

Loxahatchee River-Lake Worth Creek 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 Saturation - Discrete	8
Salinity - Discrete	10
Salinity - Continuous	12
Water Temperature - Discrete	14
Water Temperature - Continuous	16
pH - Discrete	18
Water Clarity	20
Turbidity - Discrete	20
Total Suspended Solids - Discrete	22
Chlorophyll a, Uncorrected for Pheophytin - Discrete	24
Chlorophyll a, Corrected for Pheophytin - Discrete	26
Secchi Depth - Discrete	28
Colored Dissolved Organic Matter - Discrete	30

Indicators

Nutrients

Total Nitrogen - Discrete

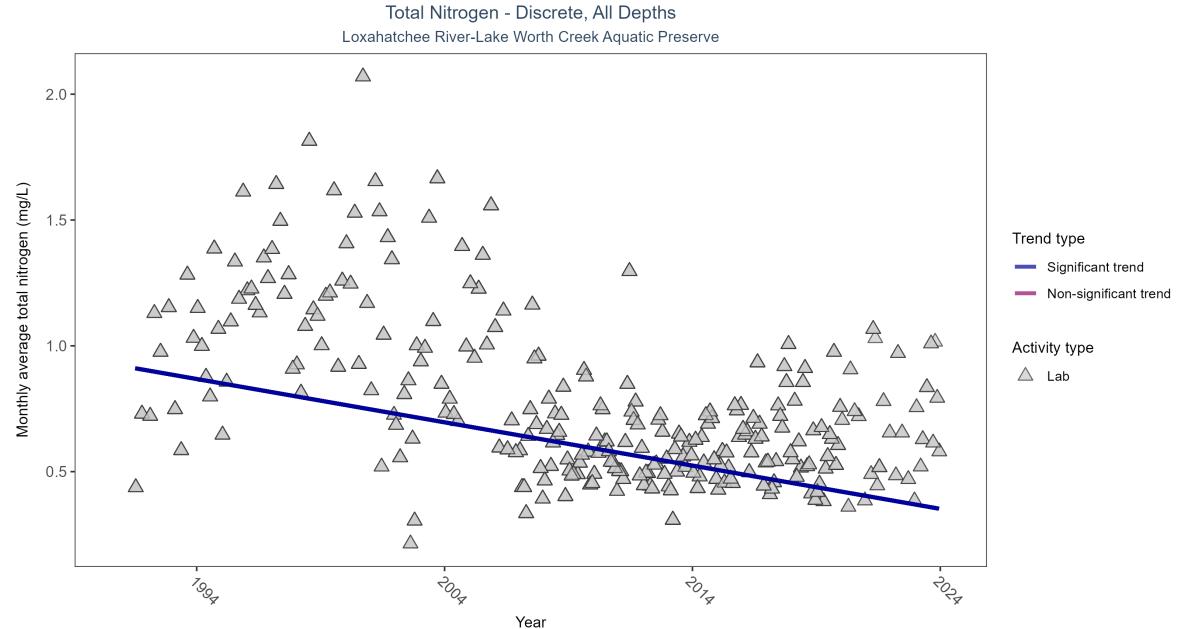
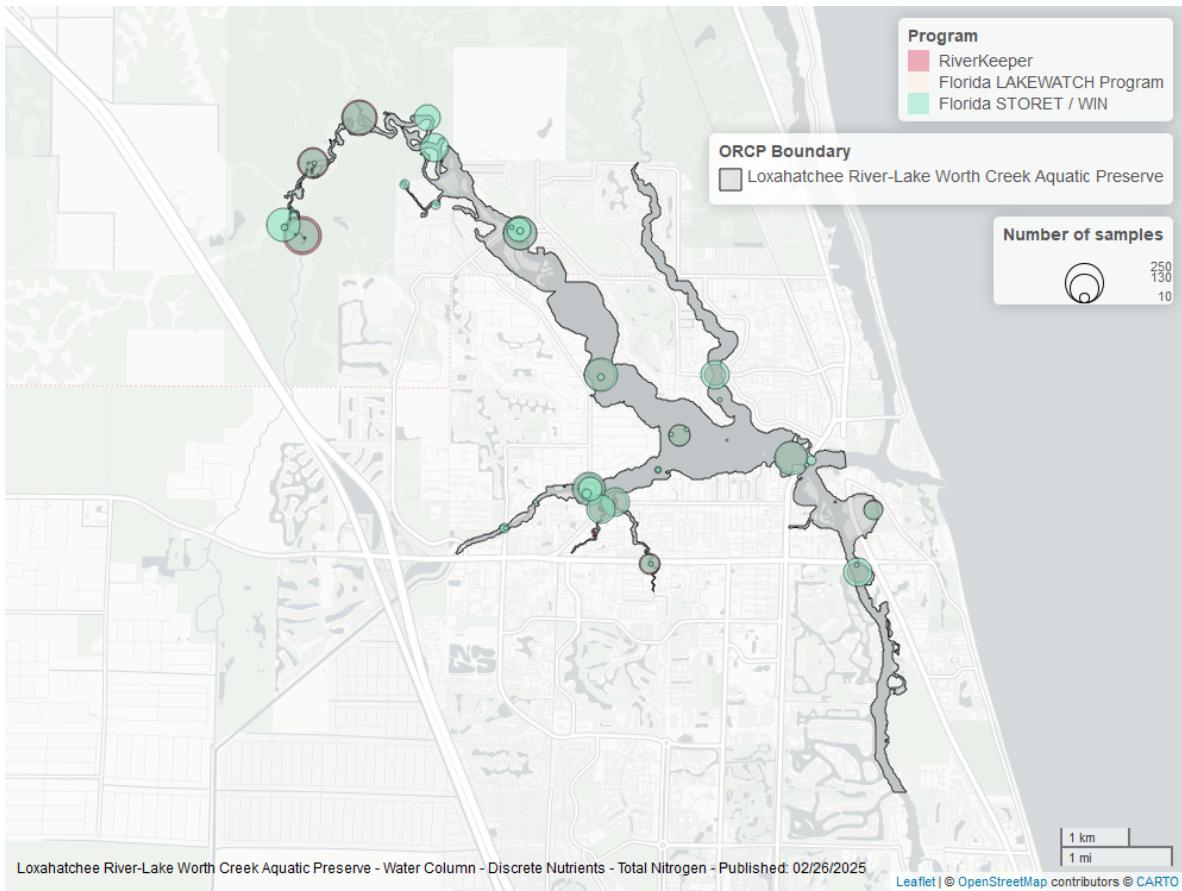


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly decreasing trend	4763	33	1991 - 2023	0.706	-0.27286	0.91973	-0.0172	0.000000000000000571122339813834



Total Phosphorus - Discrete

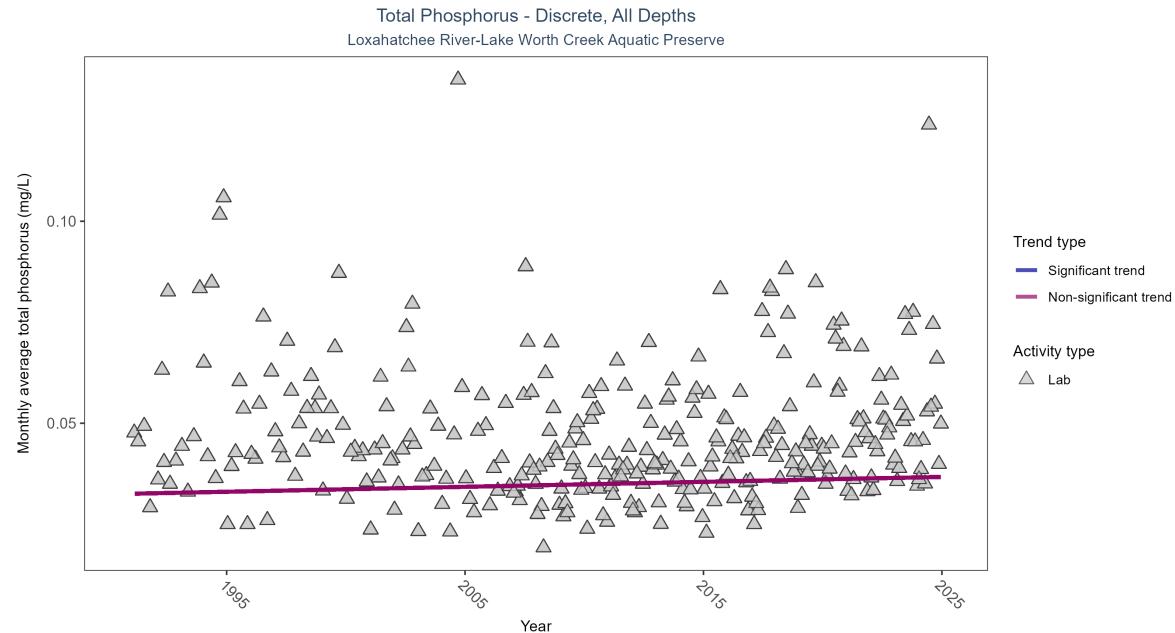
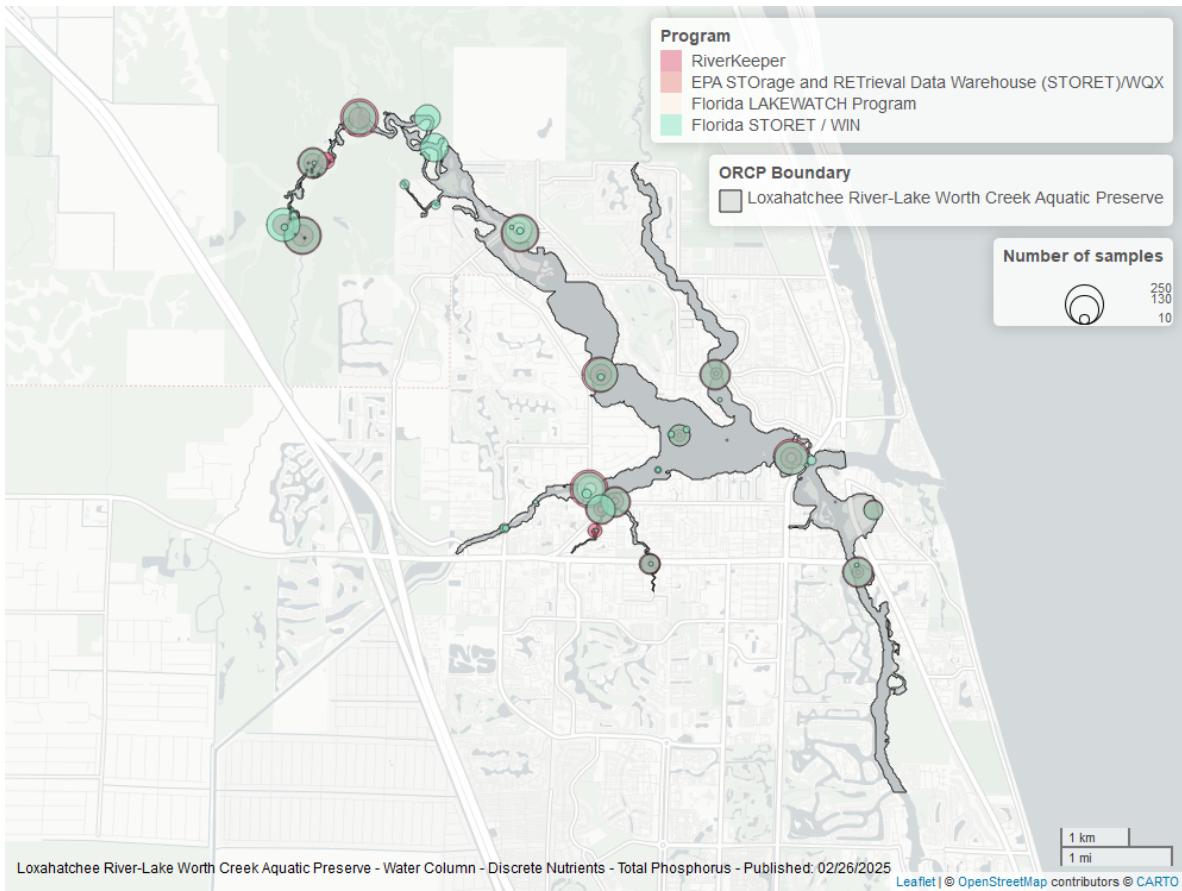


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

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	6704	34	1991 - 2024	0.042	0.07821	0.03255	0.00012	0.1535470250356452959206166042349650524556636810302734375000000000



Water Quality

Dissolved Oxygen - Discrete

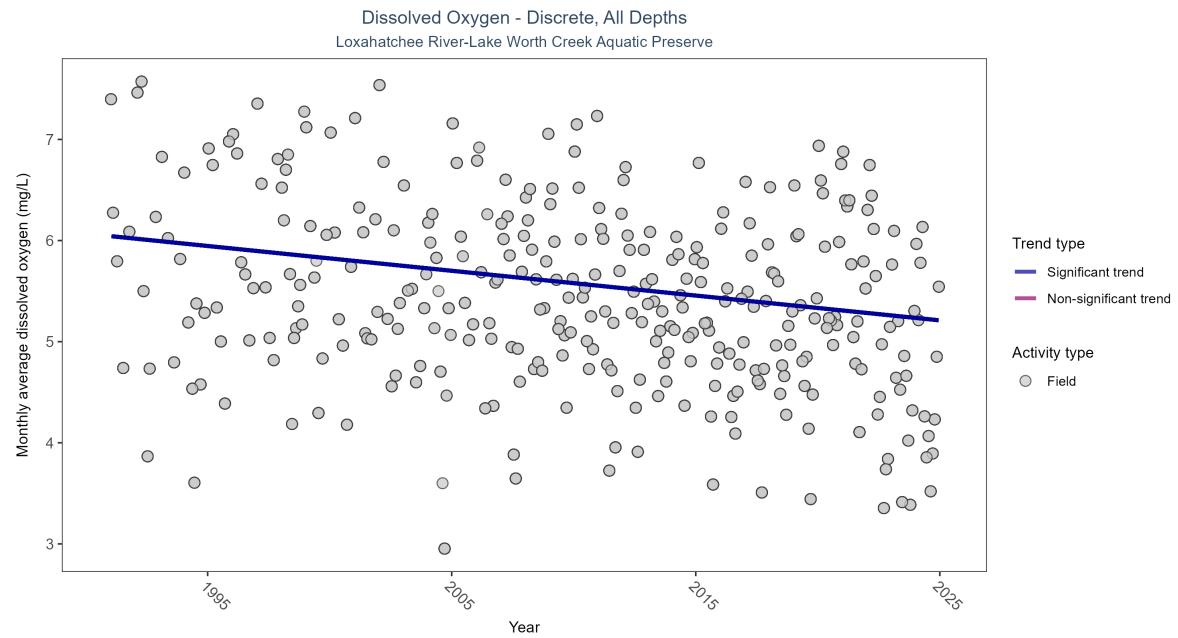
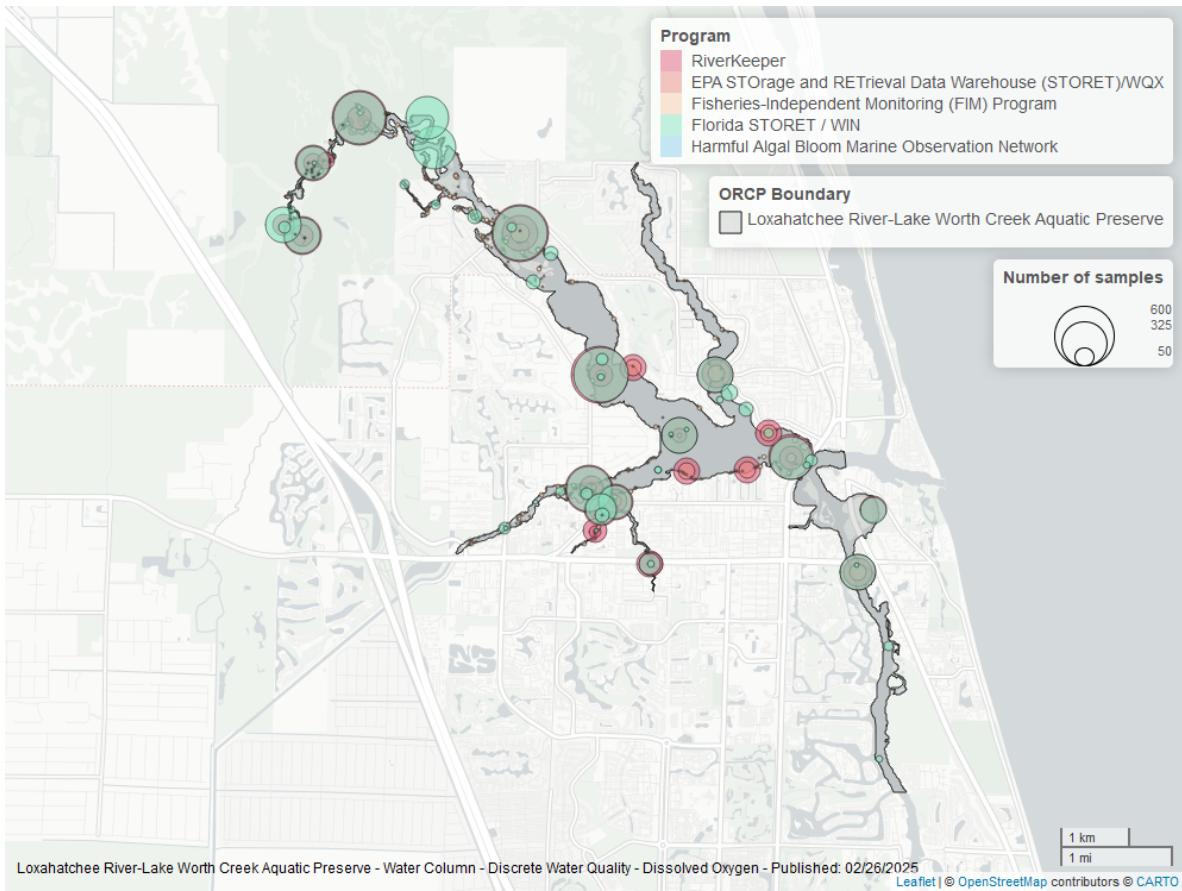


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

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	13292	34	1991 - 2024	5.6	-0.2629	6.04428	-0.02452	0.0000000001055904



Dissolved Oxygen Saturation - Discrete

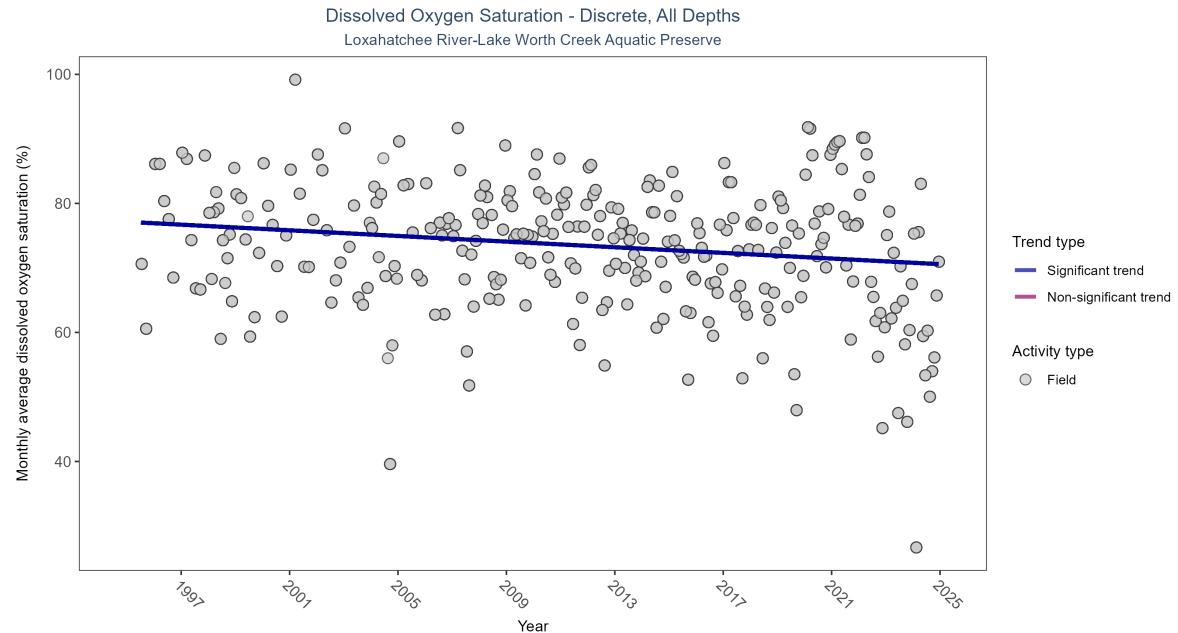
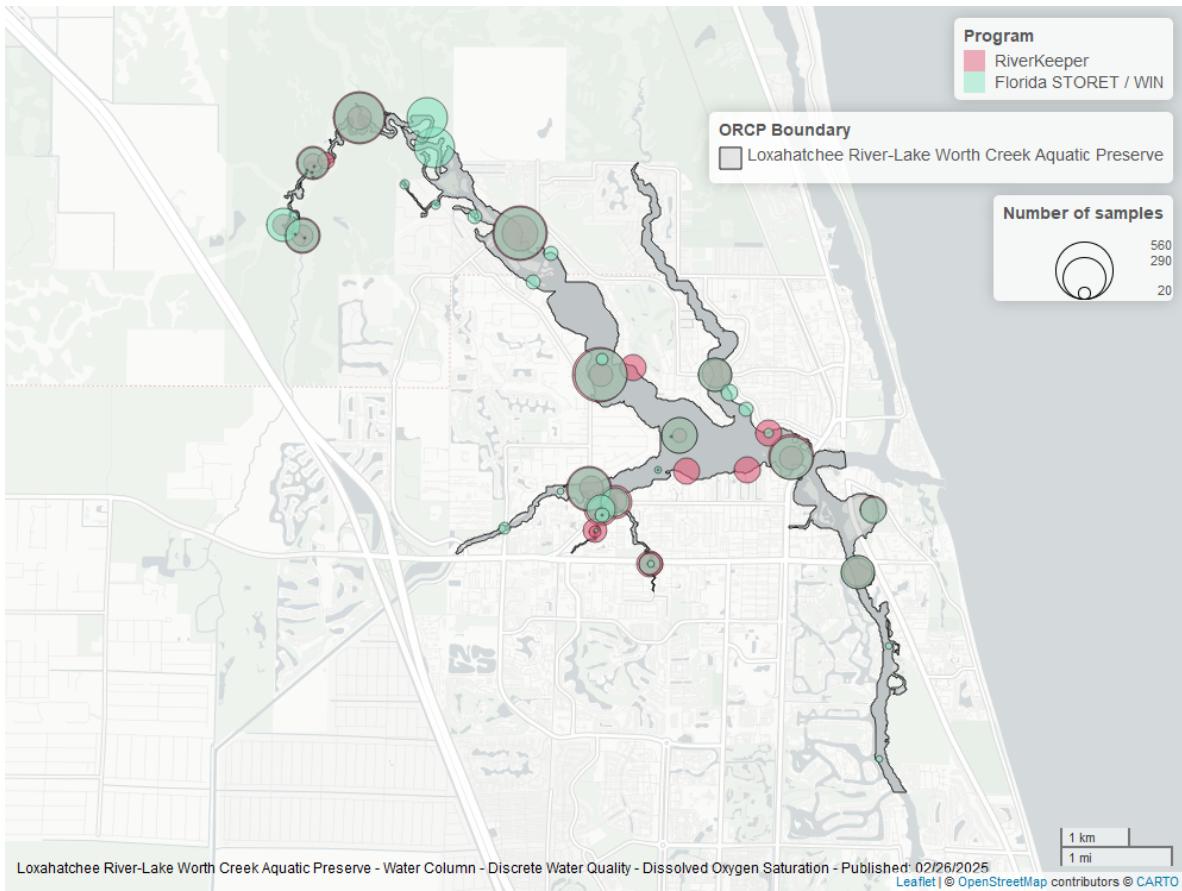


Table 4: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

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	10992	30	1995 - 2024	76.1	-0.14978	77.143	-0.21877	0.0002394140308637736087437469789662713992584031075239181518554687500000000



Salinity - Discrete

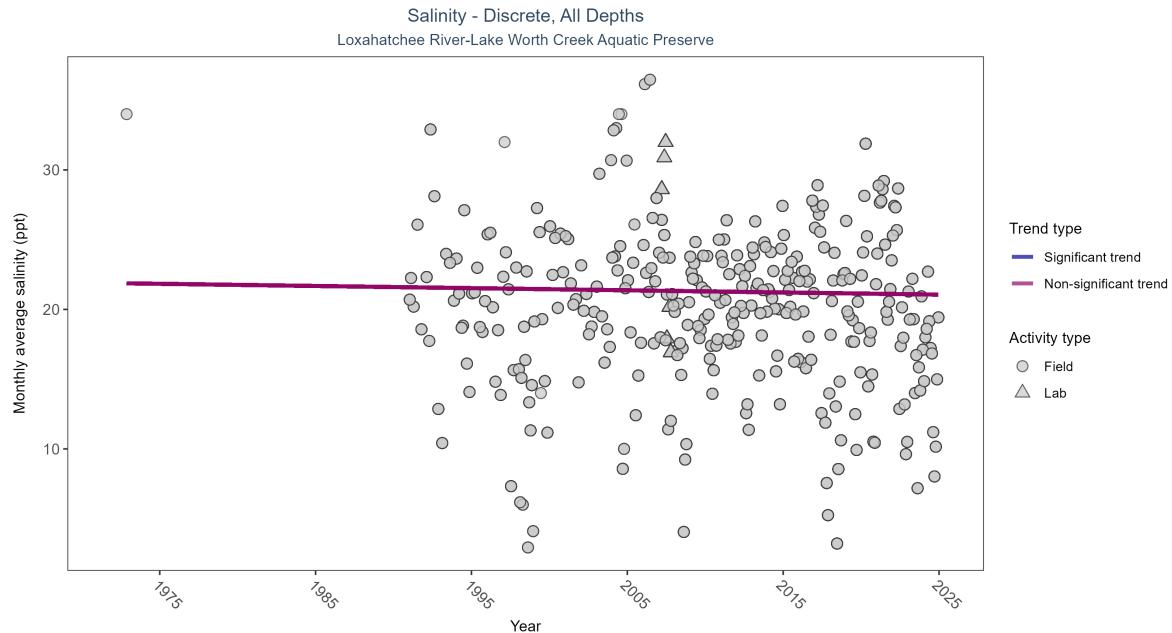
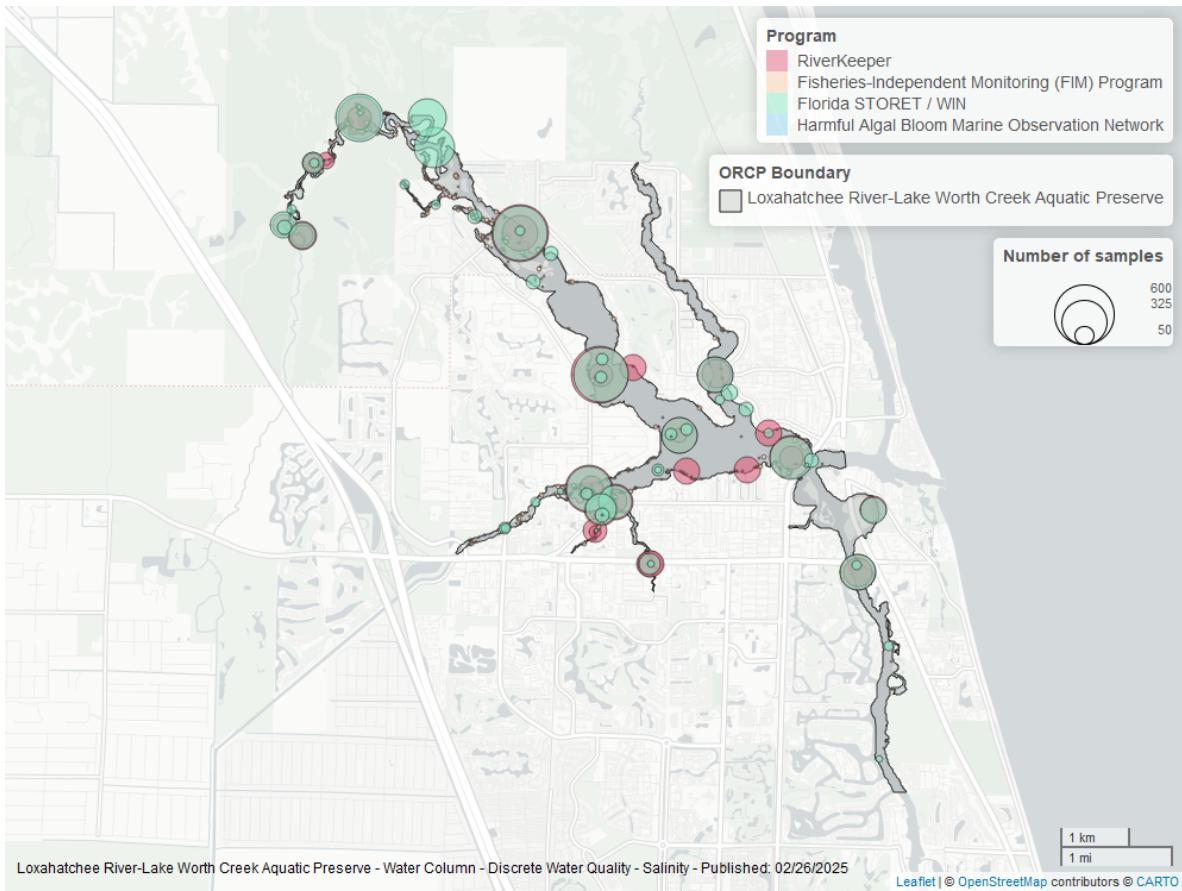


Table 5: Seasonal Kendall-Tau Results for - Salinity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
All	No significant trend	11913	35	1972 - 2024	24.6	-0.02254	21.88197	-0.01553	0.62536142227869828680297814571531489491462707520



Salinity - Continuous

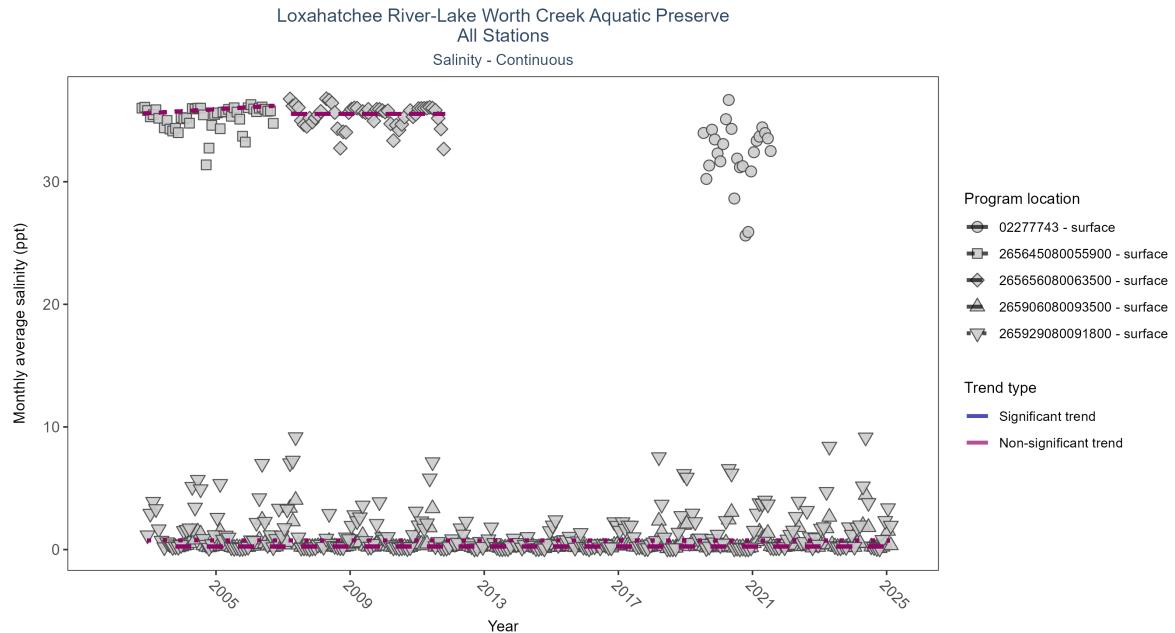
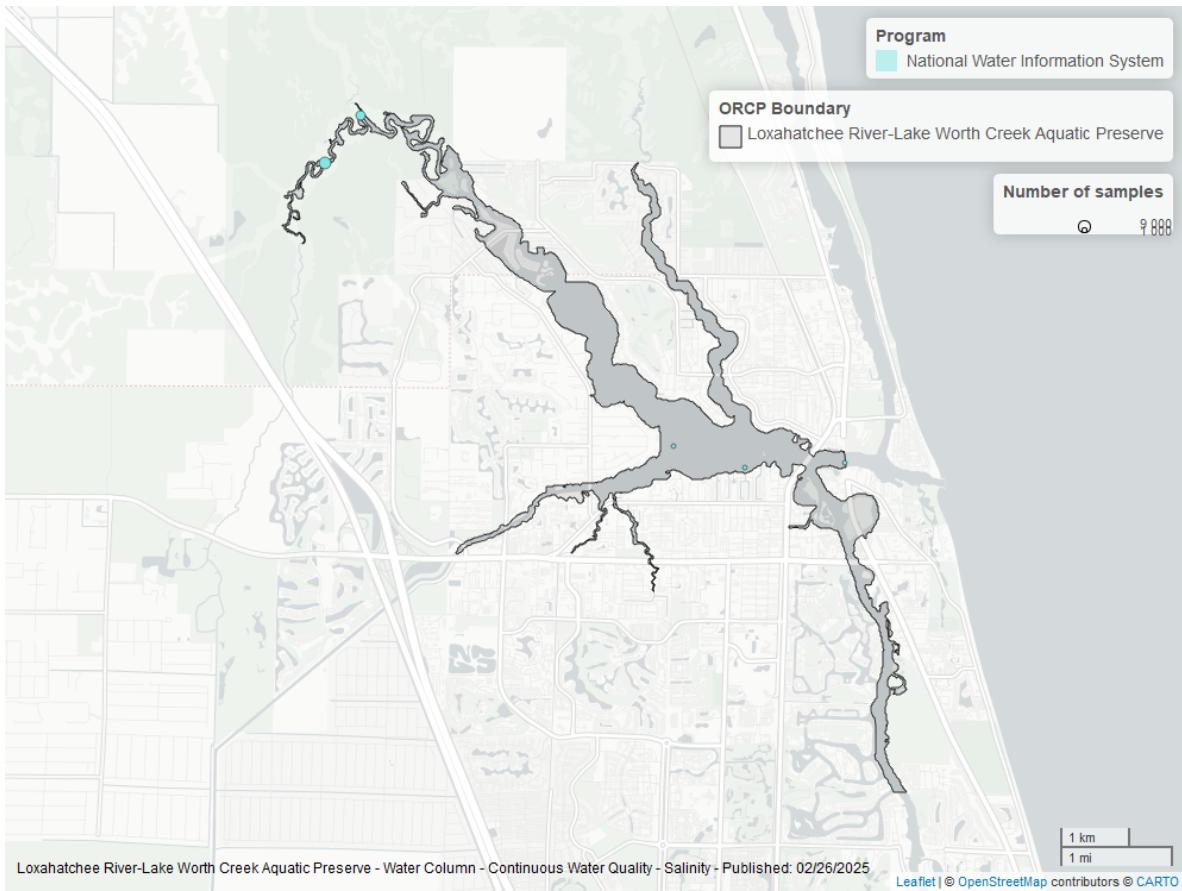


Table 6: Seasonal Kendall-Tau Results for All Stations - Salinity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
265645080055900	No significant trend	1354	5	2002 - 2006	36.0	0.22	35.43	0.16	0.1594116907983954
265656080063500	No significant trend	2046	5	2007 - 2011	36.0	0.01	35.53	0	1.000000000000000
265906080093500	No significant trend	8989	23	2003 - 2025	0.3	0	0.25	0	0.9190171903006453
265929080091800	No significant trend	7902	24	2002 - 2025	0.4	-0.01	0.75	0	0.8396766914955789
02277743	Insufficient data to calculate trend	1144	3	2019 - 2021	32.0	-	-	-	NA



Water Temperature - Discrete

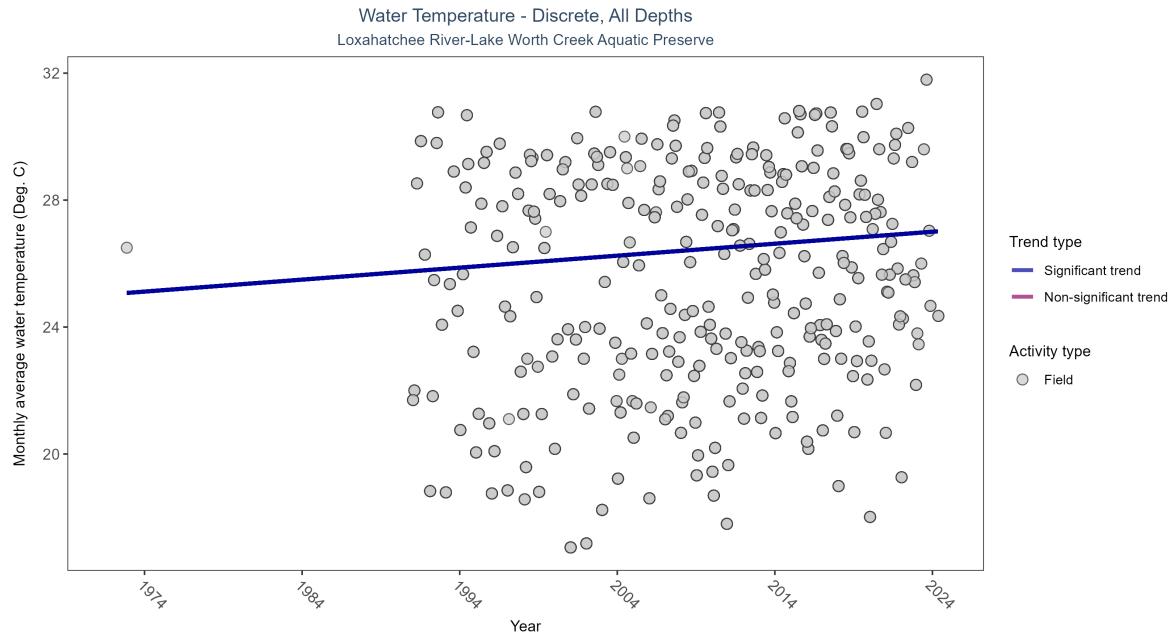
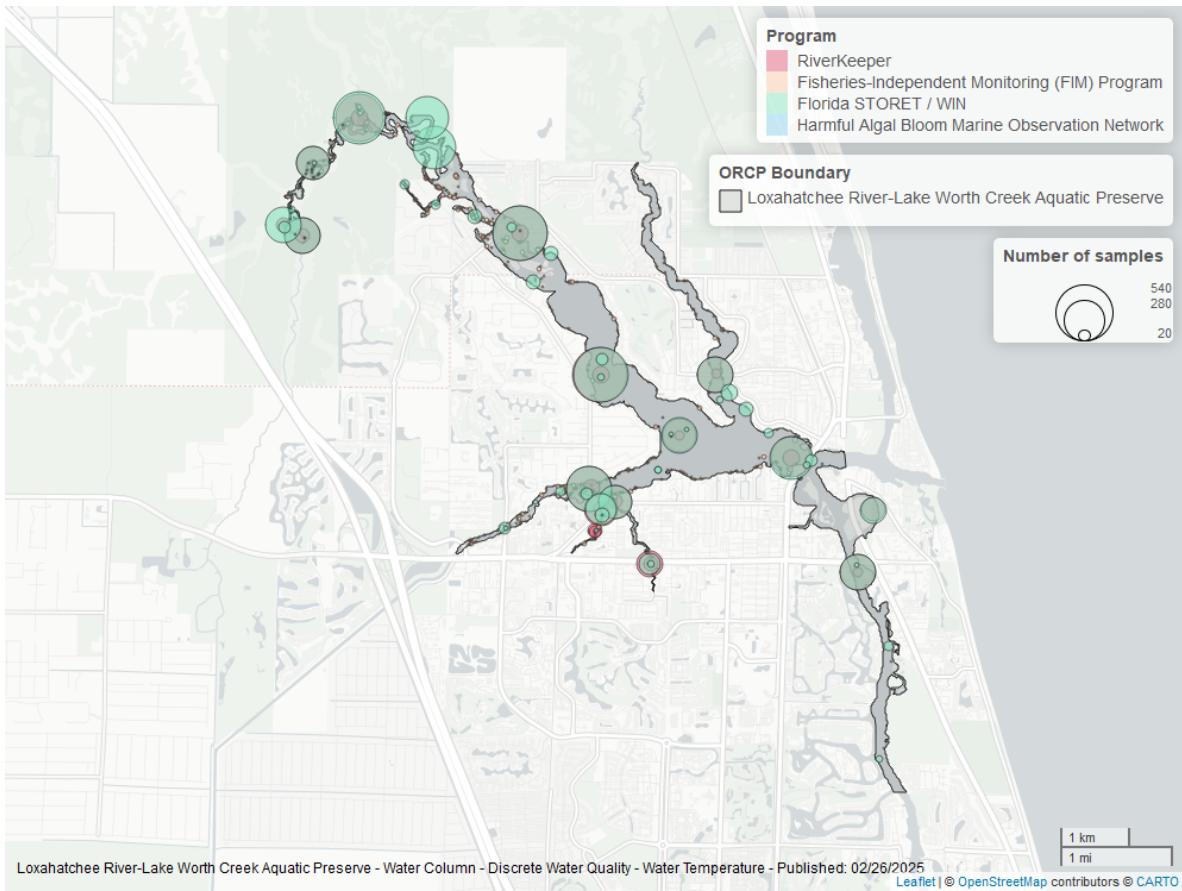


Table 7: Seasonal Kendall-Tau Results for - Water Temperature

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	10676	35	1972 - 2024	25.7	0.16228	25.04148	0.03772	0.000099674231164475



Water Temperature - Continuous

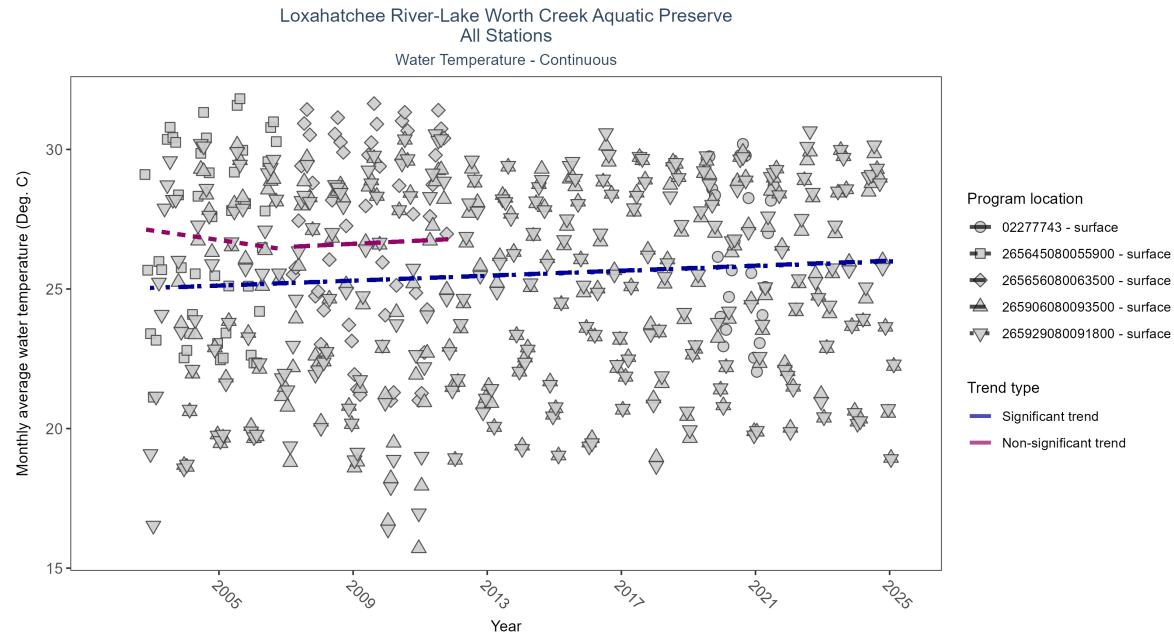
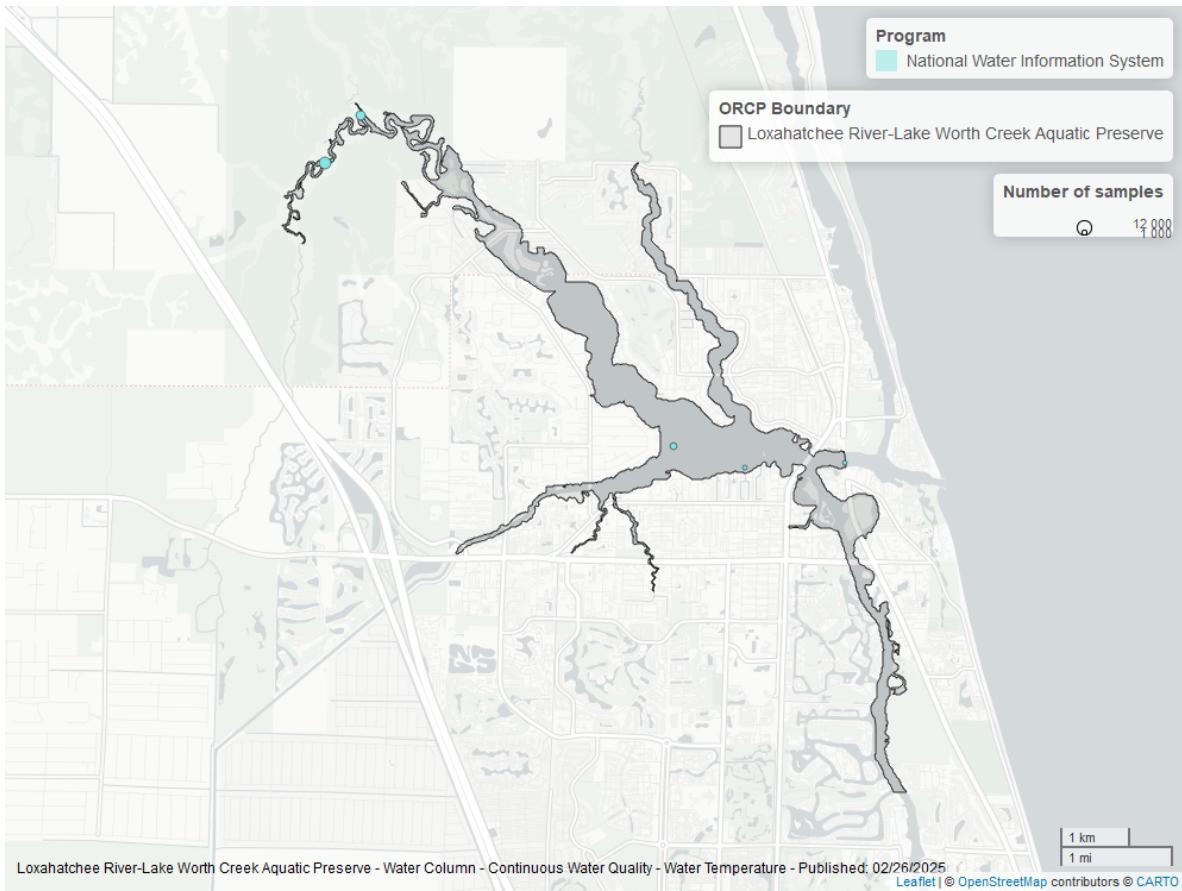


Table 8: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
265929080091800	Significantly increasing trend	7925	24	2002 - 2025	25.7	0.23	25	0.04	0.000000154893136
265656080063500	No significant trend	2664	5	2007 - 2011	27.6	0.08	26.5	0.06	0.453254704753736
265906080093500	Significantly increasing trend	11942	23	2003 - 2025	25.6	0.27	25.03	0.04	0.000000002563808
265645080055900	No significant trend	1354	5	2002 - 2006	26.6	-0.29	27.27	-0.17	0.070440429272088
02277743	Insufficient data to calculate trend	1122	3	2019 - 2021	26.3	-	-	-	NA



pH - Discrete

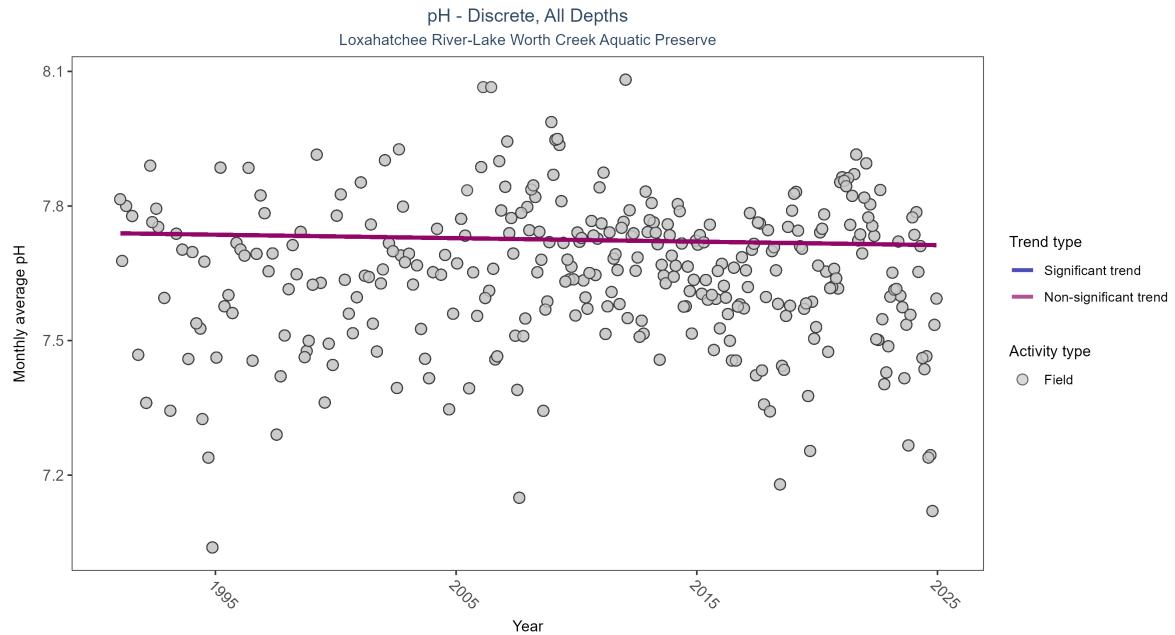
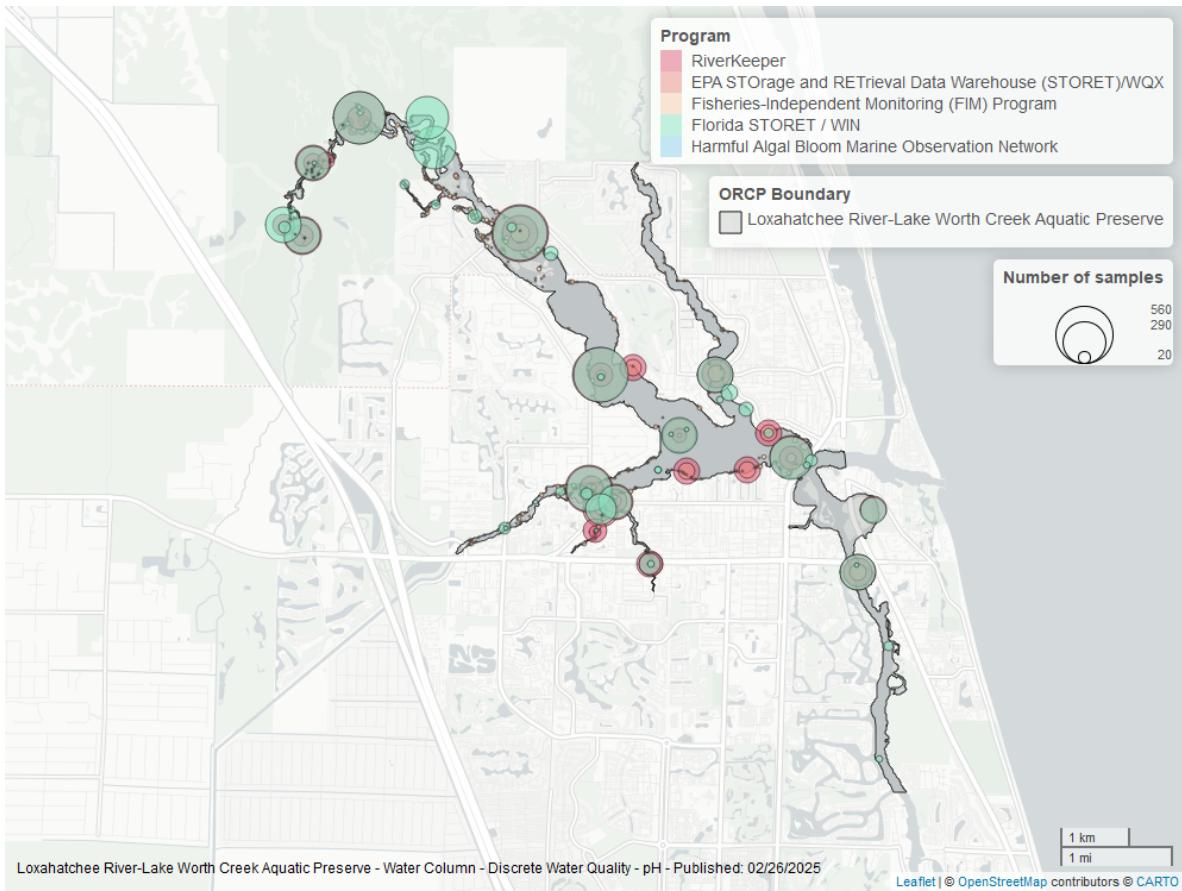


Table 9: Seasonal Kendall-Tau Results for - pH

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	12991	34	1991 - 2024	7.7	-0.04881	7.7391	-0.00077	0.47418909377440154884197909268550574779510



Water Clarity

Turbidity - Discrete

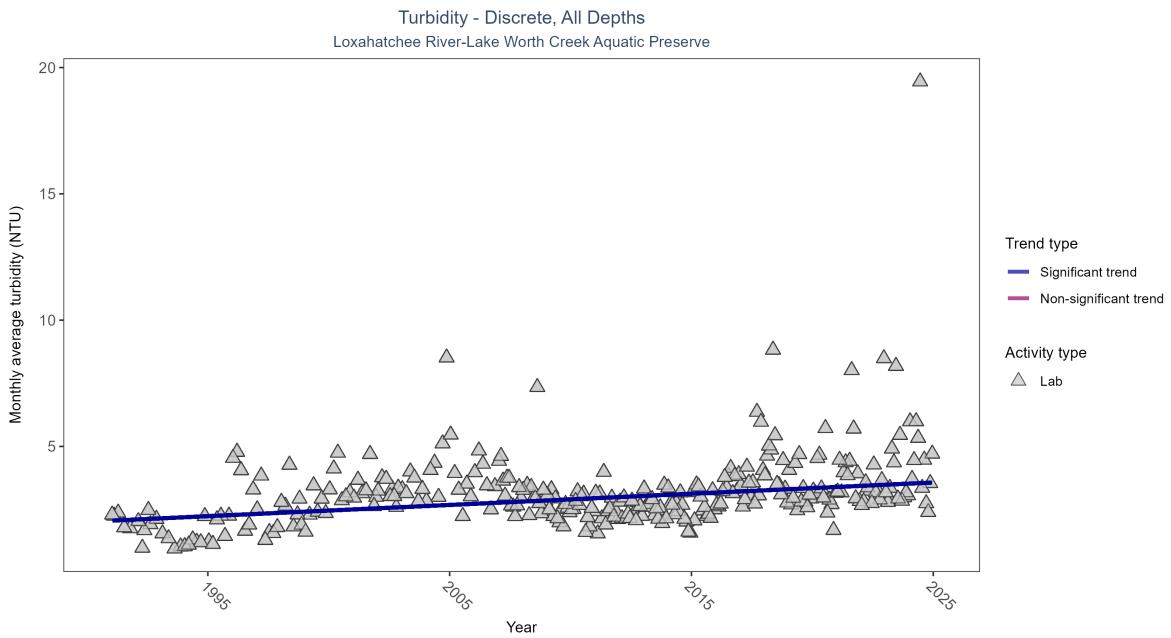
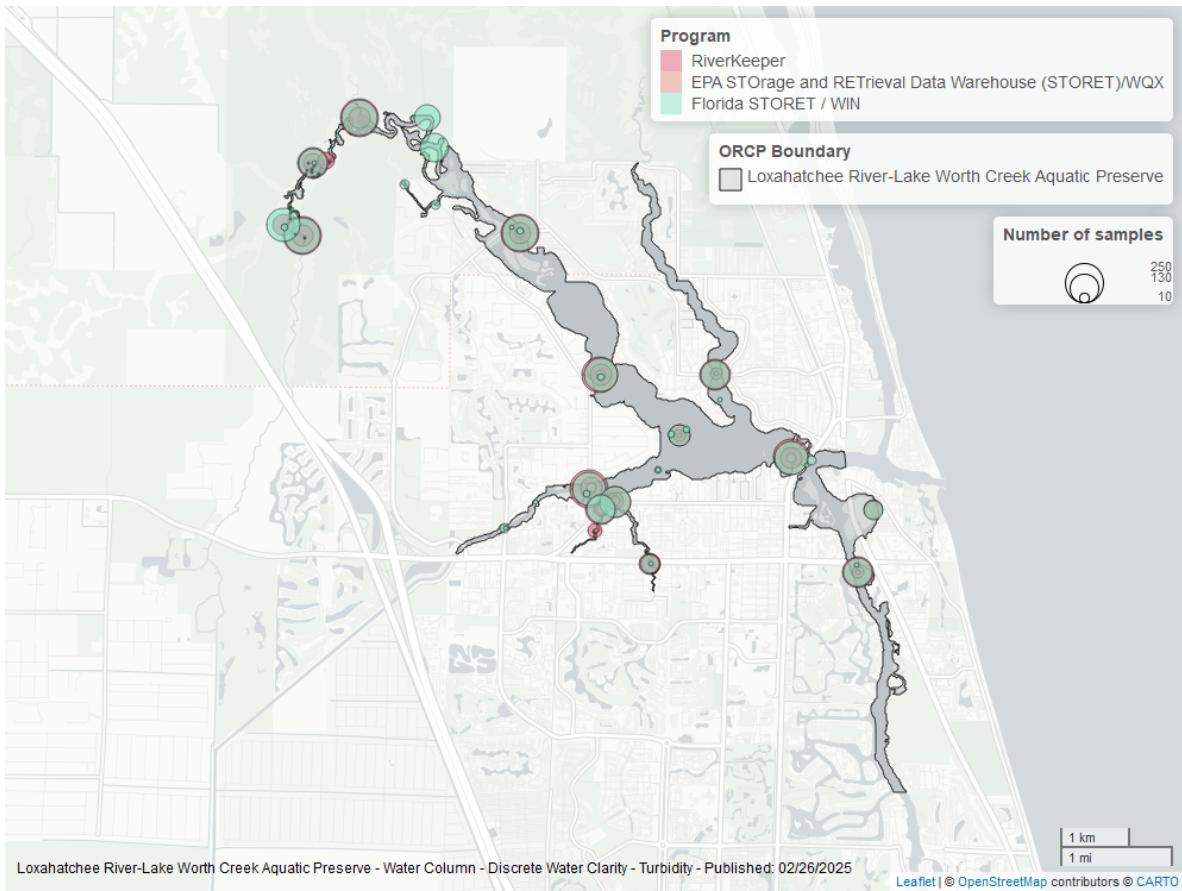


Table 10: Seasonal Kendall-Tau Results for - Turbidity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly increasing trend	6506	34	1991 - 2024	2.7	0.32241	2.06118	0.04441	0.0000000000005245253



Total Suspended Solids - Discrete

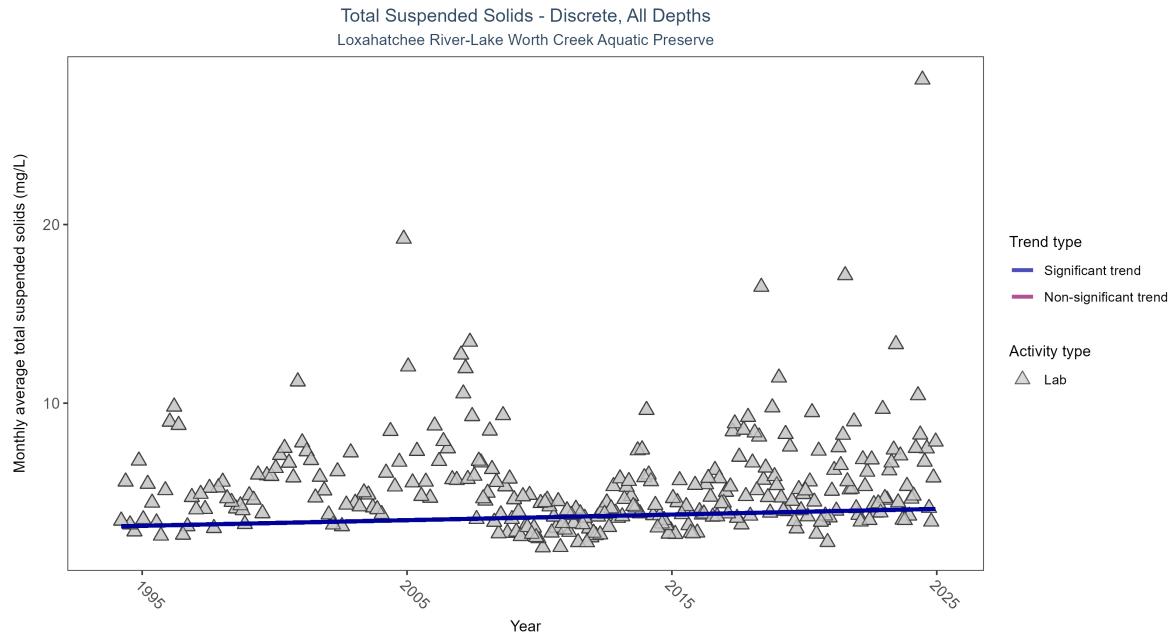
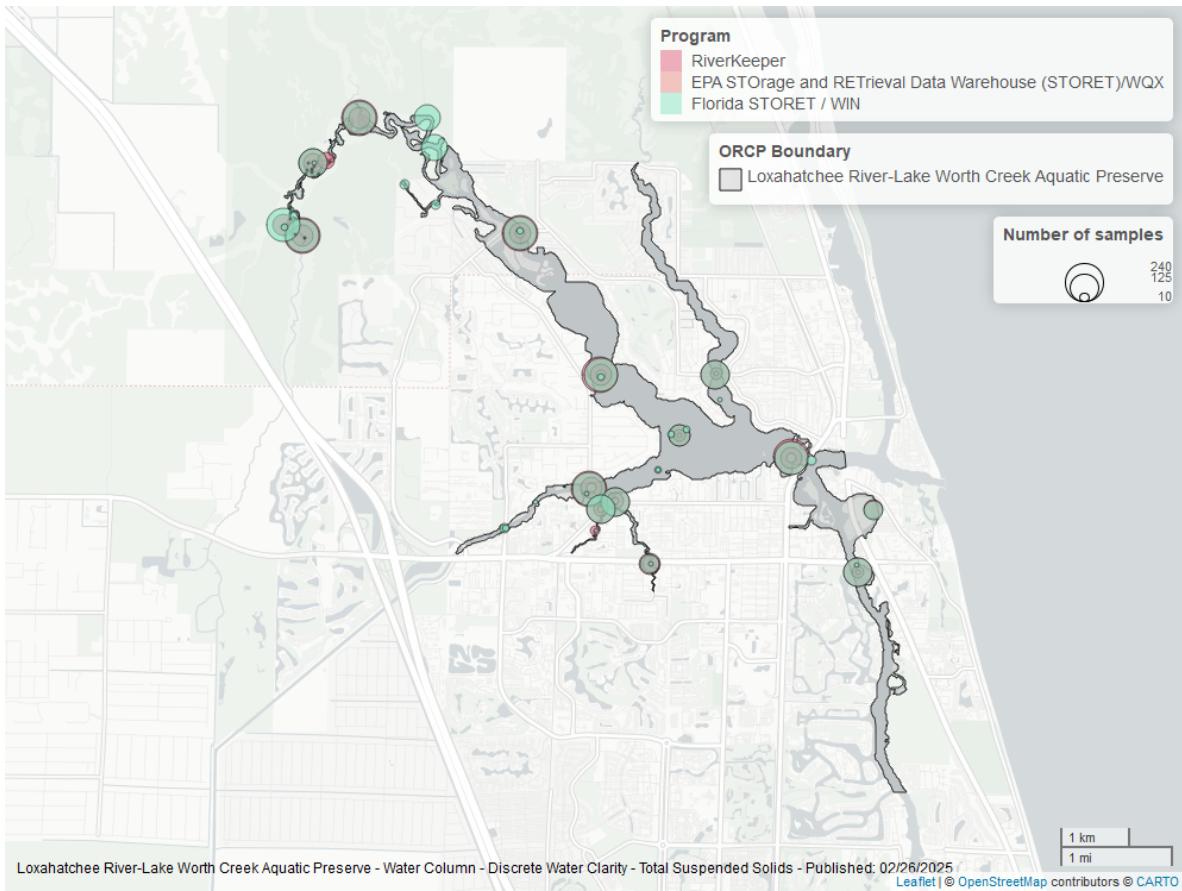


Table 11: Seasonal Kendall-Tau Results for - Total Suspended Solids

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	6139	31	1994 - 2024	4	0.13352	3.10253	0.0315	0.015718379616050517227909821826870



Chlorophyll a, Uncorrected for Pheophytin - Discrete

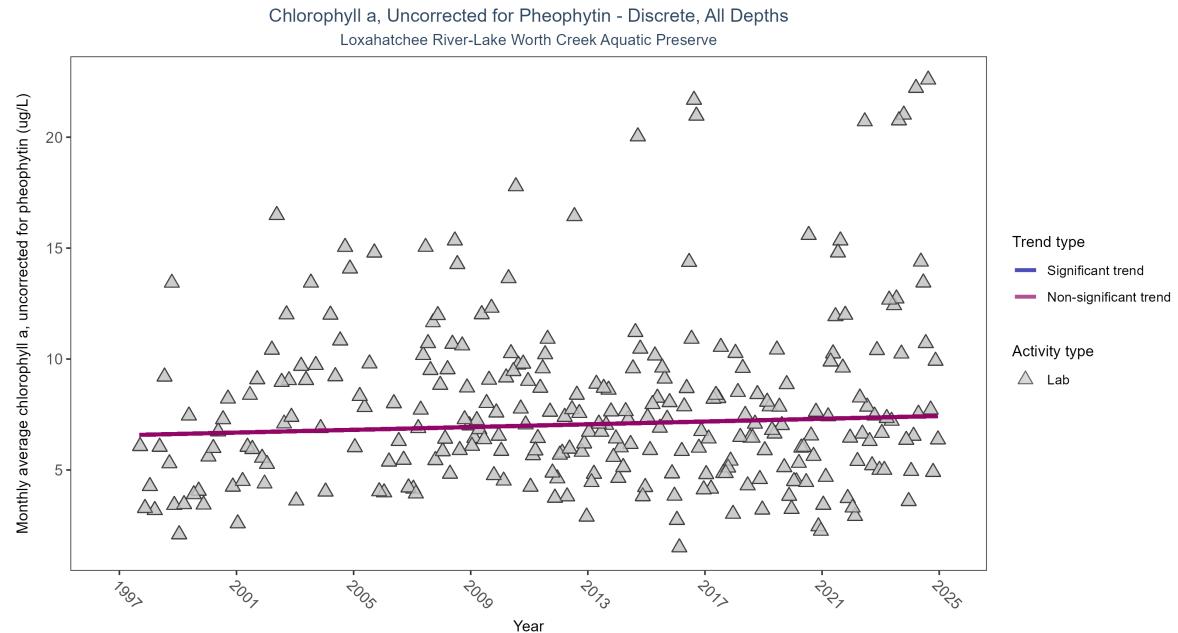
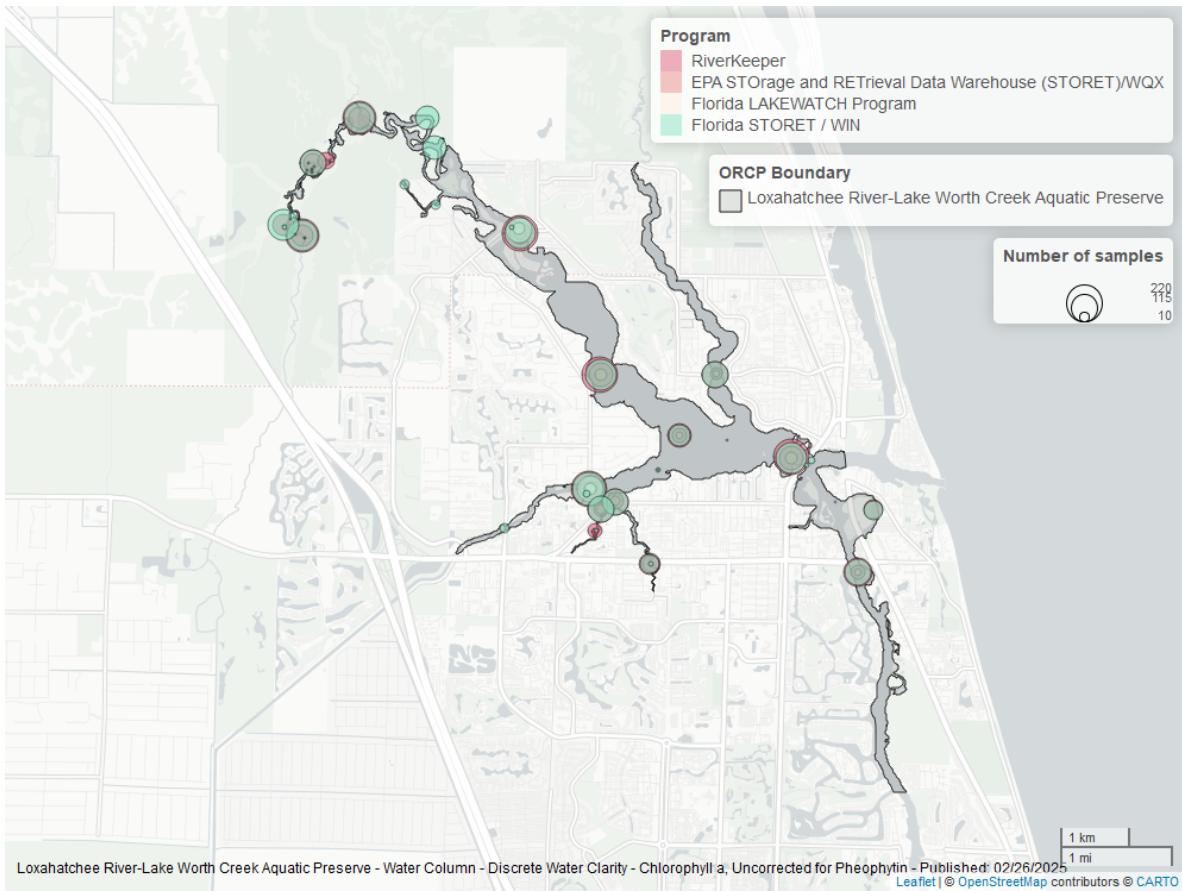


Table 12: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

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	6029	28	1997 - 2024	5.6	0.05936	6.55998	0.03112	0.15849286286804506462821962



Chlorophyll a, Corrected for Pheophytin - Discrete

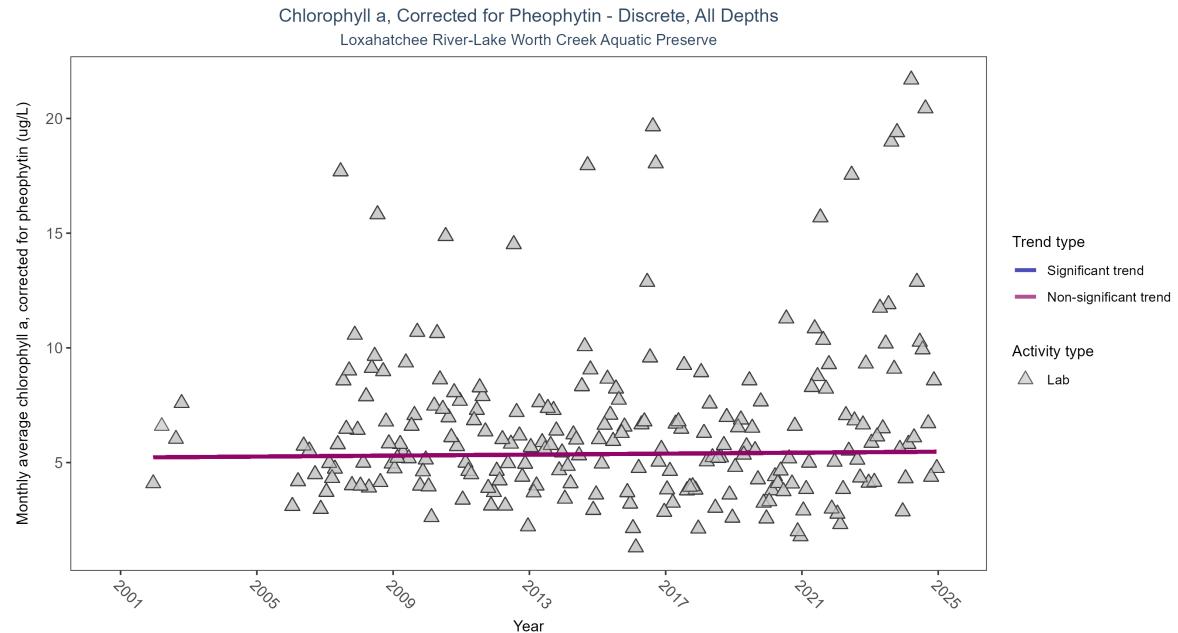
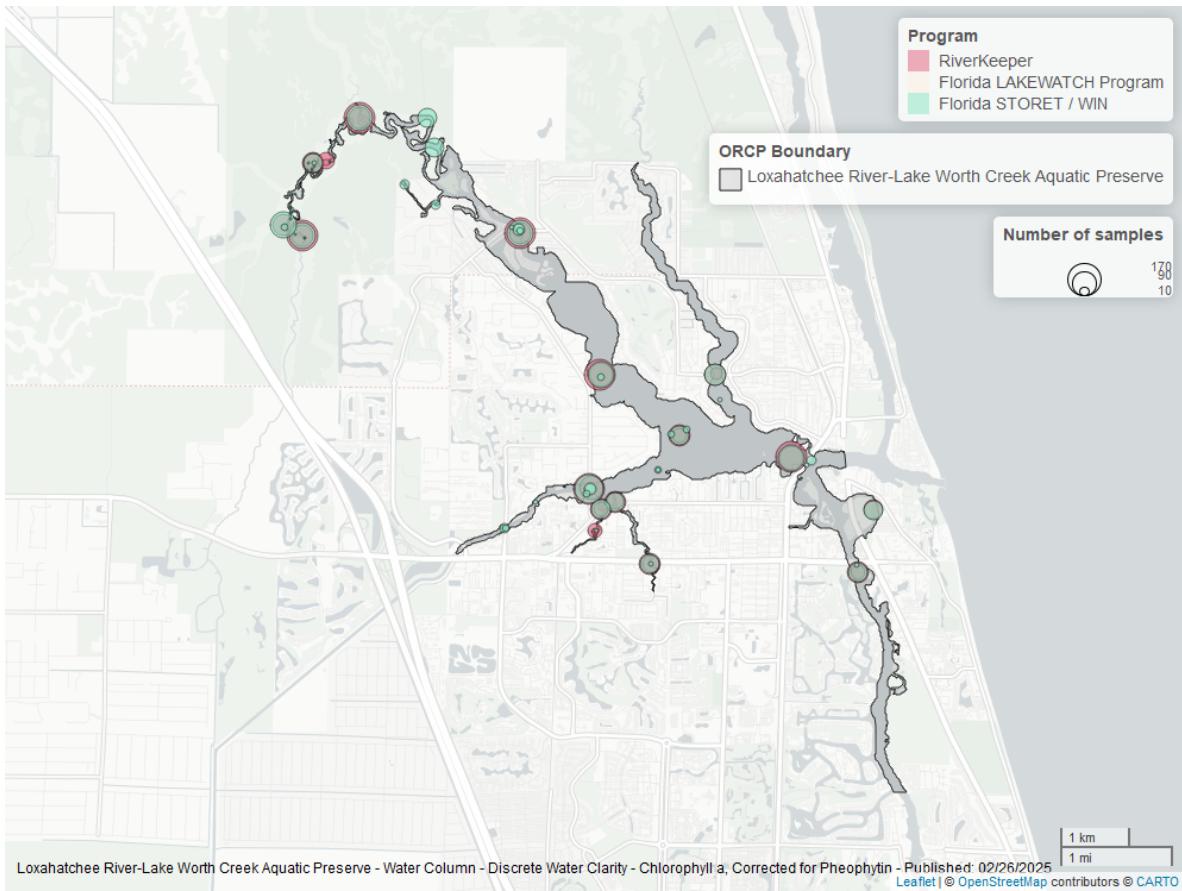


Table 13: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

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	4501	21	2001 - 2024	4.5	0.01637	5.2177	0.01069	0.7591831273292835025046088049



Secchi Depth - Discrete

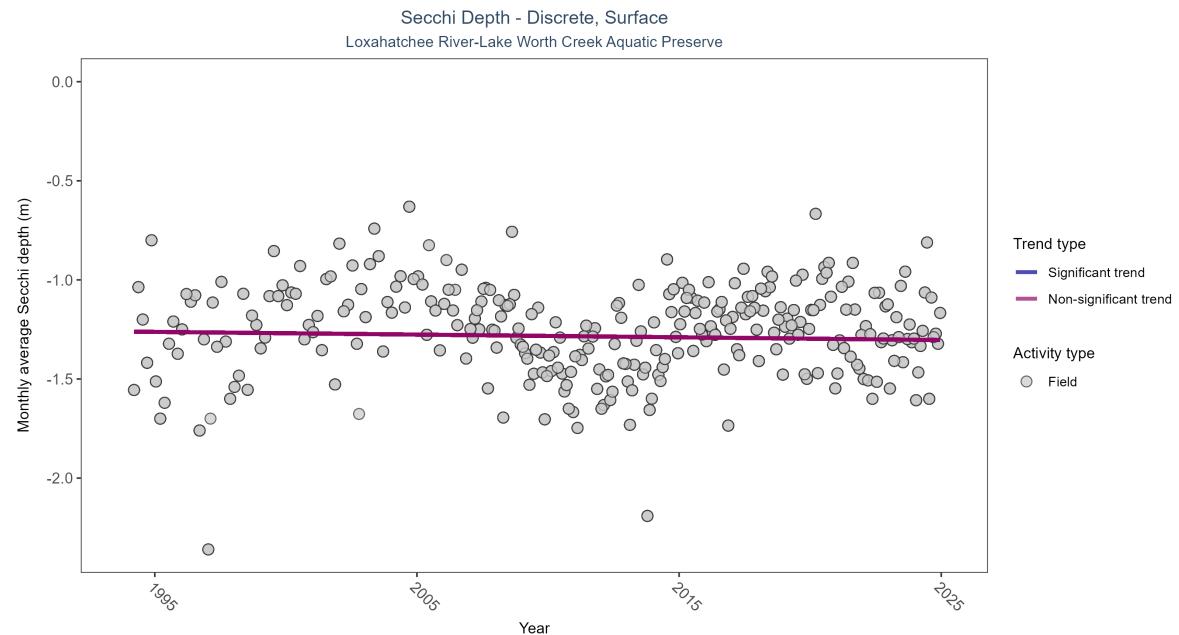
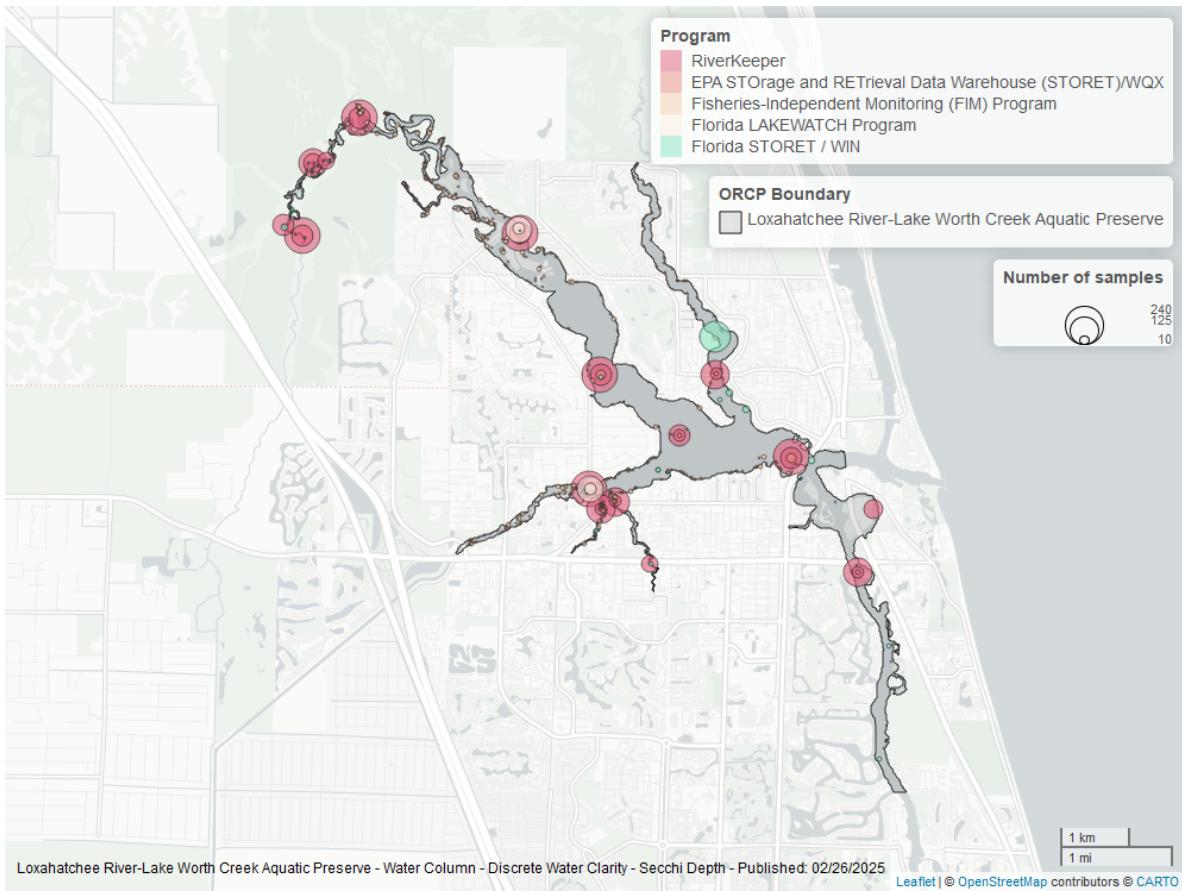


Table 14: Seasonal Kendall-Tau Results for - Secchi Depth

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	No significant trend	4816	31	1994 - 2024	-1.2	0.00431	-1.26086	-0.00137	0.5047659089378604413411721907323



Colored Dissolved Organic Matter - Discrete

Colored Dissolved Organic Matter - Discrete, All Depths
Loxahatchee River-Lake Worth Creek Aquatic Preserve

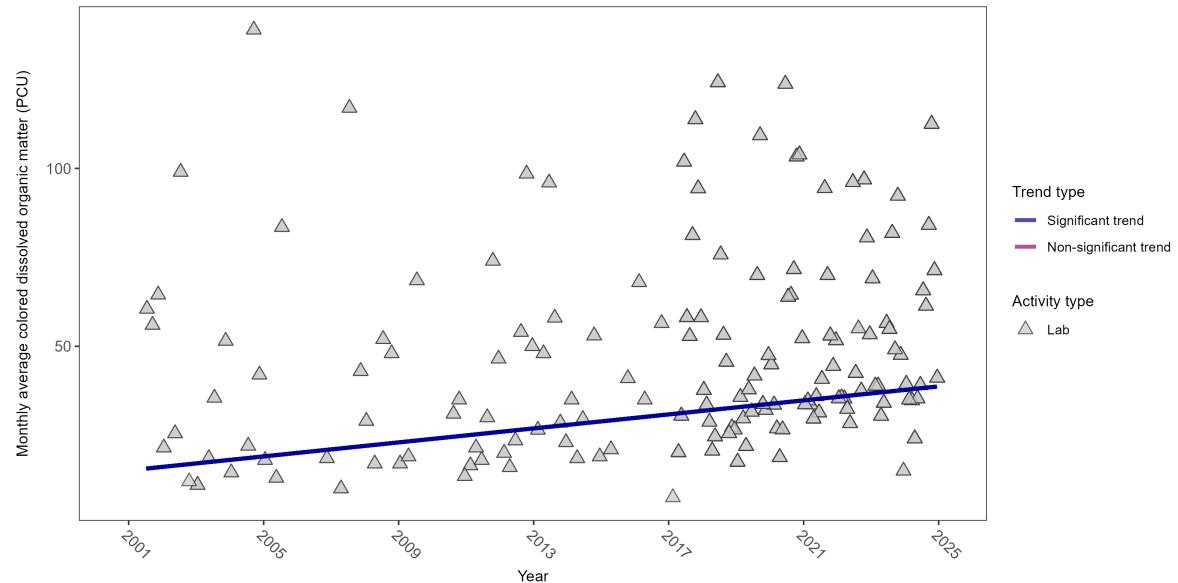


Table 15: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly increasing trend	1165	24	2001 - 2024	45	0.30526	15.10115	0.98413	0.000001471358468307768696

