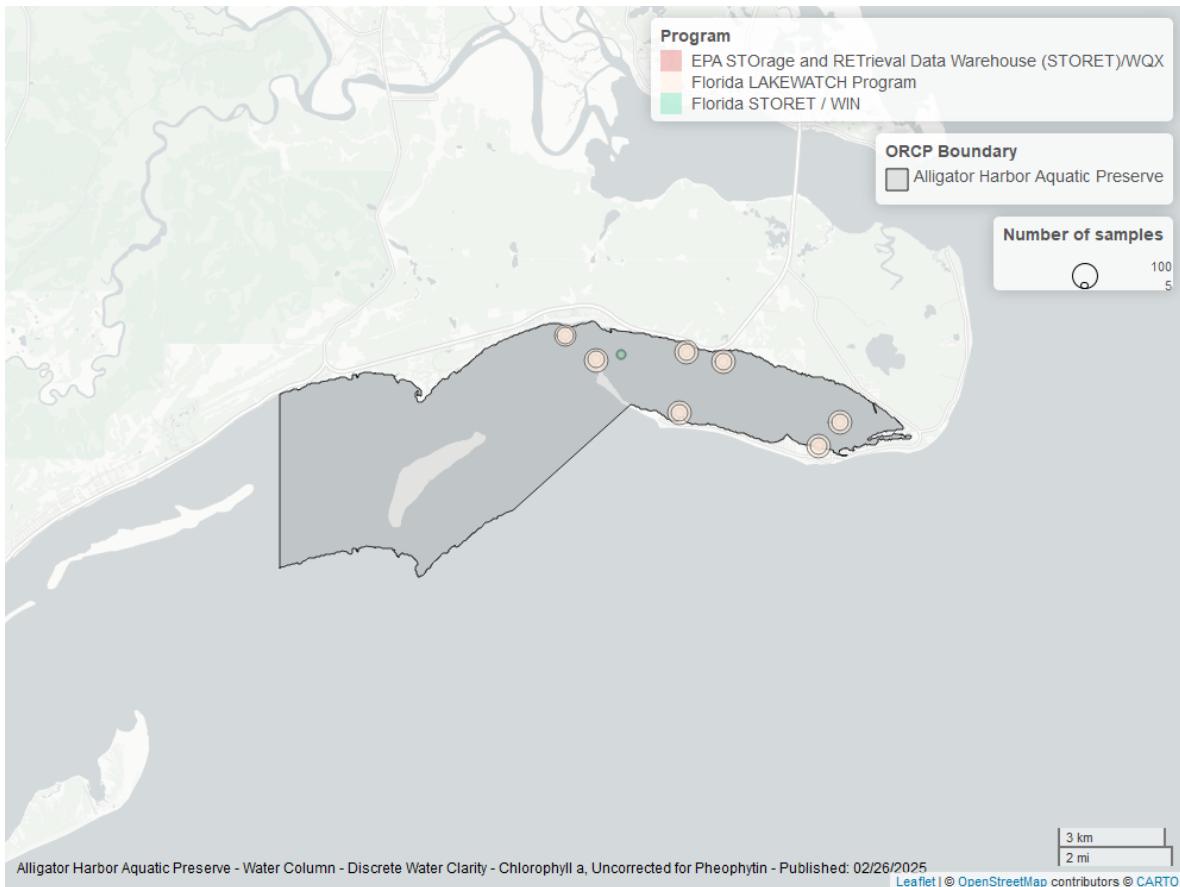


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly increasing trend	1213	18	2001 - 2024	6	0.28623	3.3869	0.14881	0.00000858311779242470506215



Chlorophyll a, Corrected for Pheophytin - Discrete

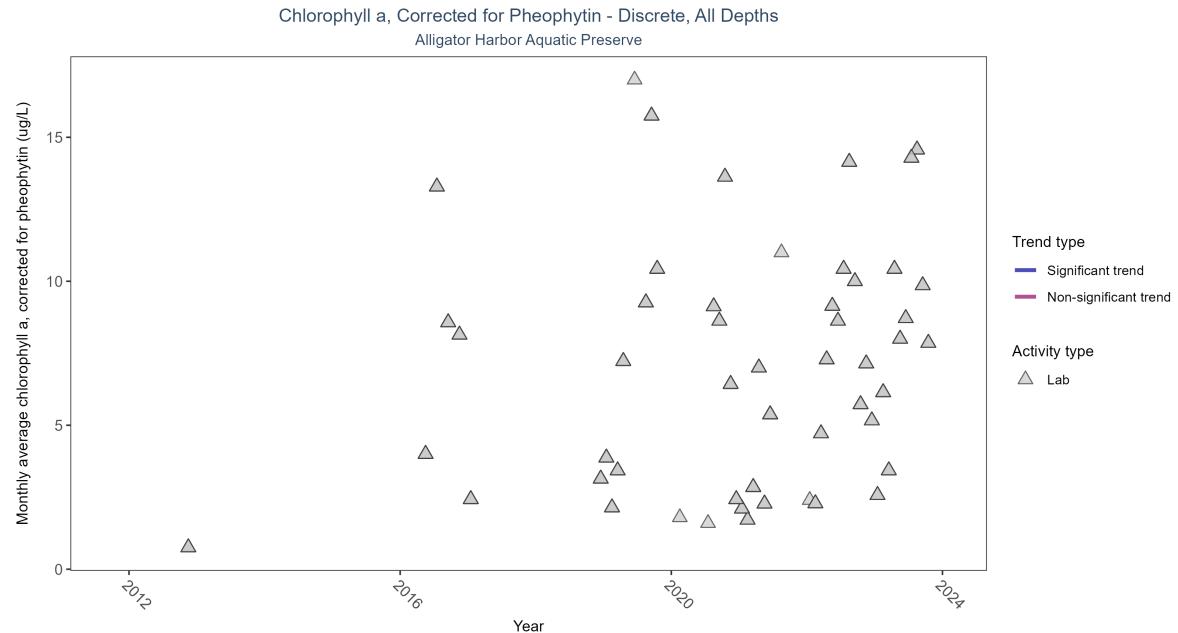
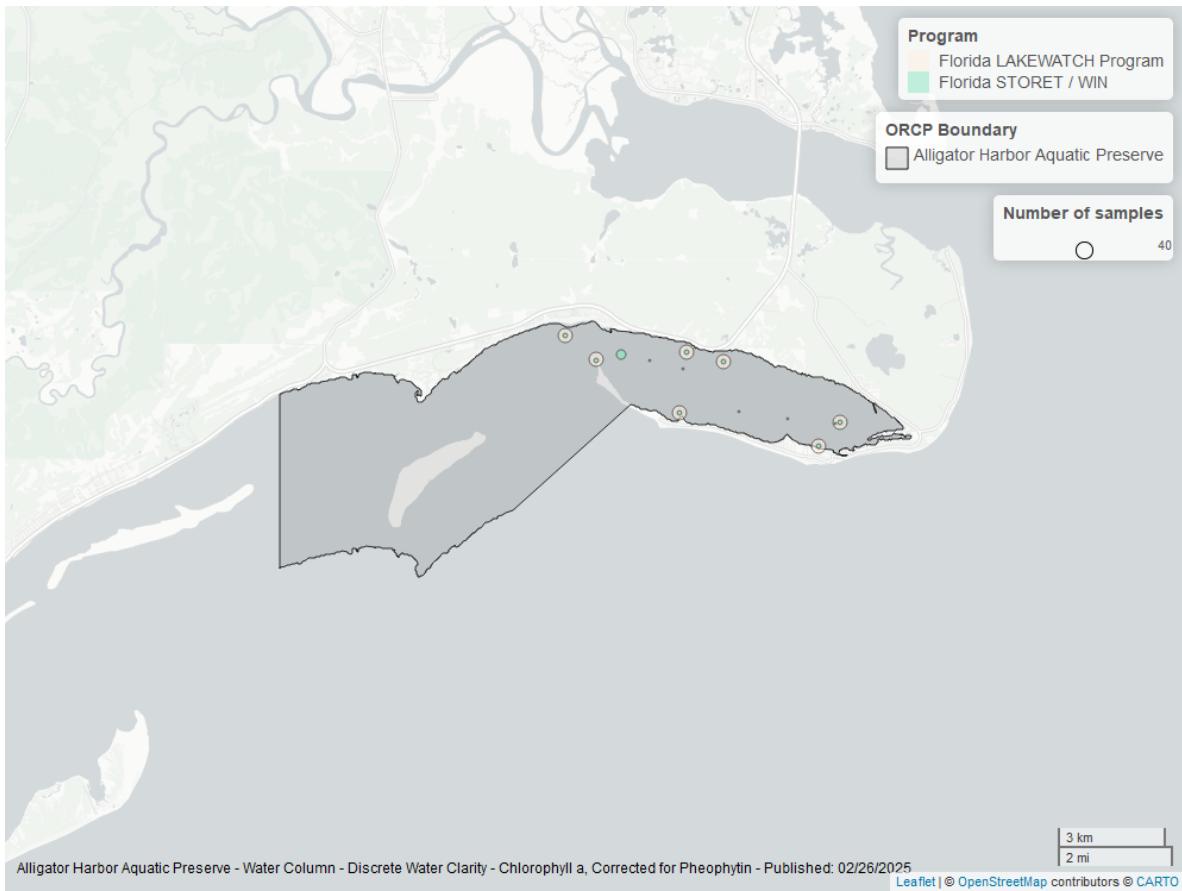


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Insufficient data to calculate trend	339	9	2012 - 2023	6	-	-	-	NA



Secchi Depth - Discrete

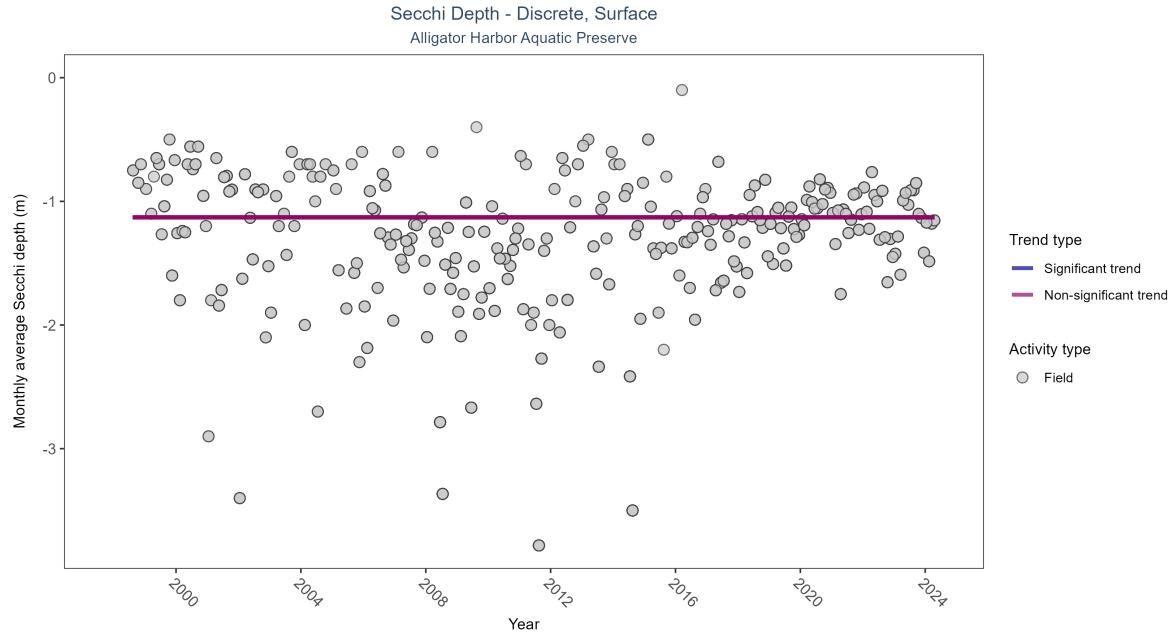
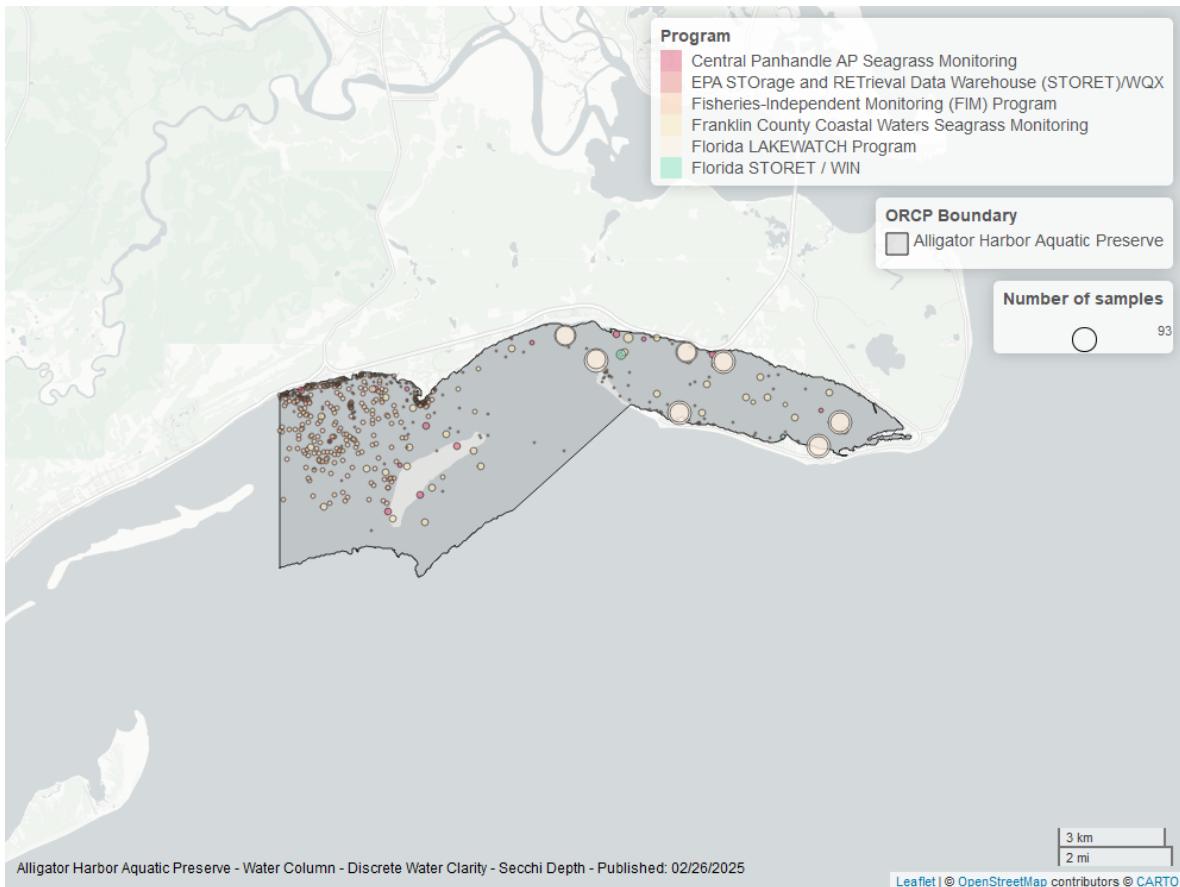


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth



Colored Dissolved Organic Matter - Discrete

Colored Dissolved Organic Matter - Discrete, All Depths
Alligator Harbor Aquatic Preserve

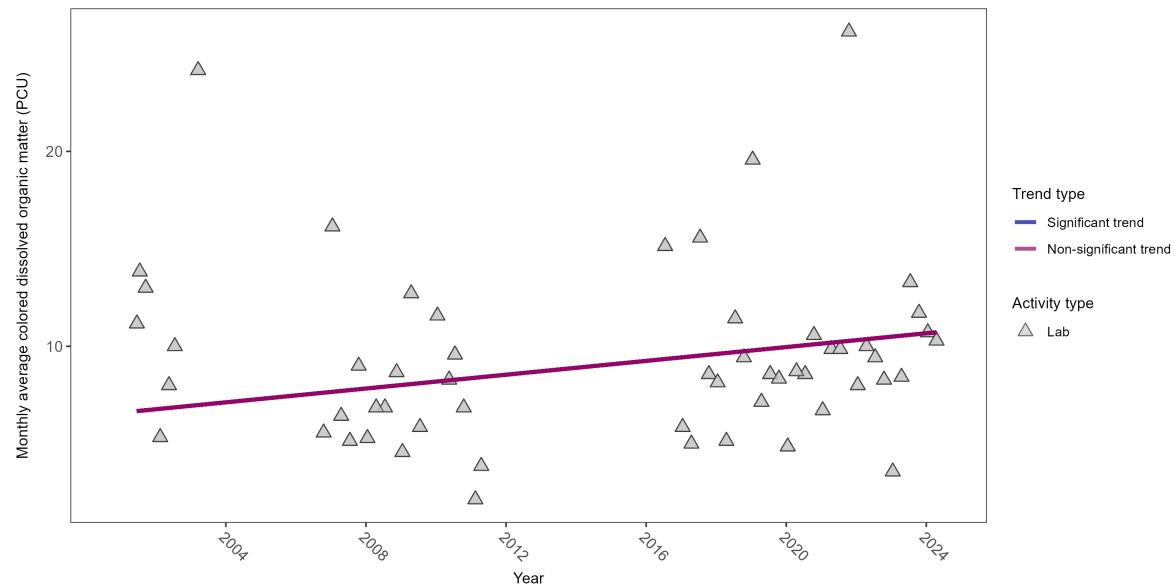


Table 19: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	409	18	2001 - 2024		8	0.21024	6.59392	0.1772 0.059779092924513020645971

