

Big Bend Seagrasses Aquatic Preserve

SEACAR Water Quality Analysis

Last compiled on 18 March, 2025

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Indicators

Nutrients

Total Nitrogen - Discrete

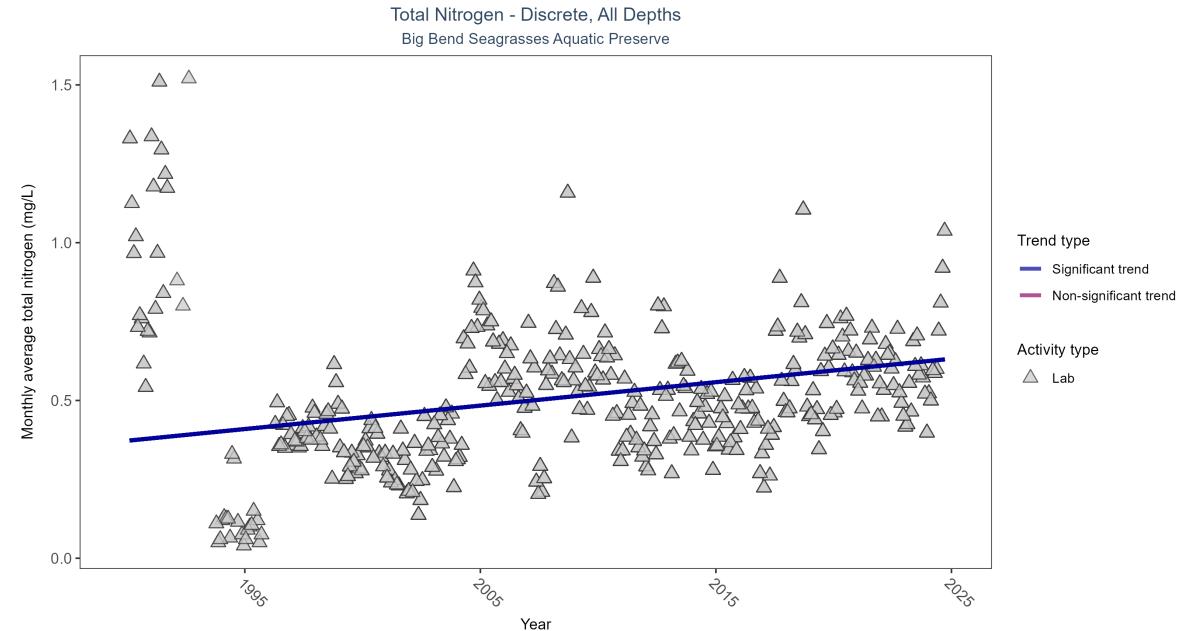
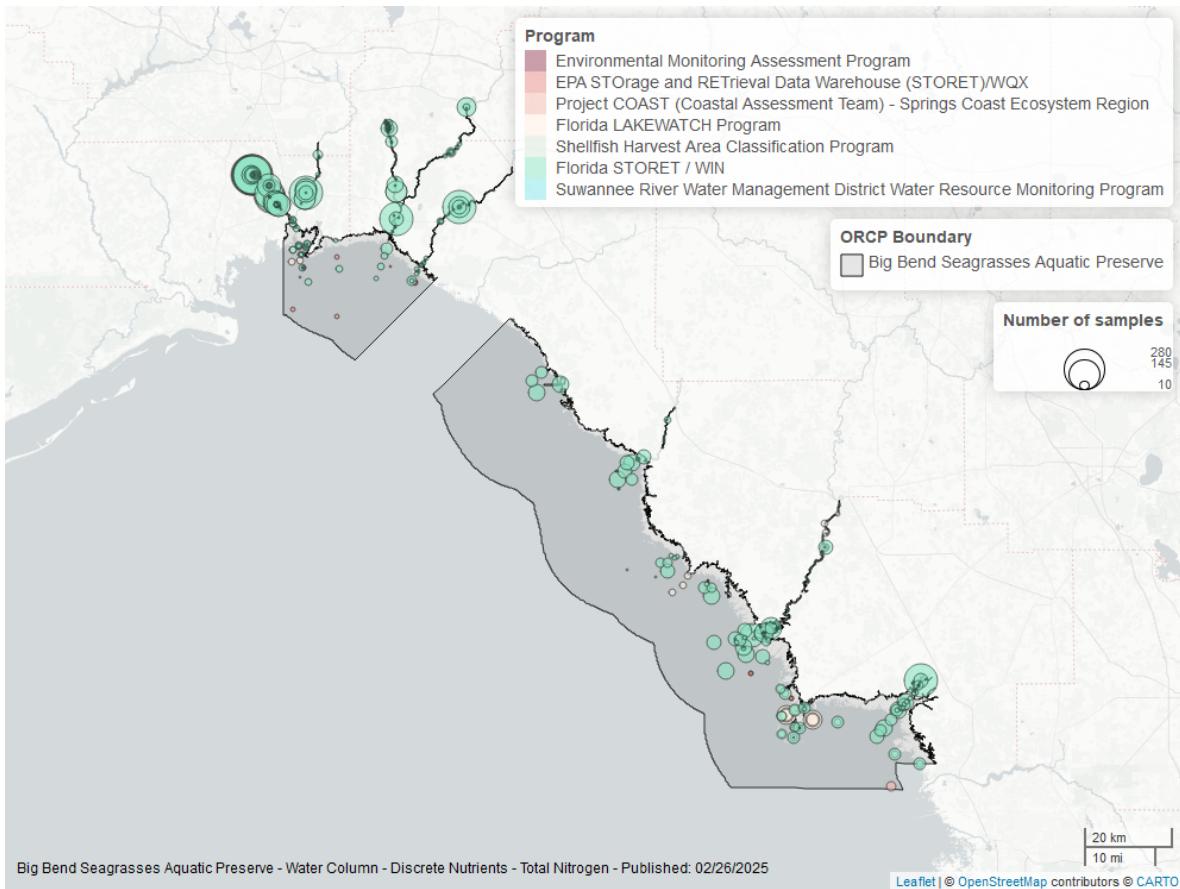


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

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	8092	35	1990 - 2024	0.464	0.22999	0.37229	0.00743	0.00000000013267527365126070532



Total Phosphorus - Discrete

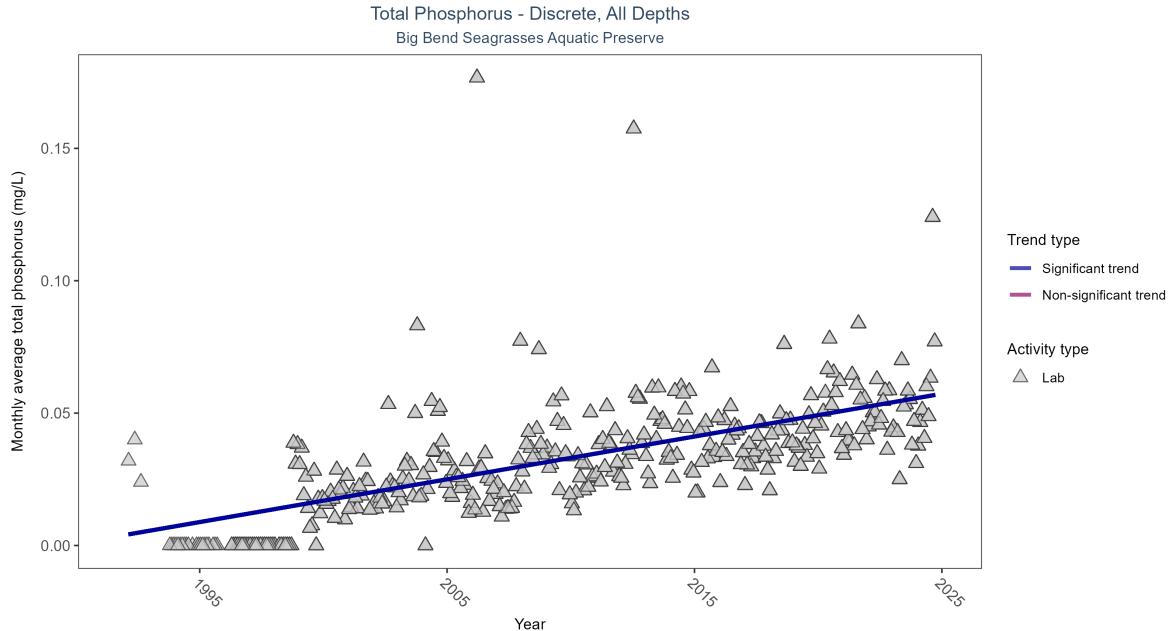
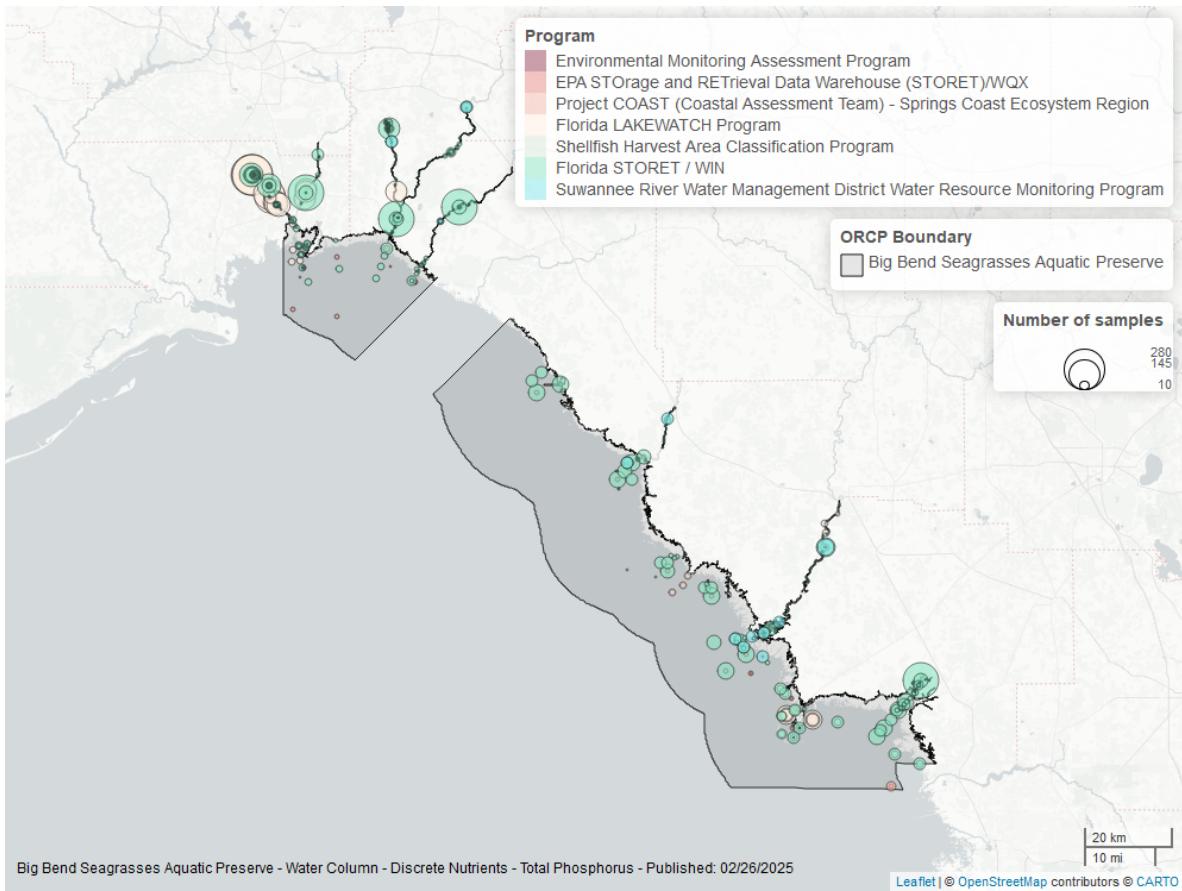


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus



Water Quality

Dissolved Oxygen - Discrete

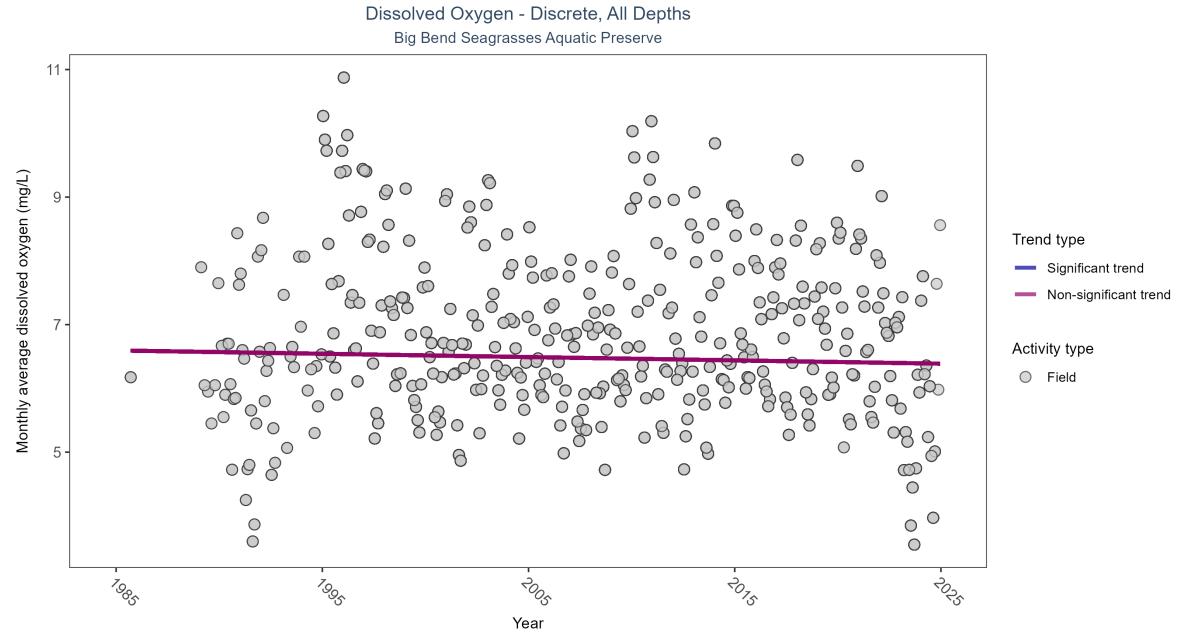
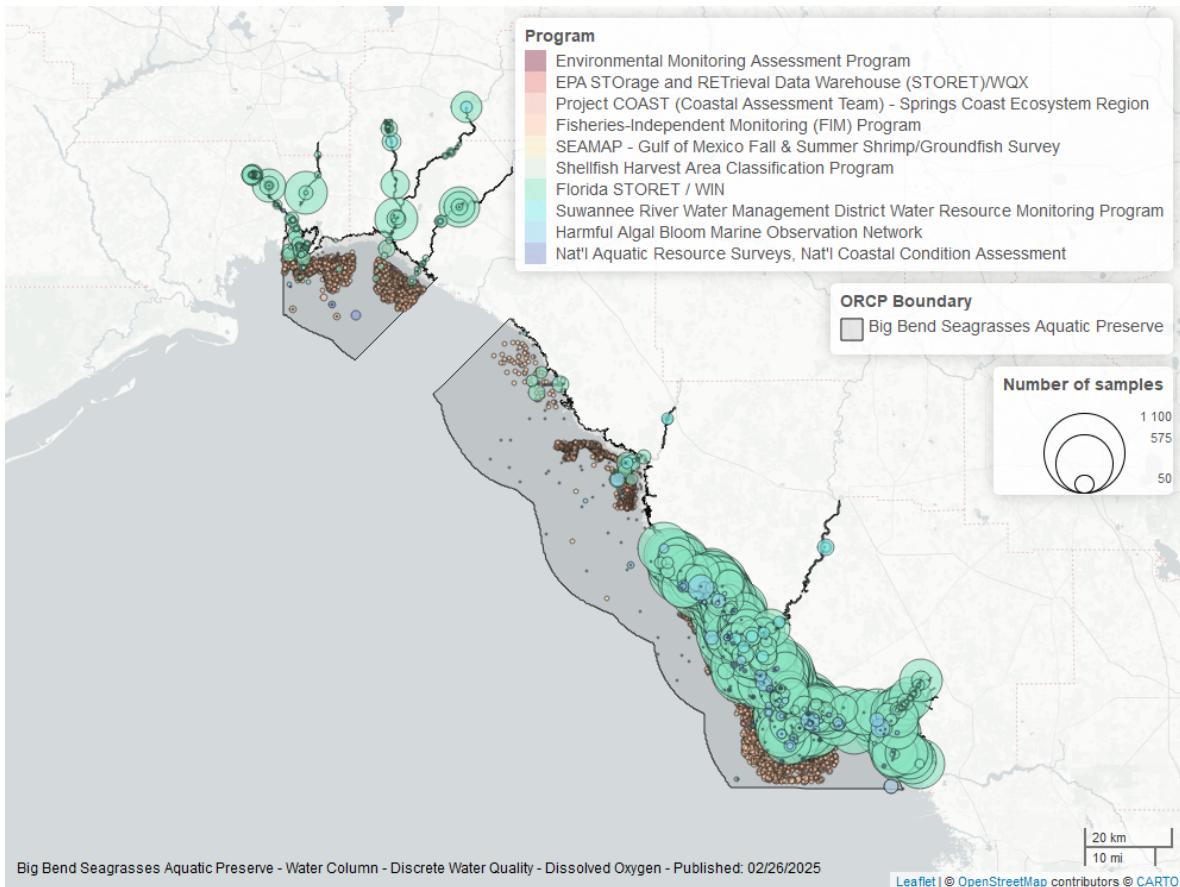


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

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	149190	37	1985 - 2024	6.7	-0.04599	6.5951	-0.00518	0.20241036173739291



Dissolved Oxygen - Continuous

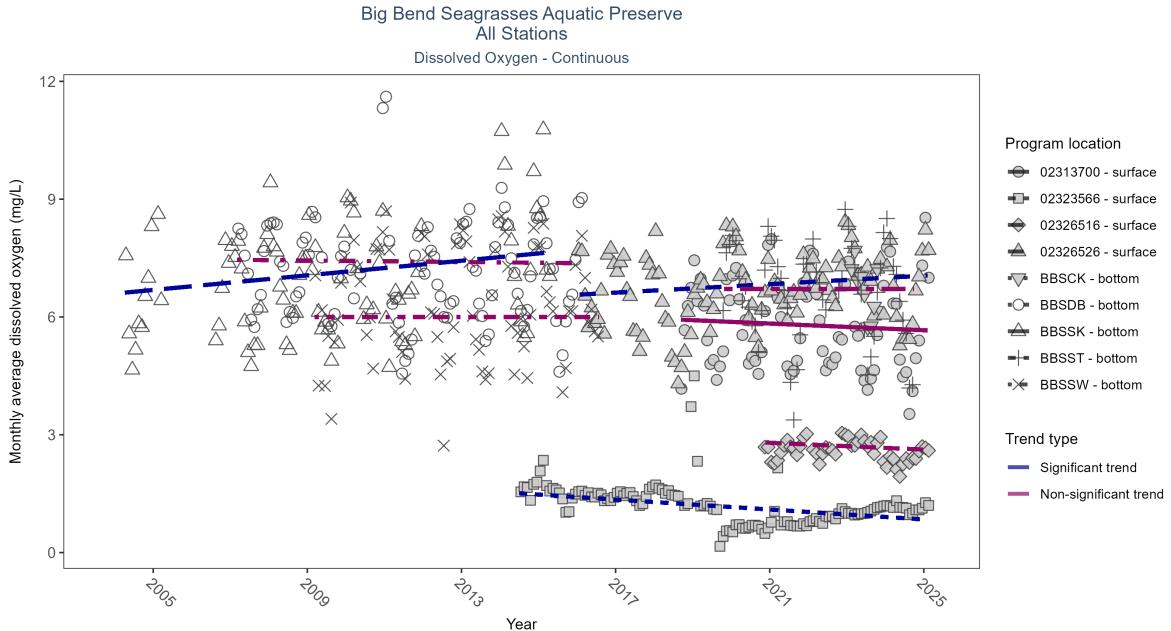
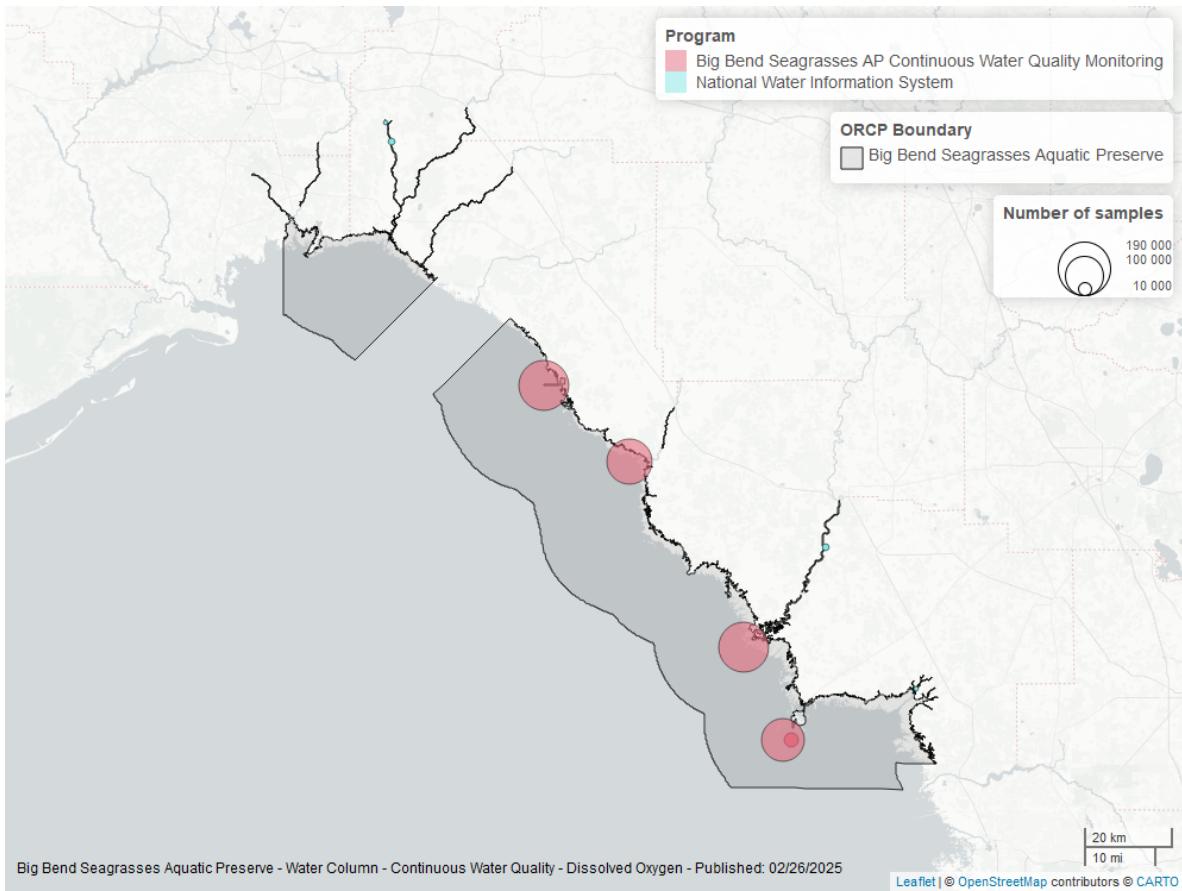


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen



Dissolved Oxygen Saturation - Discrete

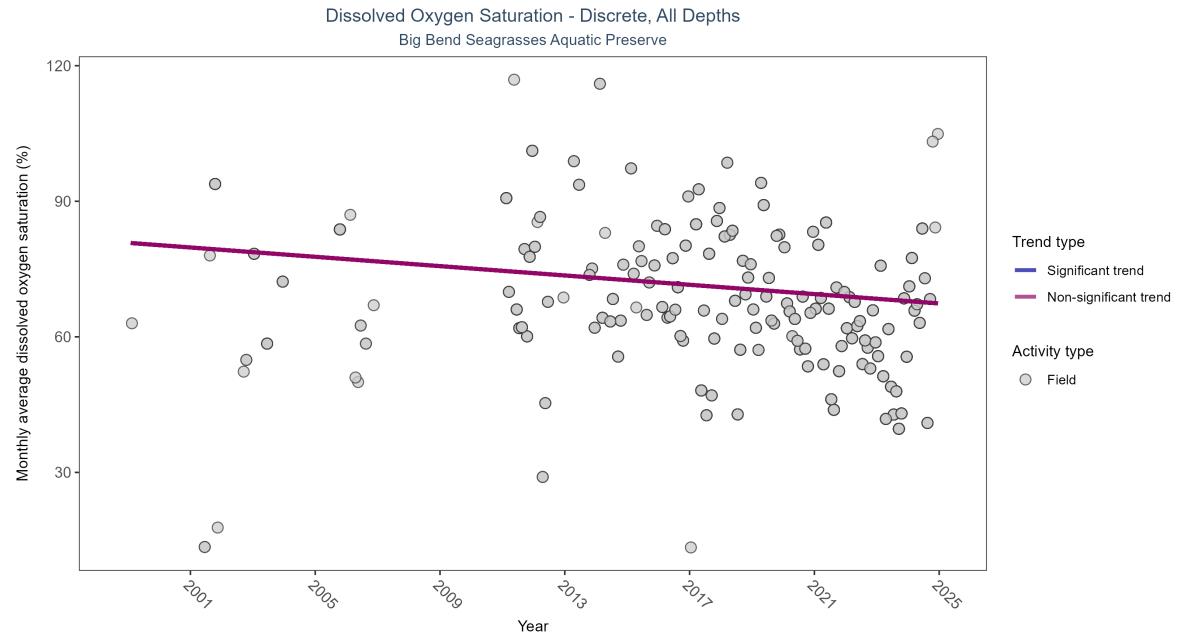
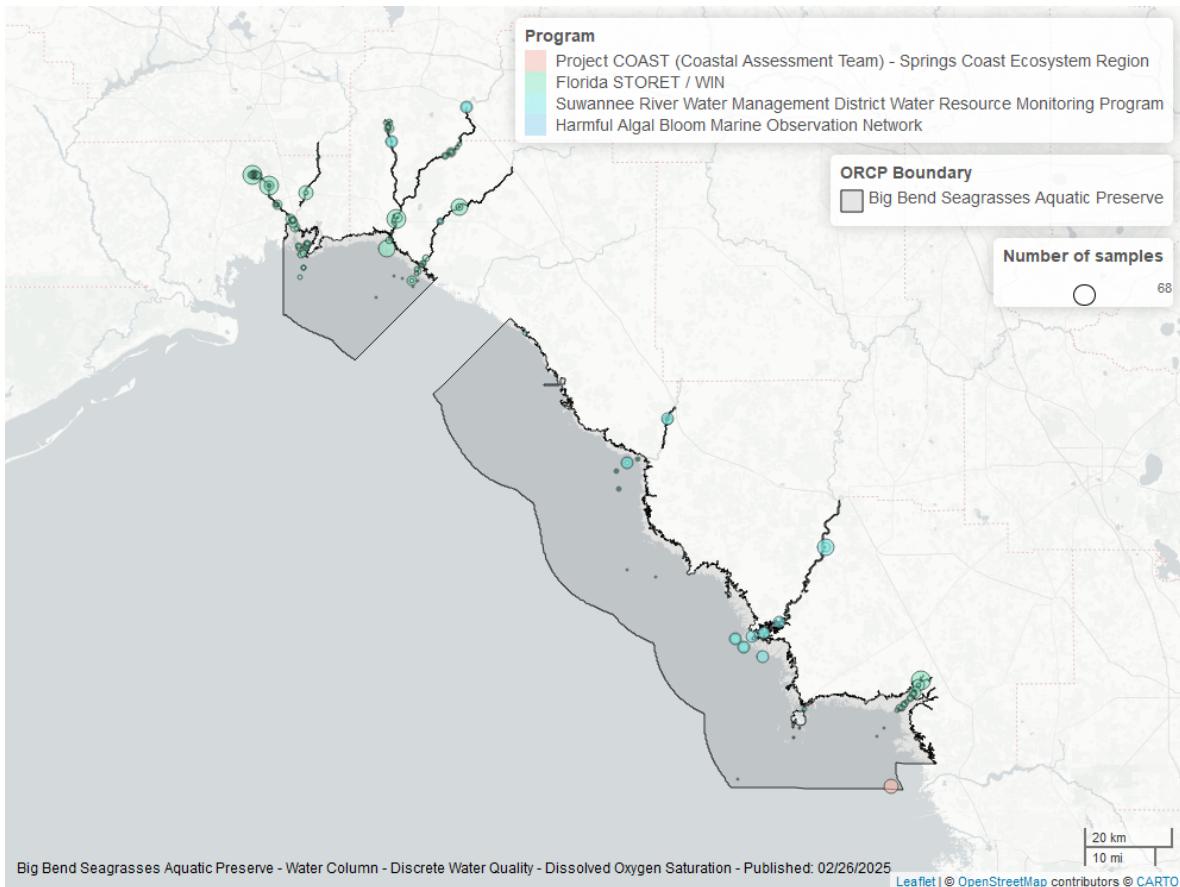


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation



Dissolved Oxygen Saturation - Continuous

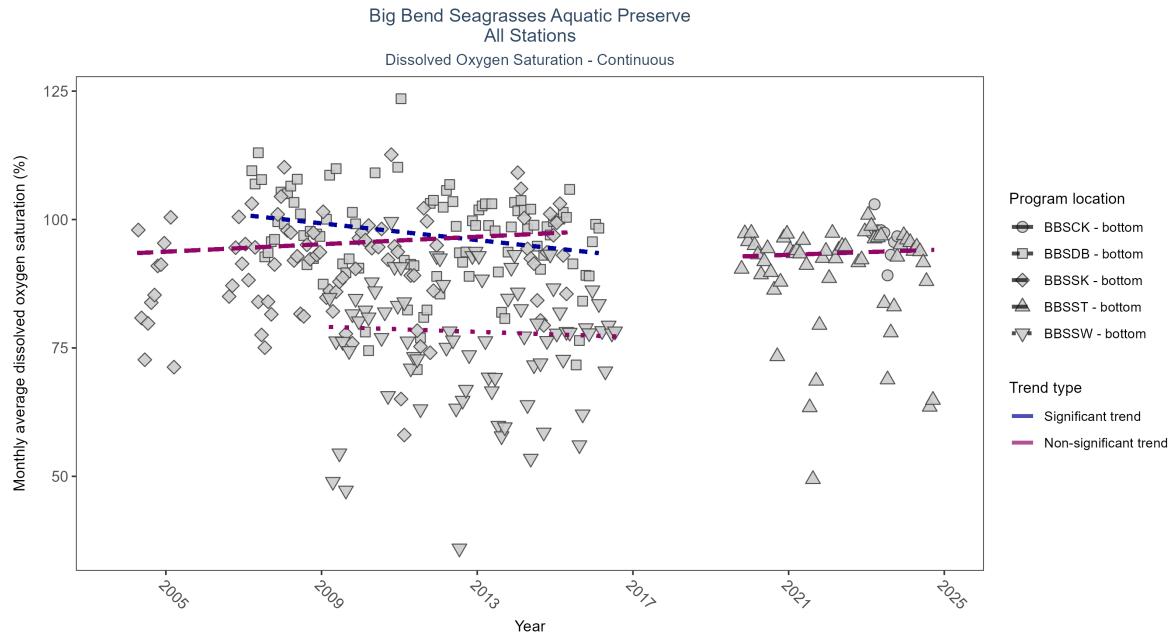
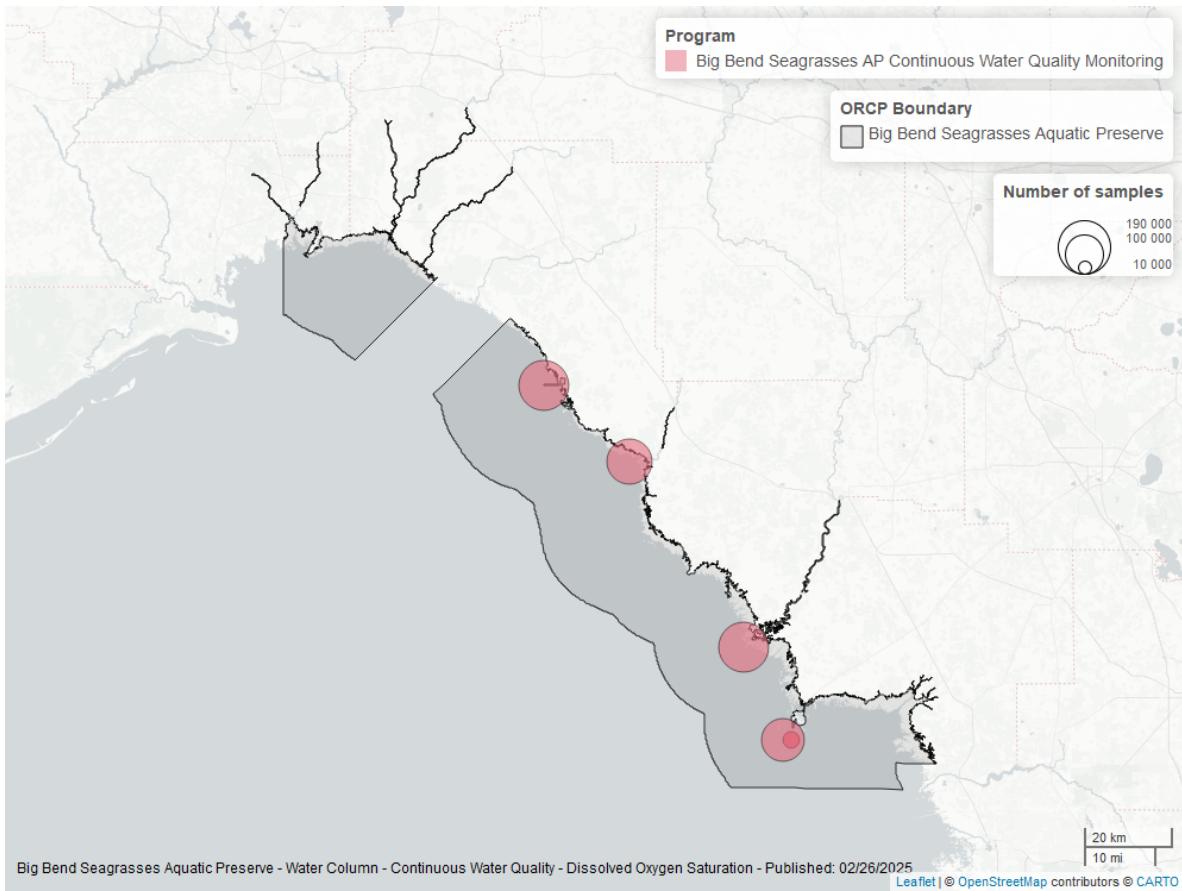


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
BBSDB	Significantly decreasing trend	183530	10	2007 - 2016	97.6	-0.3	100.88	-0.81	0.00031299741183953
BBSCK	Insufficient data to calculate trend	19834	1	2023 - 2023	95.7	-	-	-	NA
BBSSK	No significant trend	134196	10	2004 - 2015	91.8	0.12	93.37	0.36	0.26118220629830519
BBSST	No significant trend	149203	6	2019 - 2024	93.3	0.08	92.61	0.26	0.49751777612998860
BBSSW	No significant trend	182158	8	2009 - 2016	75.8	-0.05	79.14	-0.25	0.68350169945960948



Salinity - Discrete

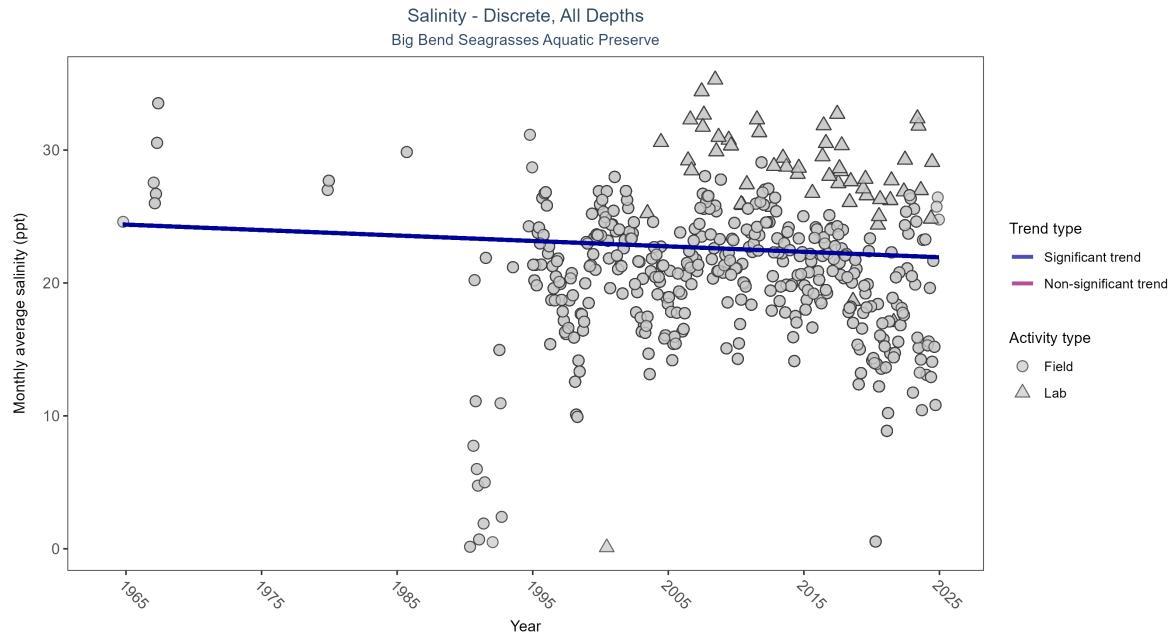
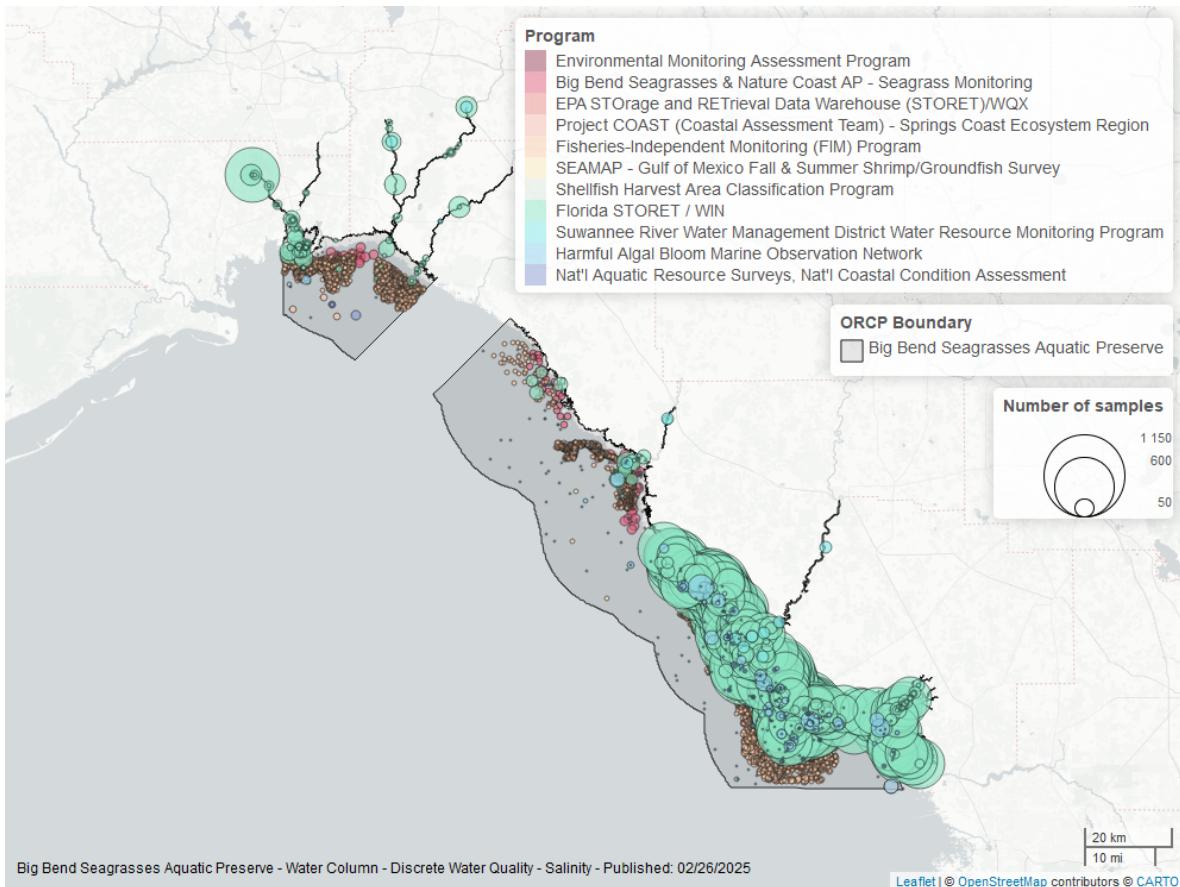


Table 7: Seasonal Kendall-Tau Results for - Salinity

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	154440	39	1964 - 2024	23.2	-0.0743	24.4299	-0.04092	0.03757311170108584841287324707082007080316543579



Salinity - Continuous

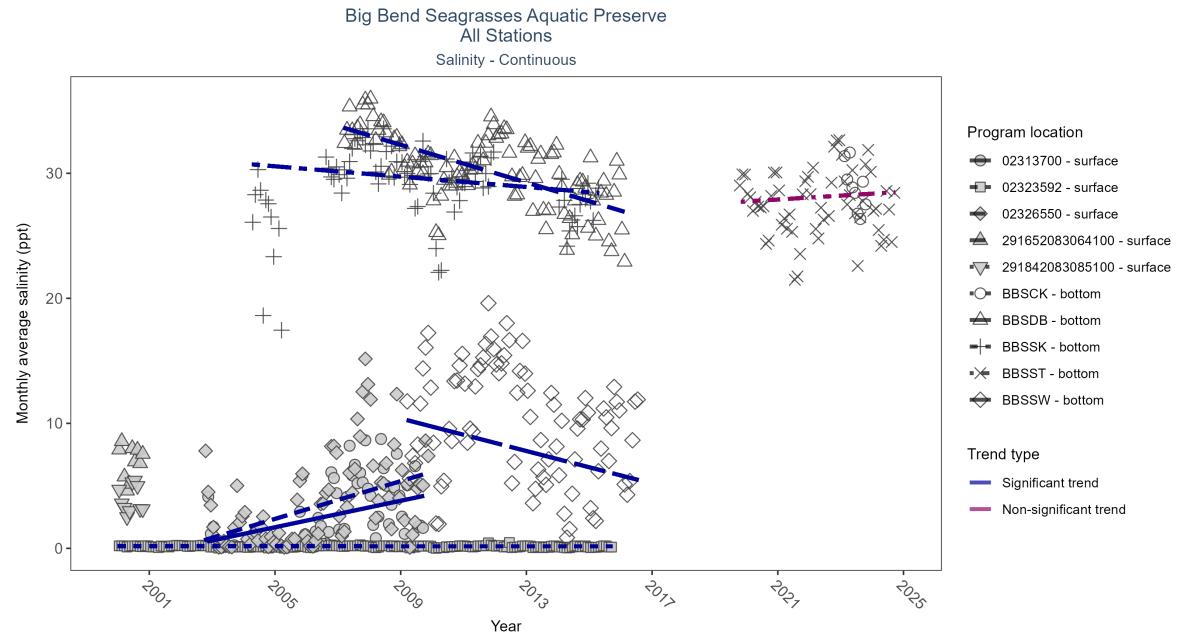
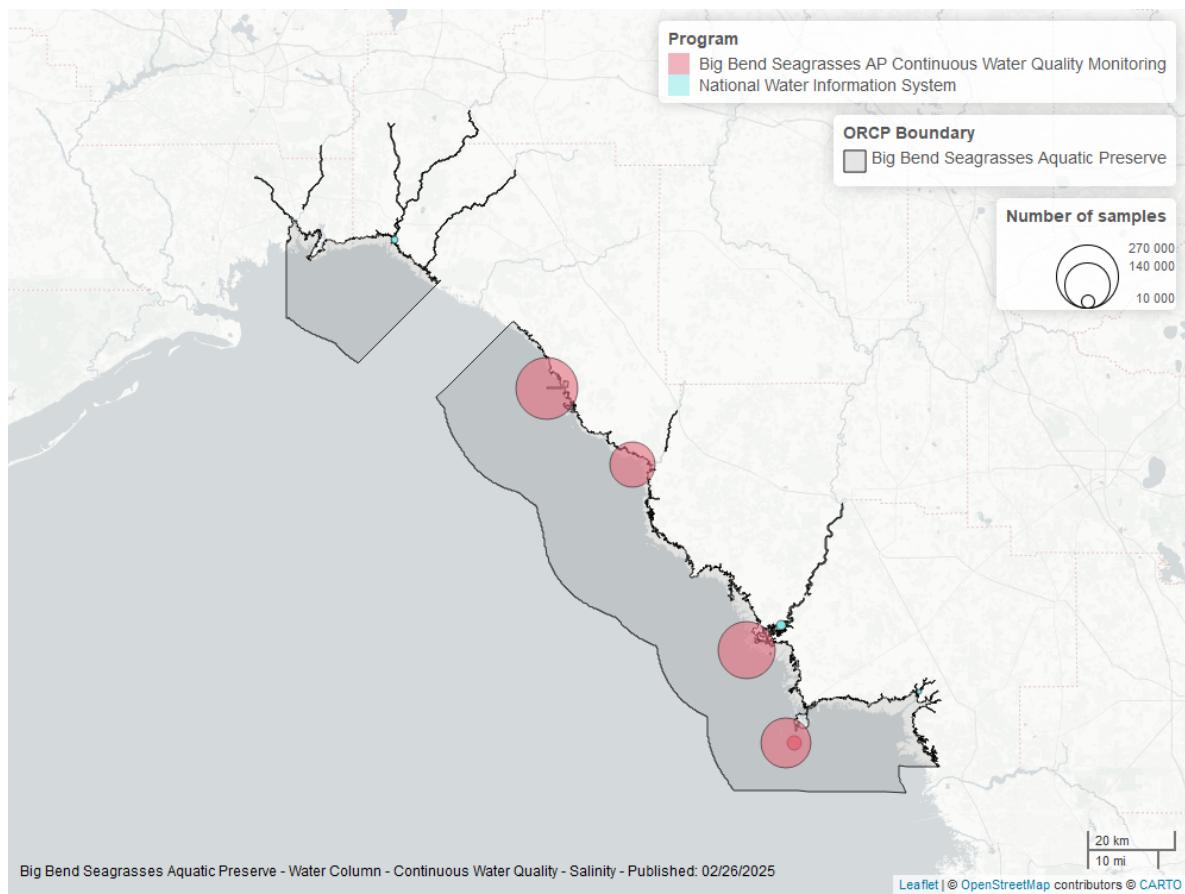


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
291652083064100	Insufficient data to calculate trend	827	1	2000 - 2000	6.7	-	-	-	NA
02326550	Significantly increasing trend	2507	8	2002 - 2009	1.7	0.48	0.09	0.76	0.000000115247349754
02313700	Significantly increasing trend	1601	7	2002 - 2009	2.1	0.52	0.1	0.53	0.000033865741313300
02323592	Significantly decreasing trend	6064	16	2000 - 2015	0.1	-0.13	0.18	0	0.015623463121353907
291842083085100	Insufficient data to calculate trend	584	1	2000 - 2000	3.7	-	-	-	NA
BBSDB	Significantly decreasing trend	265544	10	2007 - 2016	30.6	-0.53	33.78	-0.75	0.0000000000008379892
BBSCK	Insufficient data to calculate trend	14782	1	2023 - 2023	29.2	-	-	-	NA
BSSK	Significantly decreasing trend	178356	10	2004 - 2015	29.6	-0.22	30.77	-0.21	0.019680010552489437
BBSST	No significant trend	156720	6	2019 - 2024	28.5	0.08	27.59	0.15	0.516002935443586441
BBSSW	Significantly decreasing trend	221696	8	2009 - 2016	7.5	-0.23	10.39	-0.65	0.016010990810517173



Water Temperature - Discrete

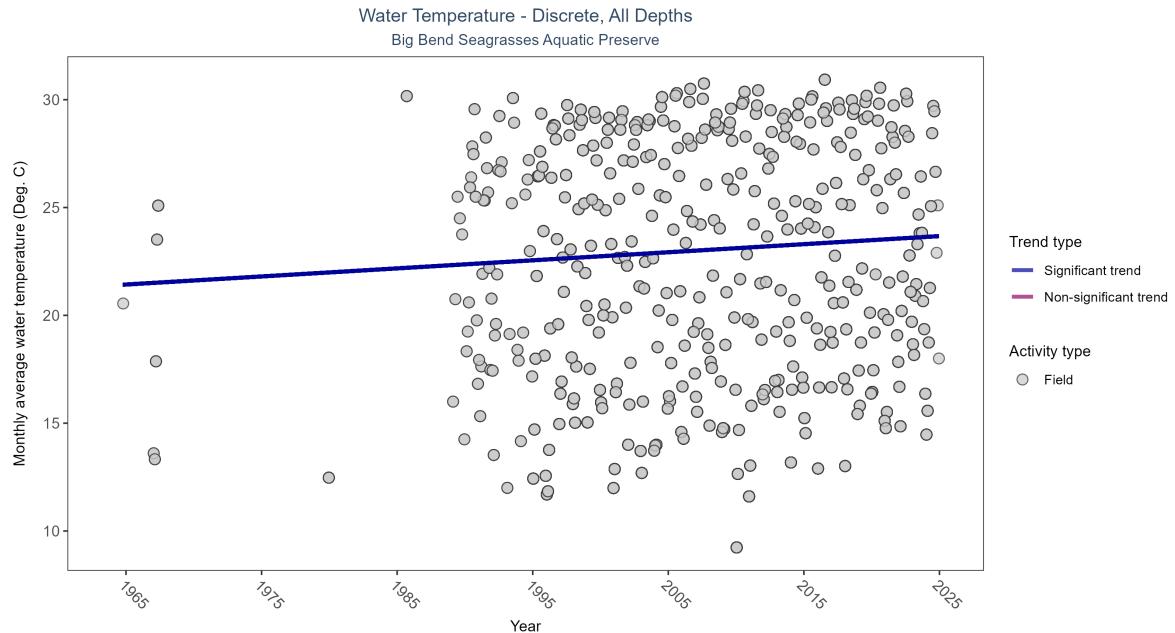
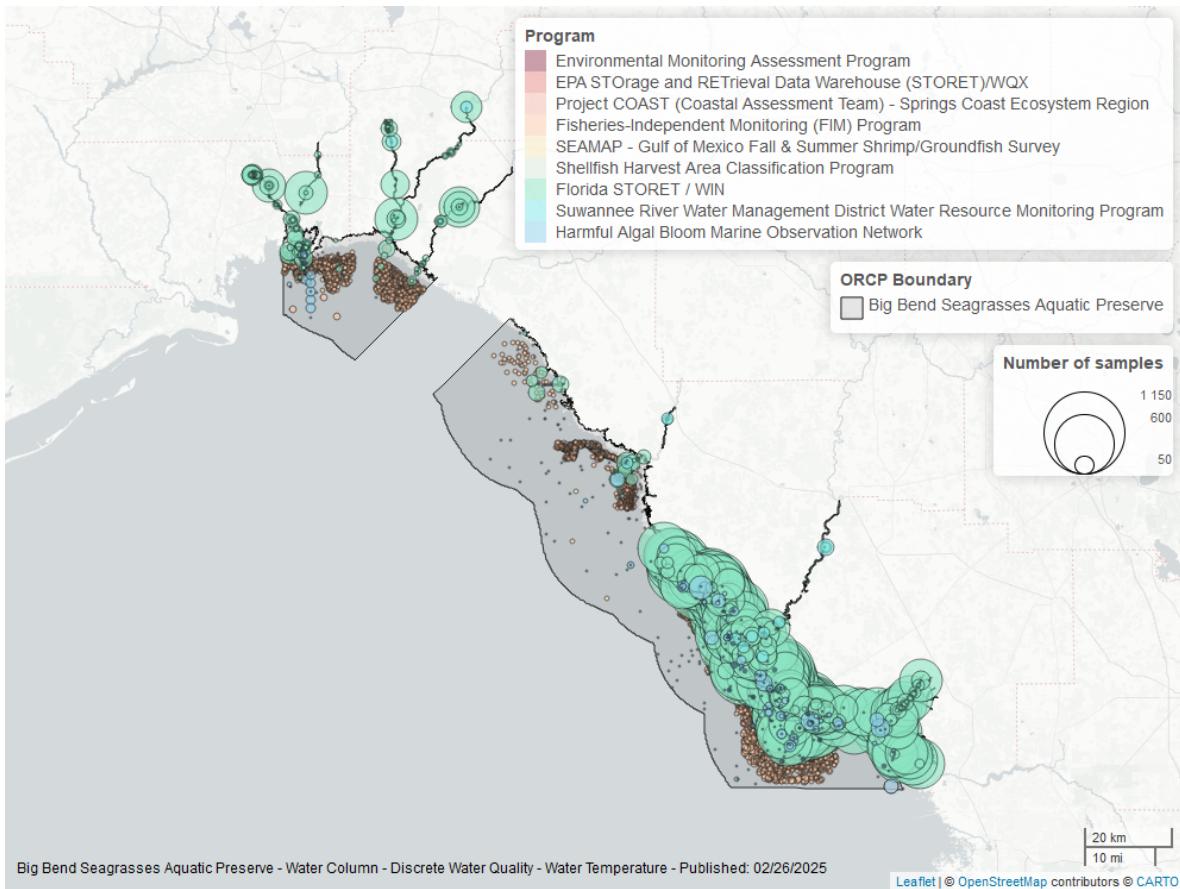


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

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	155972	40	1964 - 2024	24.1	0.1882	21.39186	0.03741	0.000000027742477672



Water Temperature - Continuous

National Water Information System - 7

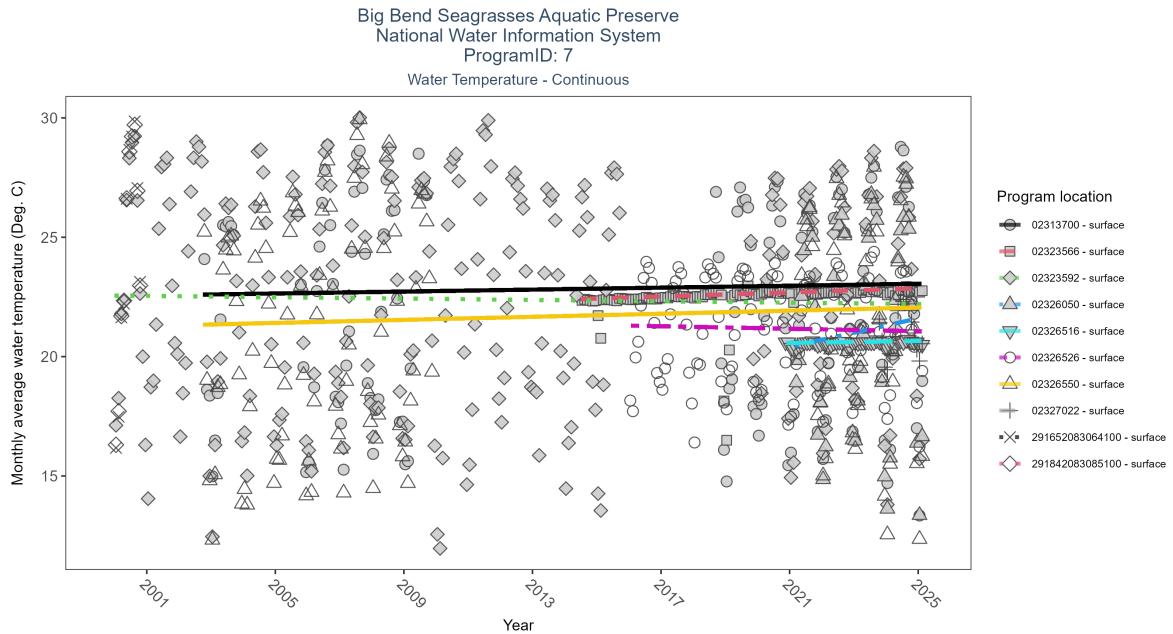
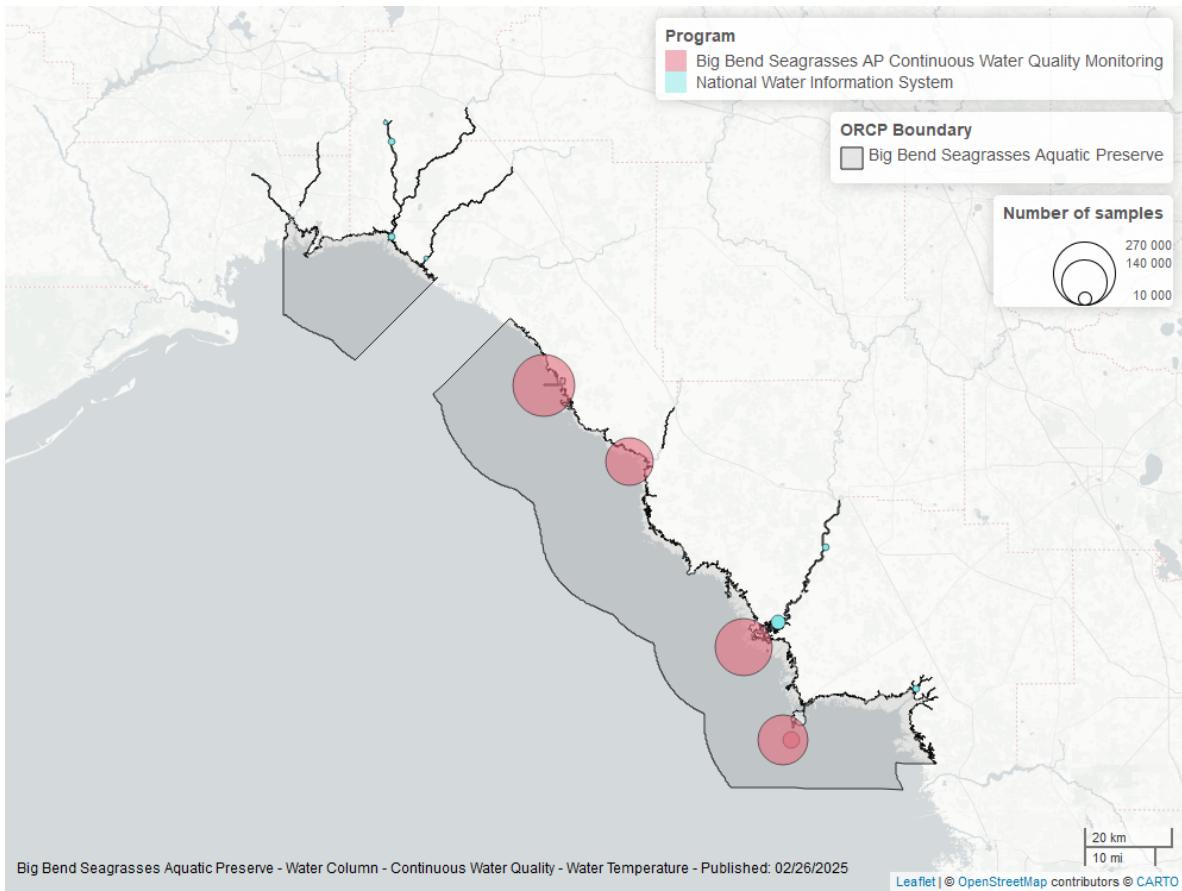


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slop	P
02323592	No significant trend	12738	23	2000 - 2025	23.3	-0.05	22.56	-0.01	0.2665700120650874027639076757623116
02327022	Insufficient data to calculate trend	462	3	2023 - 2025	21.0	-	-	-	NA
02326526	No significant trend	3198	10	2016 - 2025	21.5	-0.1	21.3	-0.03	0.1883126894880166069724240060168086
02326516	Significantly increasing trend	1425	6	2020 - 2025	20.6	0.36	20.56	0.02	0.0155983668183343558016895613604902
02326050	Significantly increasing trend	1510	5	2021 - 2025	21.6	0.33	20.4	0.3	0.0241122745630053536558534688083455
02326550	Significantly increasing trend	4604	13	2002 - 2025	22.2	0.18	21.31	0.03	0.011415680536861859293251697522464
02313700	No significant trend	3896	15	2002 - 2025	22.9	0.11	22.58	0.02	0.119465224365905877351352160076203
02323566	Significantly increasing trend	3820	12	2014 - 2025	22.6	0.76	22.39	0.04	0.000000000000000000000000000000002130451
291842083085100	Insufficient data to calculate trend	542	1	2000 - 2000	23.1	-	-	-	NA
291652083064100	Insufficient data to calculate trend	473	1	2000 - 2000	26.1	-	-	-	NA



Big Bend Seagrasses Aquatic Preserves Continuous Water Quality Monitoring - 471

Big Bend Seagrasses Aquatic Preserve
 Big Bend Seagrasses Aquatic Preserves Continuous Water Quality Monitoring
 ProgramID: 471
 Water Temperature - Continuous

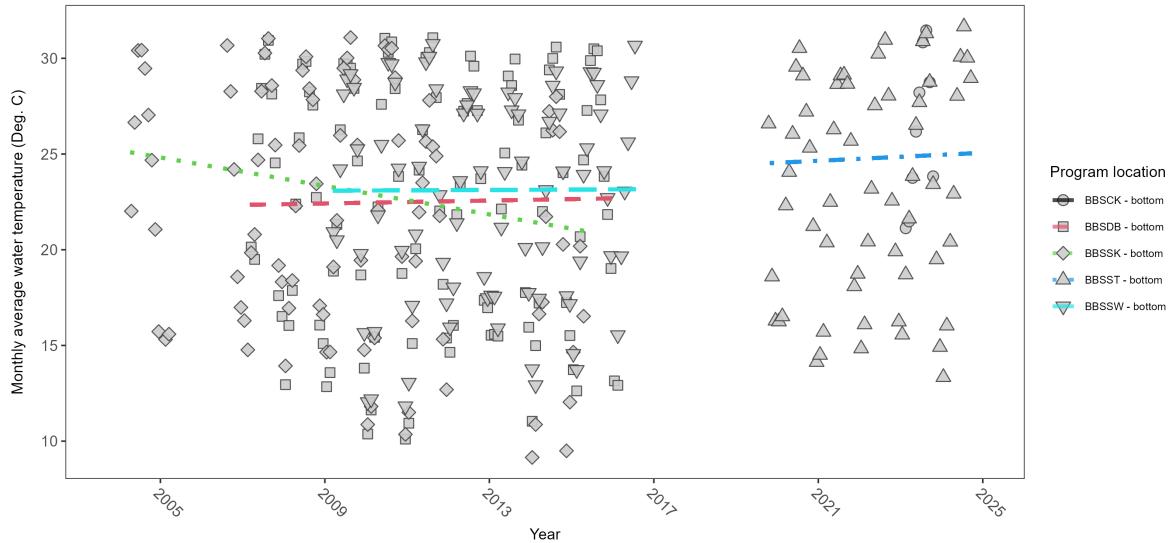
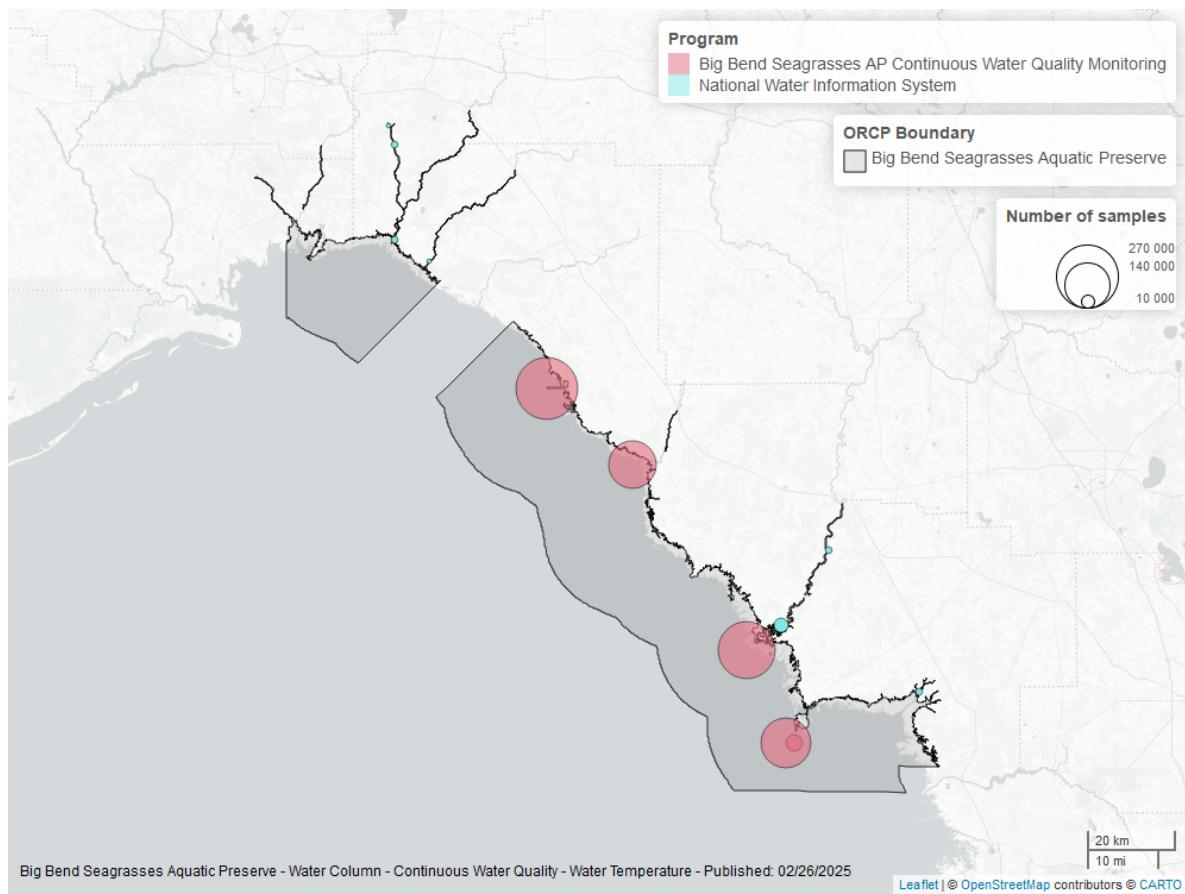


Table 11: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
BBSDB	No significant trend	265988	10	2007 - 2016	23.2	0.08	22.34	0.04	0.2921686010164561420054951668134890
BBSCK	Insufficient data to calculate trend	22232	1	2023 - 2023	26.4	-	-	-	NA
BBSSK	Significantly decreasing trend	179213	10	2004 - 2015	21.7	-0.33	25.19	-0.37	0.0002081717264234018147702615086914
BBSST	No significant trend	163227	6	2019 - 2024	23.5	0.1	24.44	0.1	0.5160029354435864412664614064851776
BBSSW	No significant trend	227996	8	2009 - 2016	23.7	0.02	23.09	0.01	0.902523501776794258319114305777475



pH - Discrete

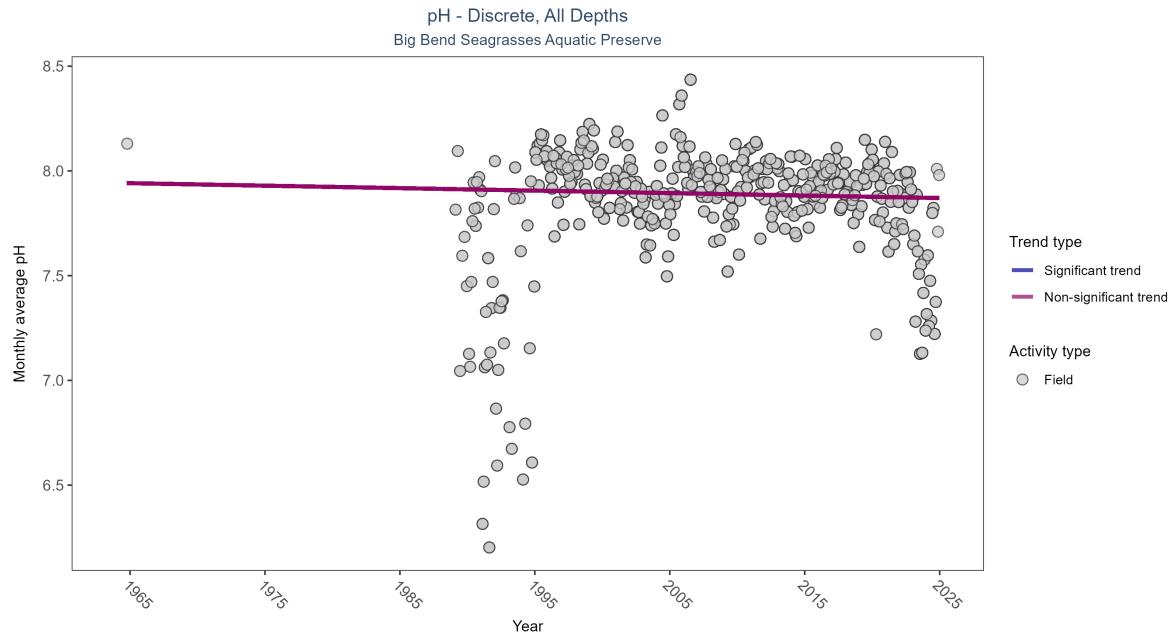
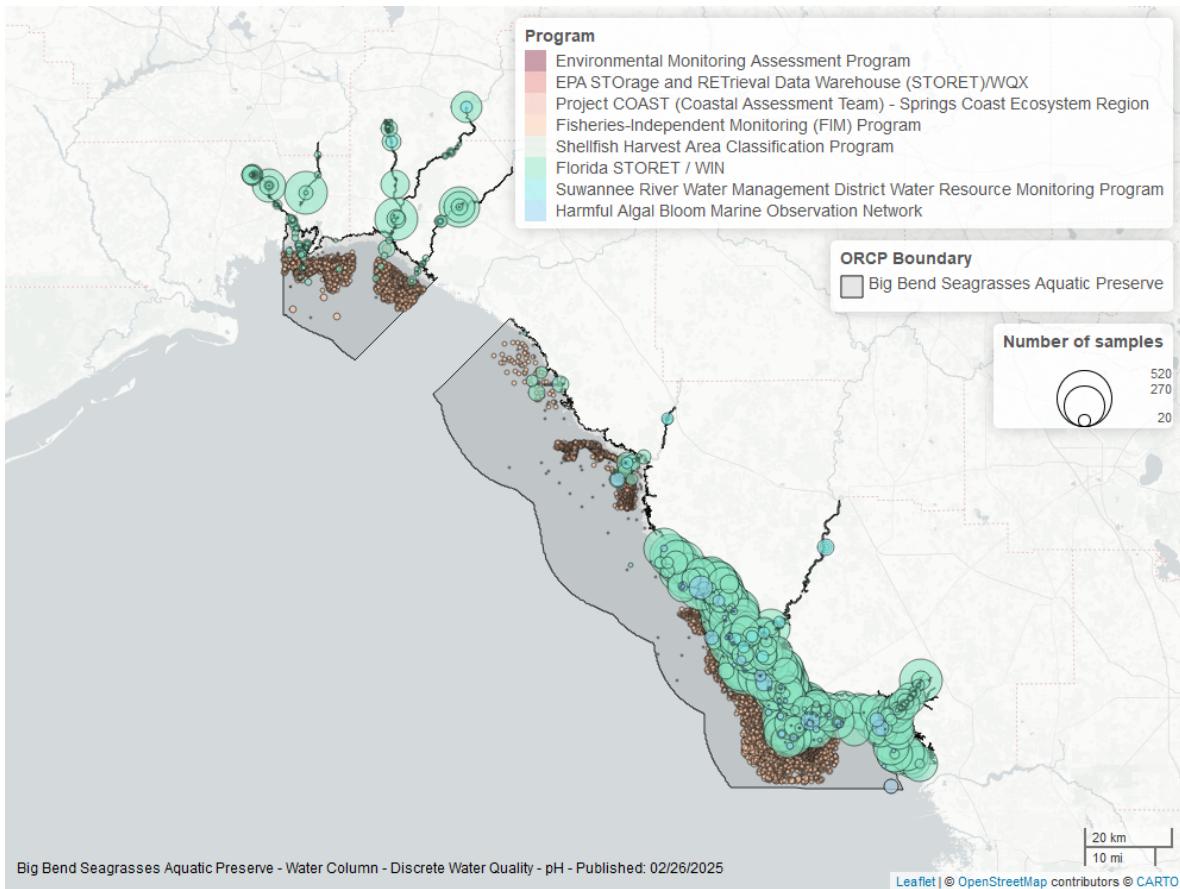


Table 12: Seasonal Kendall-Tau Results for - pH

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	106775	37	1964 - 2024	8	-0.04757	7.94261	-0.00118	0.21300259559186832114541232385818148031831



pH - Continuous

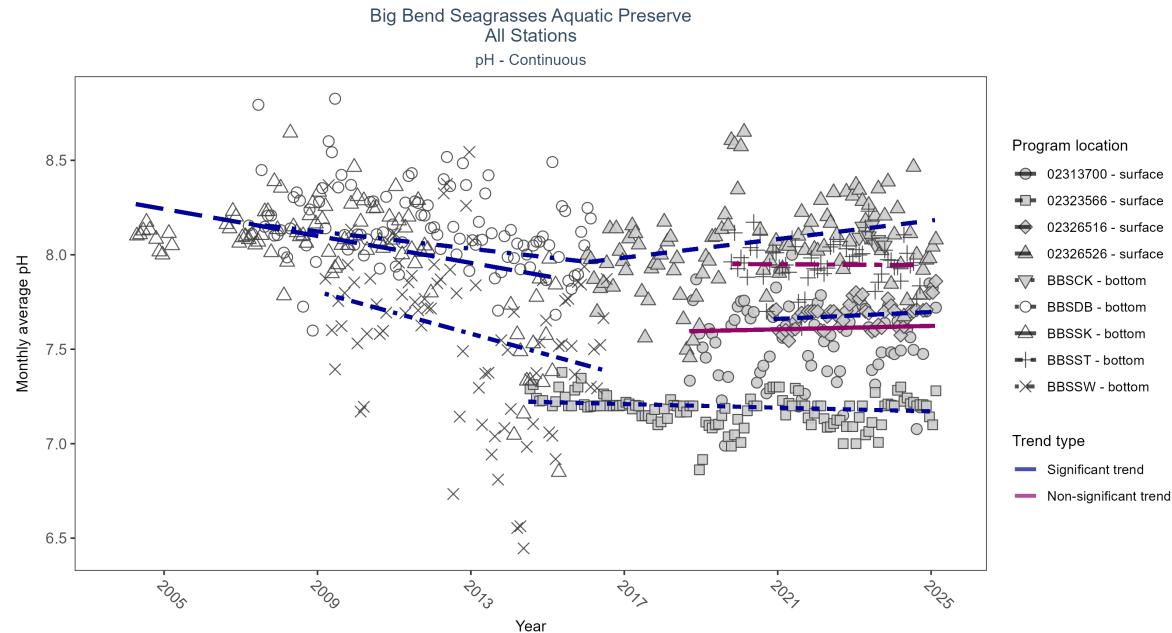
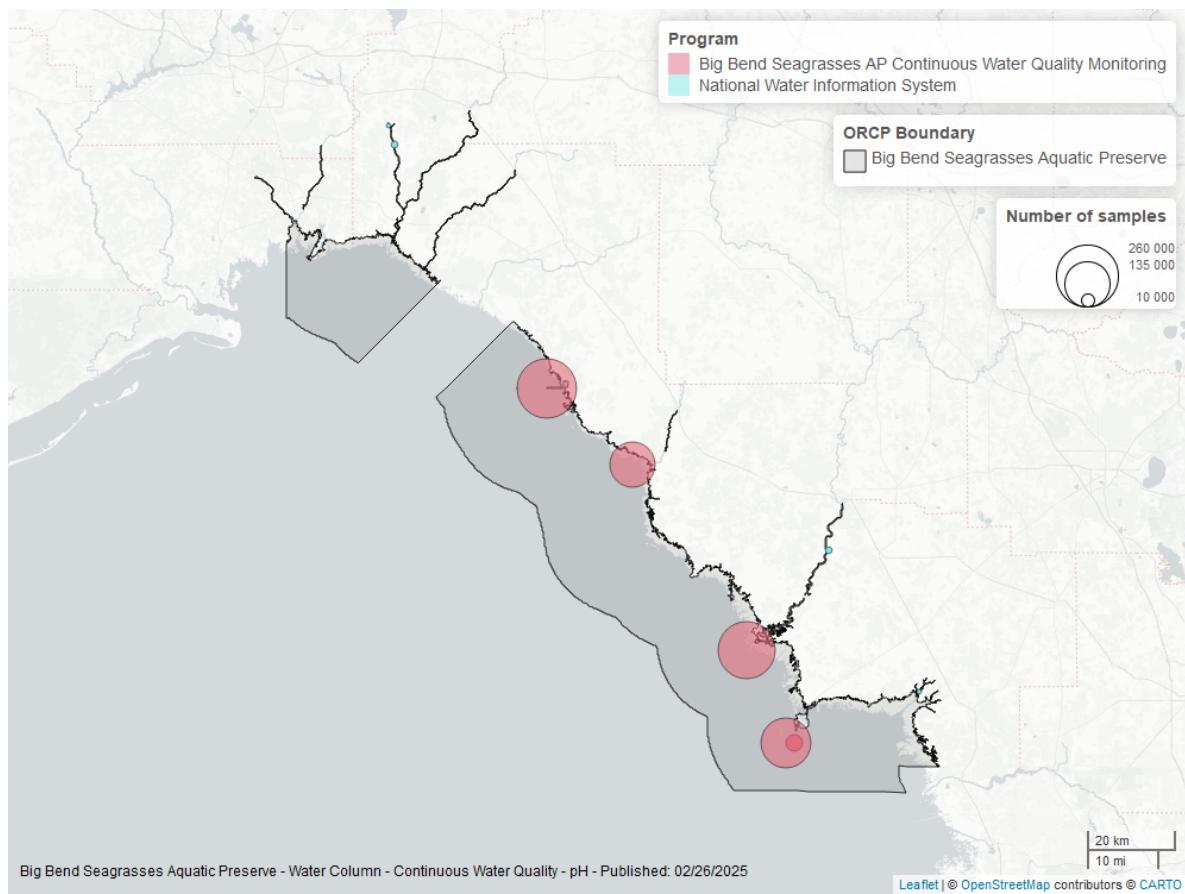


Table 13: Seasonal Kendall-Tau Results for All Stations - pH

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
02326516	Significantly increasing trend	1348	6	2020 - 2025	7.7	0.3	7.65	0.01	0.00776618348
02326526	Significantly increasing trend	2952	10	2016 - 2025	8.0	0.22	7.96	0.02	0.00648298558
02323566	Significantly decreasing trend	3521	12	2014 - 2025	7.2	-0.16	7.22	0	0.02659267697
02313700	No significant trend	2187	8	2018 - 2025	7.6	0.07	7.59	0	0.59144373990
BBSDB	Significantly decreasing trend	250183	10	2007 - 2016	8.1	-0.28	8.17	-0.02	0.00038838798
BBSCK	Insufficient data to calculate trend	18185	1	2023 - 2023	8.1	-	-	-	NA
BBSSK	Significantly decreasing trend	168278	10	2004 - 2015	8.1	-0.37	8.28	-0.04	0.00004801481
BBSST	No significant trend	153335	6	2019 - 2024	8.0	-0.01	7.95	0	0.94123240612
BBSSW	Significantly decreasing trend	224733	8	2009 - 2016	7.6	-0.29	7.8	-0.06	0.00166933664



Water Clarity

Turbidity - Discrete

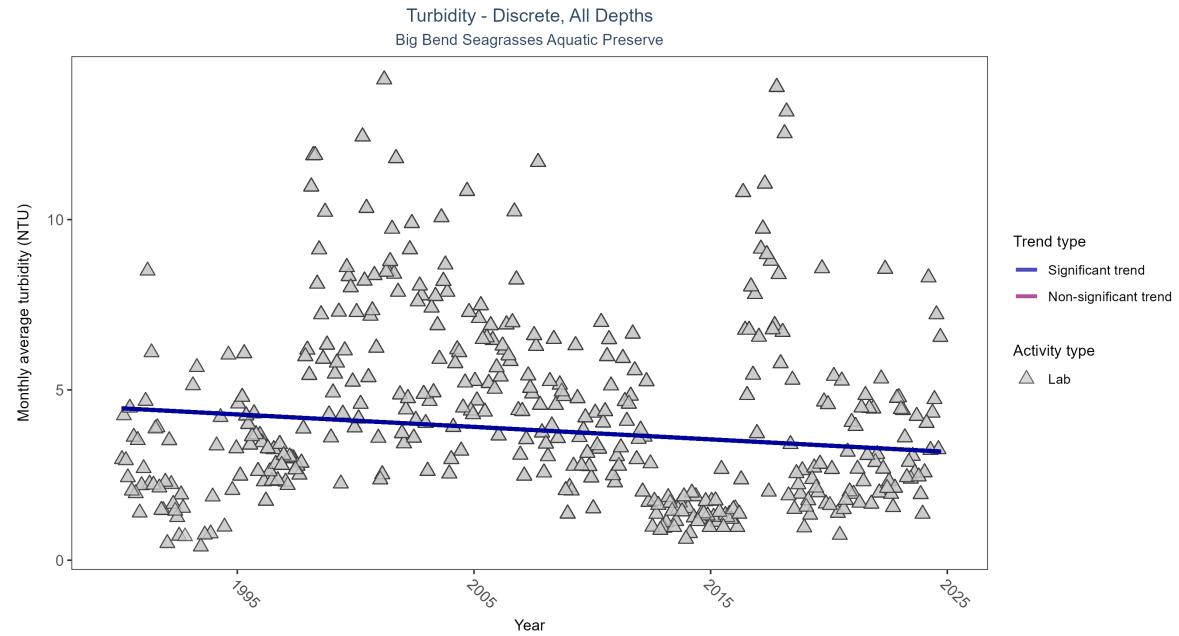
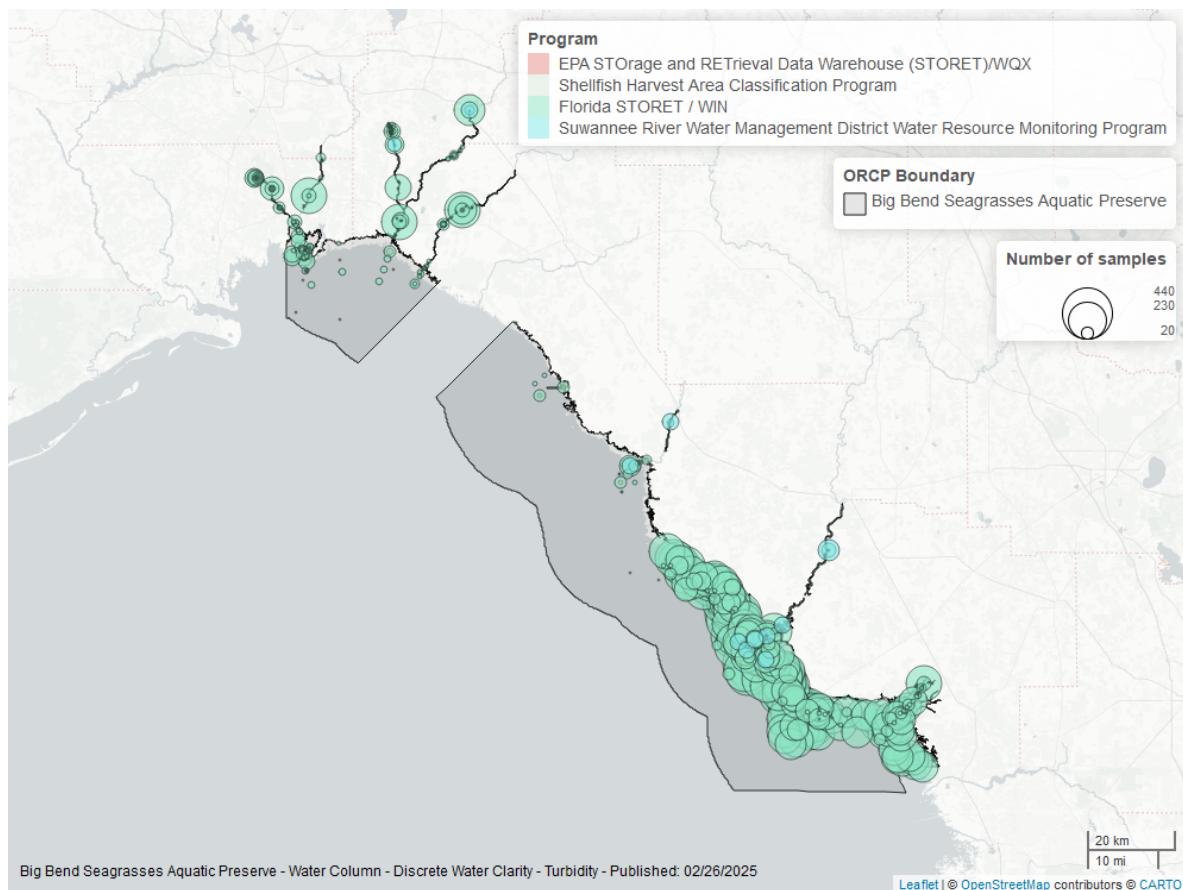


Table 14: Seasonal Kendall-Tau Results for - Turbidity

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	42811	35	1990 - 2024	3.4	-0.10483	4.46361	-0.03663	0.00259500197819501630



Turbidity - Continuous

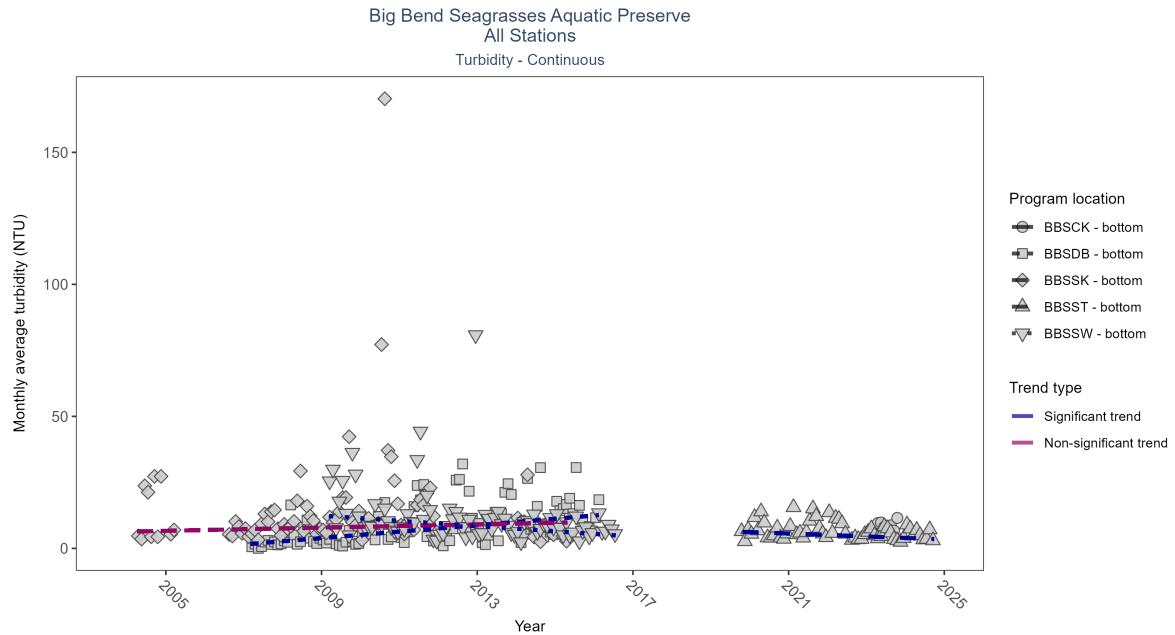
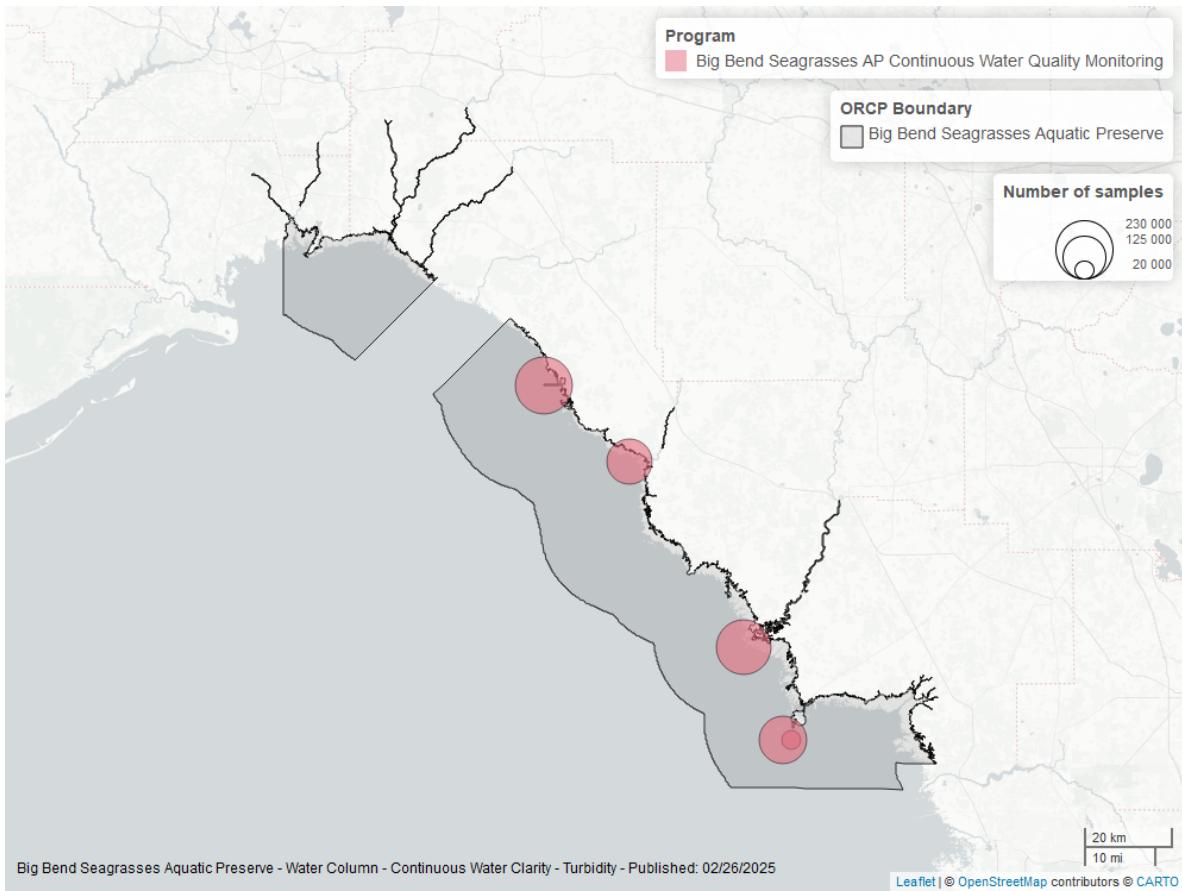


Table 15: Seasonal Kendall-Tau Results for All Stations - Turbidity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
BBSDB	Significantly increasing trend	224613	10	2007 - 2016	1	0.49	1.47	1.22	0.0000000001920921
BBSCK	Insufficient data to calculate trend	23243	1	2023 - 2023	7	-	-	-	NA
BBSSK	No significant trend	165043	10	2004 - 2015	5	0.11	6.35	0.3	0.1866846245524357
BBSST	Significantly decreasing trend	157393	6	2019 - 2024	4	-0.31	6.73	-0.55	0.0115399884902590
BBSSW	Significantly decreasing trend	202699	8	2009 - 2016	6	-0.35	12.41	-0.99	0.0000749471215833



Total Suspended Solids - Discrete

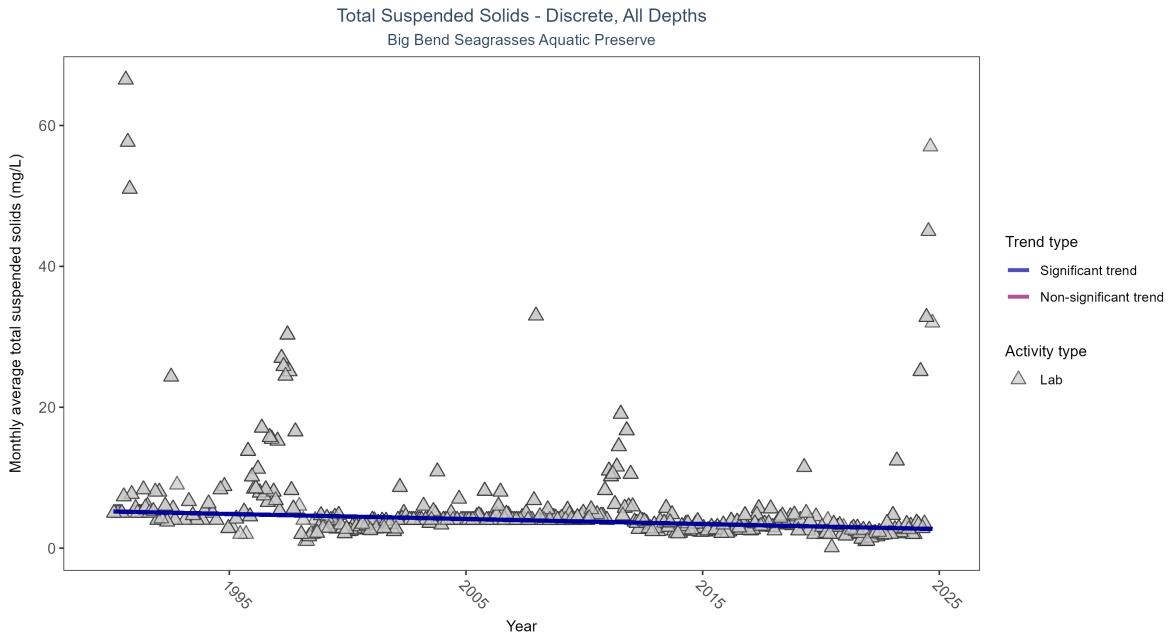
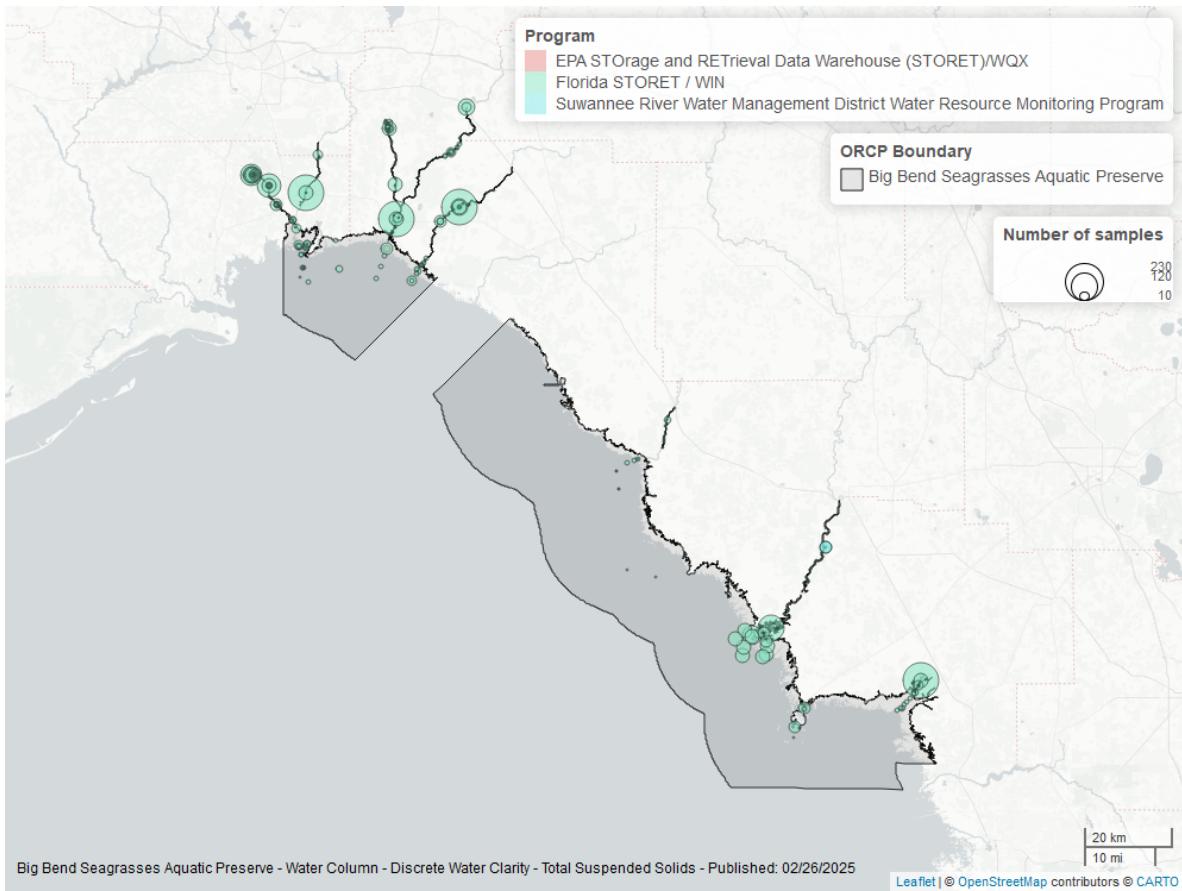


Table 16: Seasonal Kendall-Tau Results for - Total Suspended Solids

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly decreasing trend	2933	35	1990 - 2024	4	-0.32565	5.20833	-0.07143	0.000000000000000017780025292551



Chlorophyll a, Uncorrected for Pheophytin - Discrete

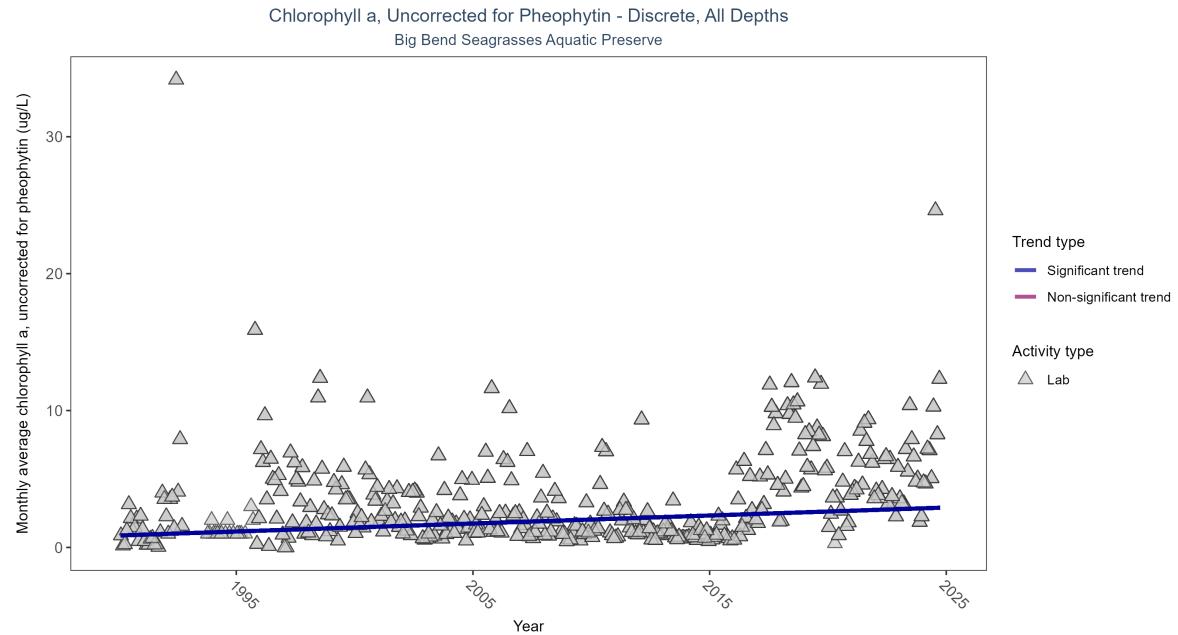
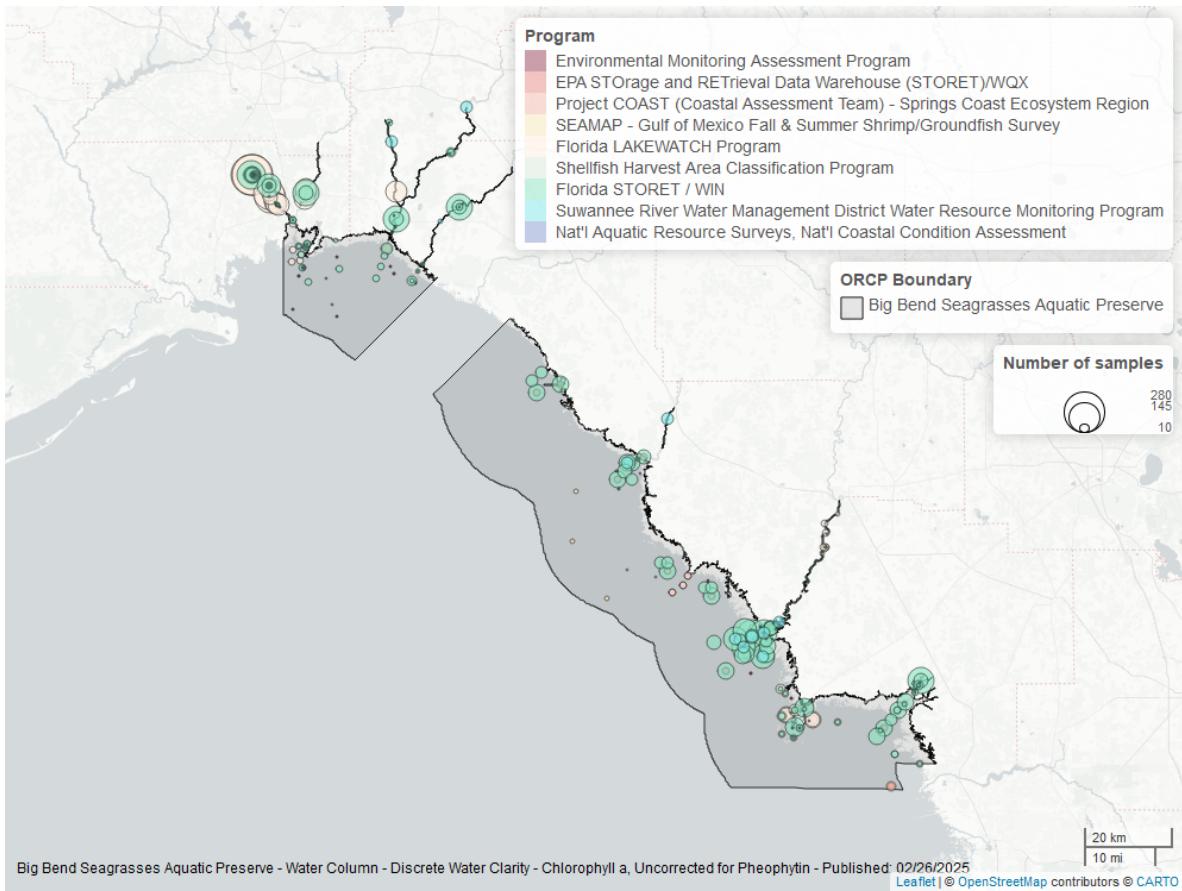


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

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	6375	35	1990 - 2024	1.2	0.20723	0.87239	0.05836	0.0000000241361790807768621



Chlorophyll a, Corrected for Pheophytin - Discrete

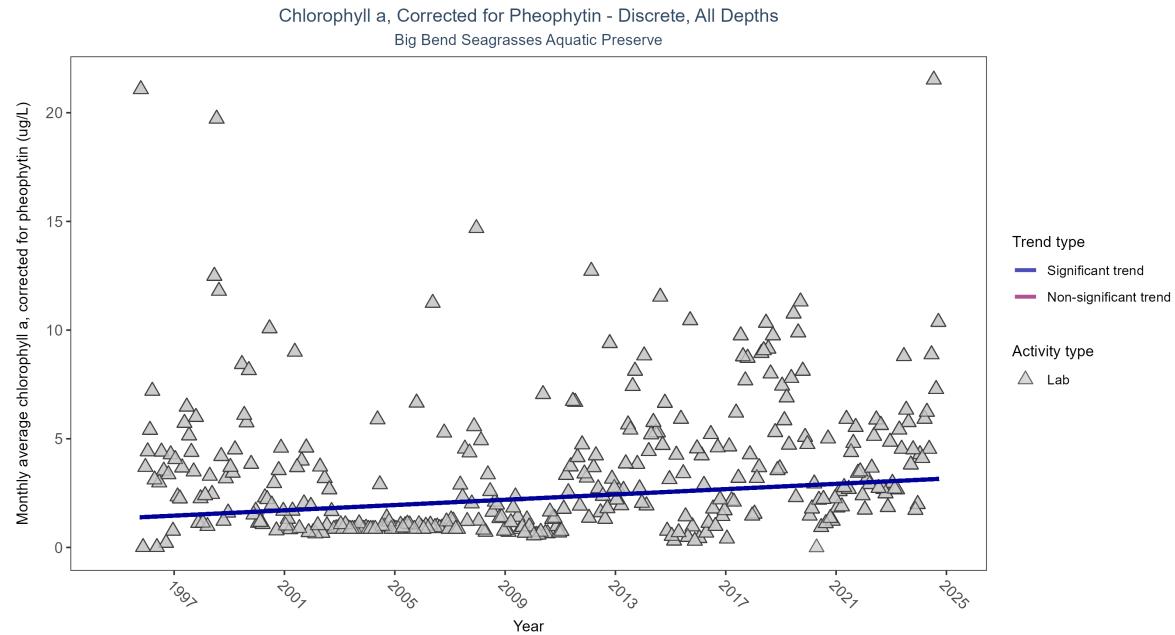
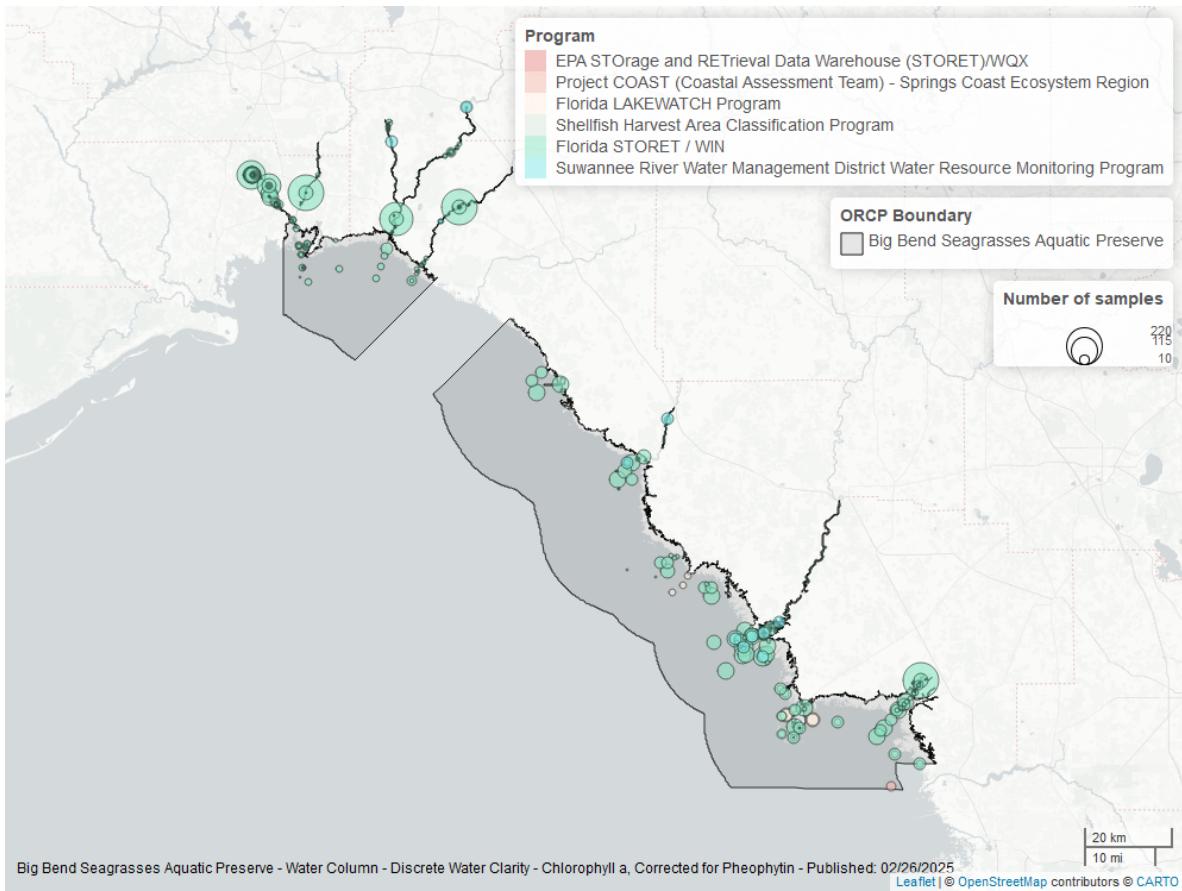


Table 18: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly increasing trend	4771	30	1995 - 2024	1.1	0.17446	1.34092	0.06097	0.0000046088045504789213395284



Secchi Depth - Discrete

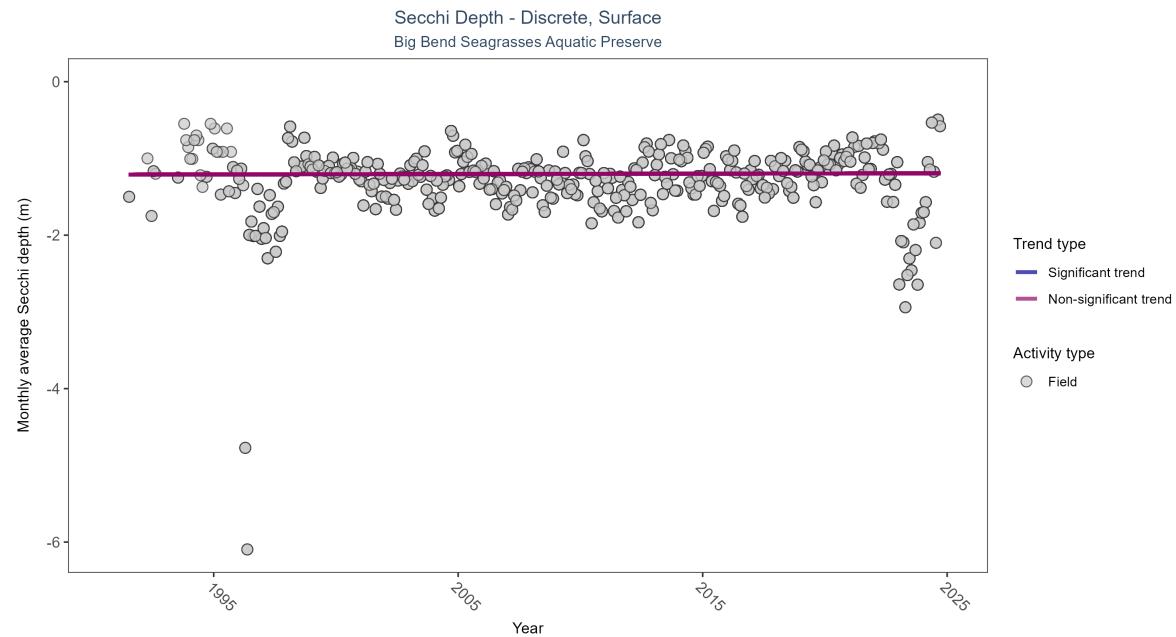
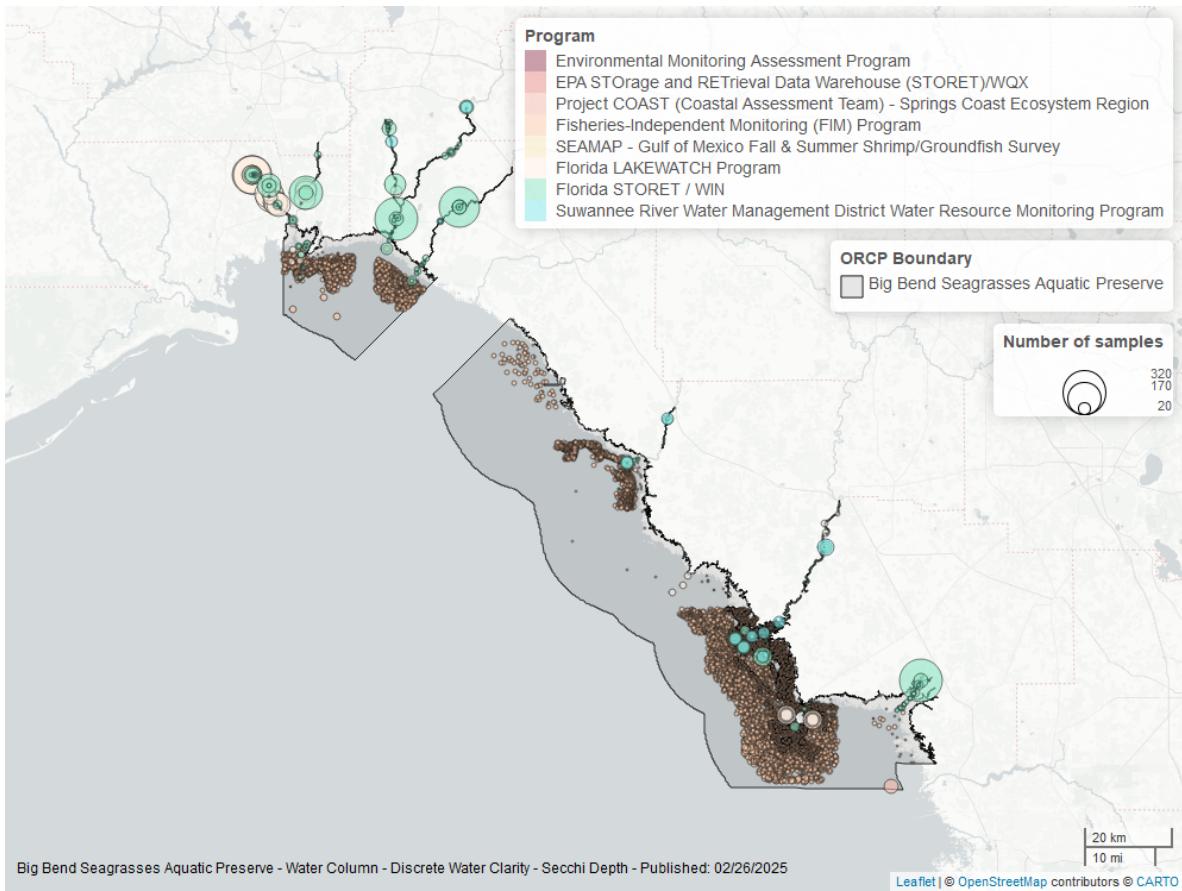


Table 19: Seasonal Kendall-Tau Results for - Secchi Depth

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	58852	34	1991 - 2024	-0.9	0.0107	-1.21064	0.0005	0.8012002298473376304954740589892



Colored Dissolved Organic Matter - Discrete

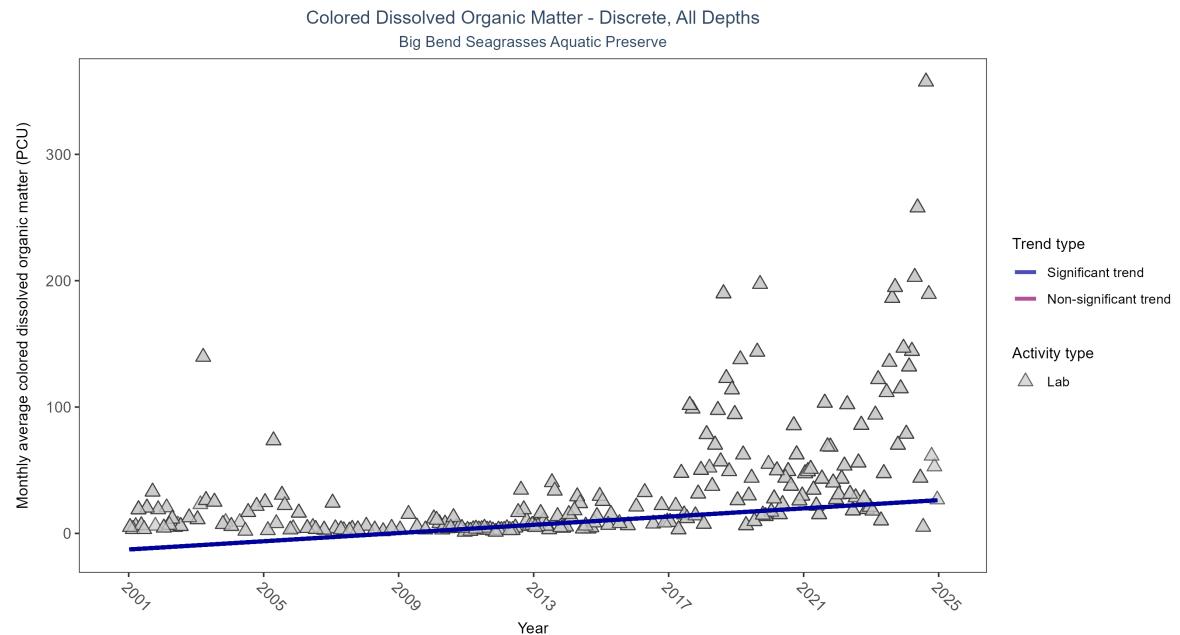


Table 20: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

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	2790	24	2001 - 2024	17.2	0.45728	-12.71501	1.62674	0.00000000000000001007939

