Biscayne Bay Aquatic Preserve

SEACAR Discrete Water Quality Analysis

Last compiled on 14 August, 2024

Contents

Indicators

Nutrients

Total Nitrogen - Discrete

Total Nitrogen - Discrete, All Depths
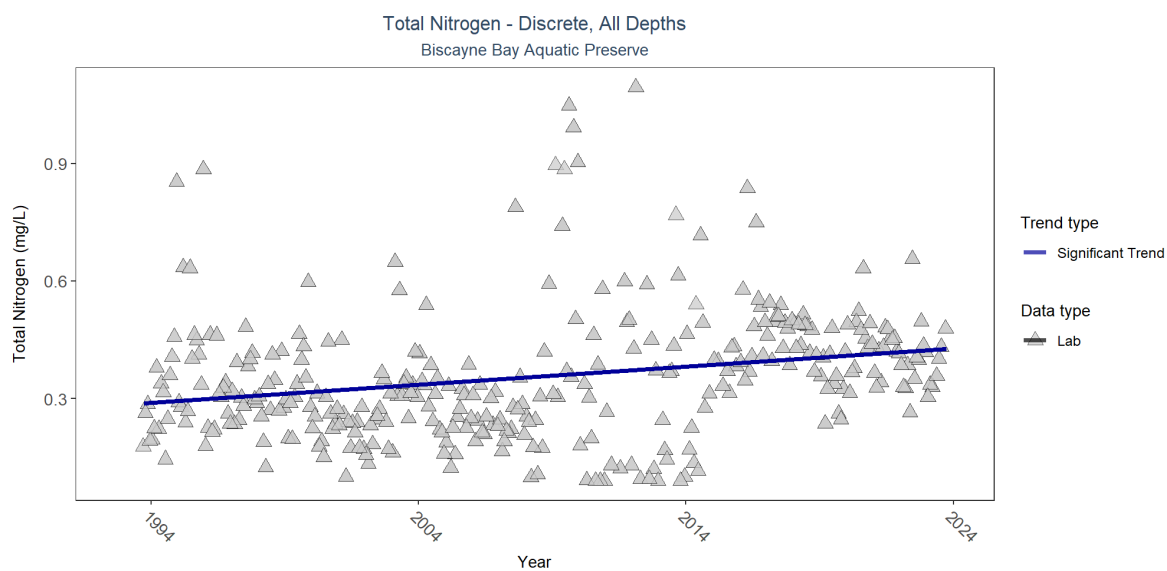Biscayne Bay Aquatic Preserve

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

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly increasing trend	6505	31	1993 - 2023	0.3339	0.2058	0.28451	0.00463	0.0000

Total Phosphorus - Discrete

Total Phosphorus - Discrete, All Depths
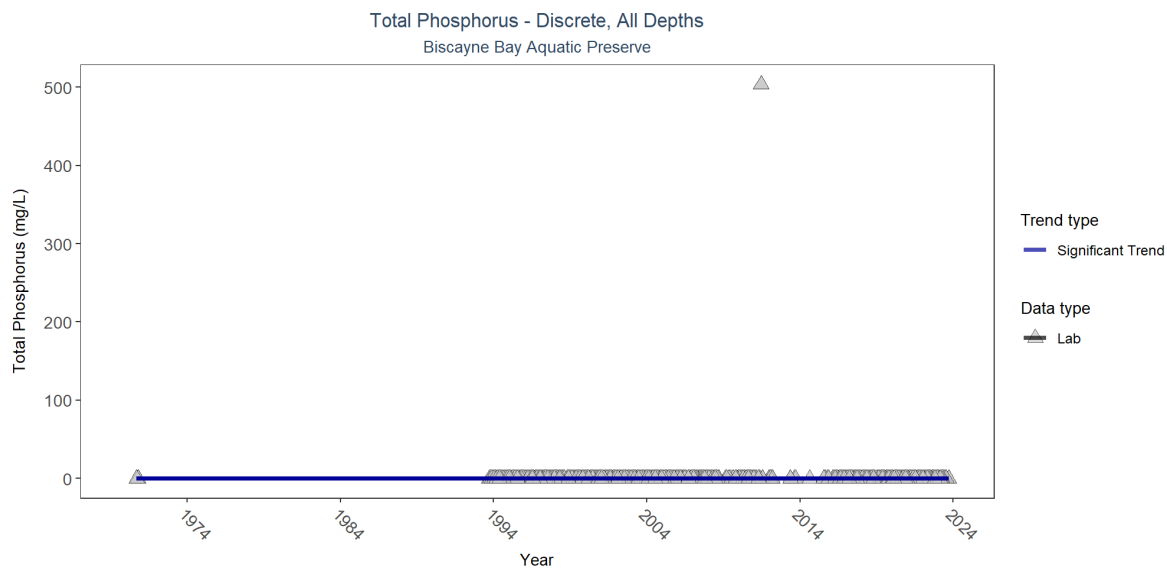#### Biscayne Bay Aquatic Preserve

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

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly increasing trend	6436	32	1970 - 2023	0.01	0.3976	-0.00505	0.00038	0.0000

Water Quality

Dissolved Oxygen - Discrete

Dissolved Oxygen - Discrete, All Depths
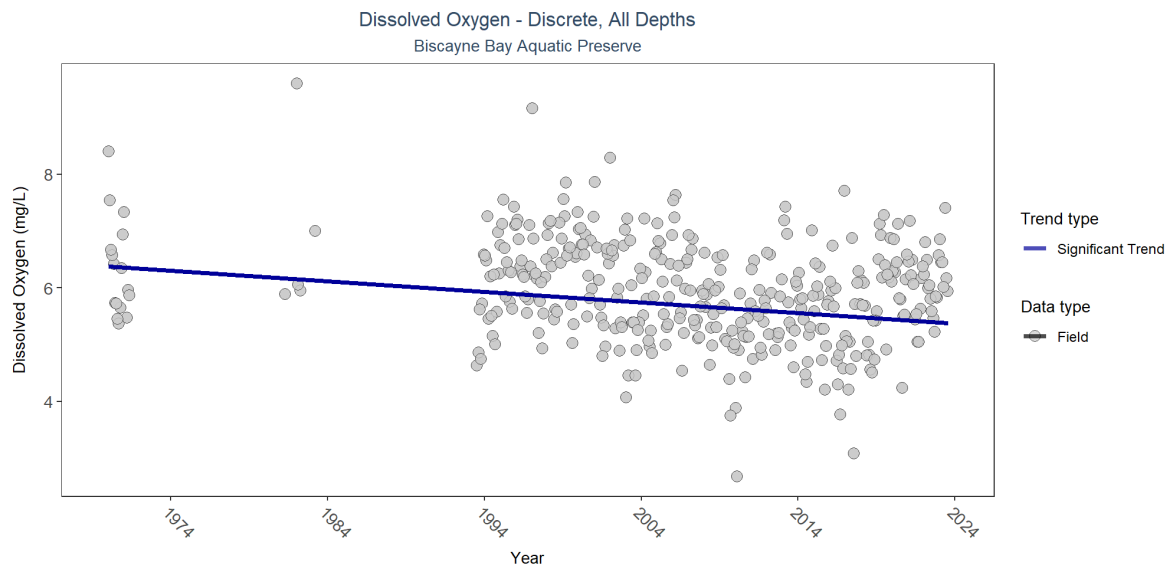Biscayne Bay Aquatic Preserve

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

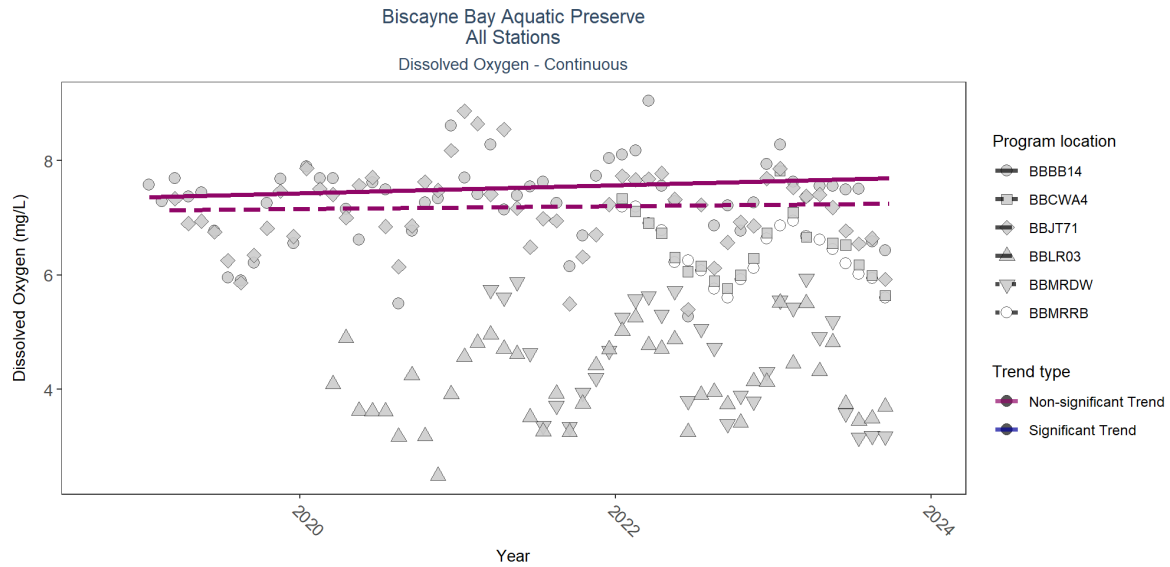| ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly decreasing trend	16950	36	1970 - 2023	6	-0.2251	6.3707	-0.01855	0.0000

Dissolved Oxygen - Continuous

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

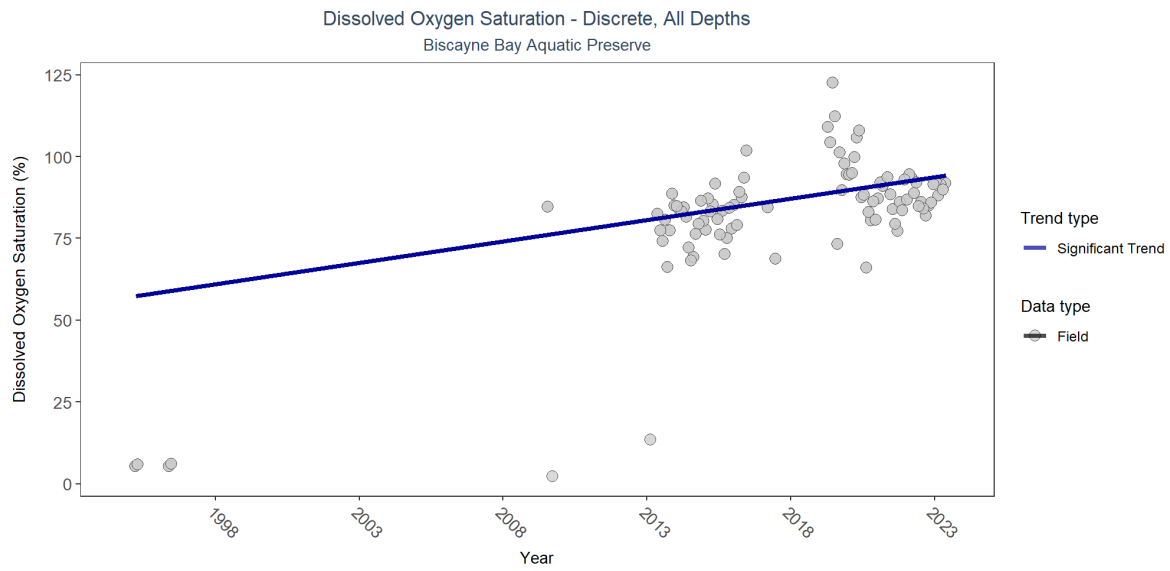| ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBMRDW	Insufficient data to calculate trend	84141	3	2021 - 2023	4.5	-	-	-	-
BBMRRB	Insufficient data to calculate trend	59422	2	2022 - 2023	6.4	-	-	-	-
BBBB14	No significant trend	143962	5	2019 - 2023	7.3	0.18	7.36	0.07	0.1427
BBLR03	Insufficient data to calculate trend	112890	4	2020 - 2023	4.1	-	-	-	-
BBCWA4	Insufficient data to calculate trend	53909	2	2022 - 2023	6.5	-	-	-	-
BBJT71	No significant trend	159528	5	2019 - 2023	7.0	0.1	7.13	0.02	0.3845

Dissolved Oxygen Saturation - Discrete

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

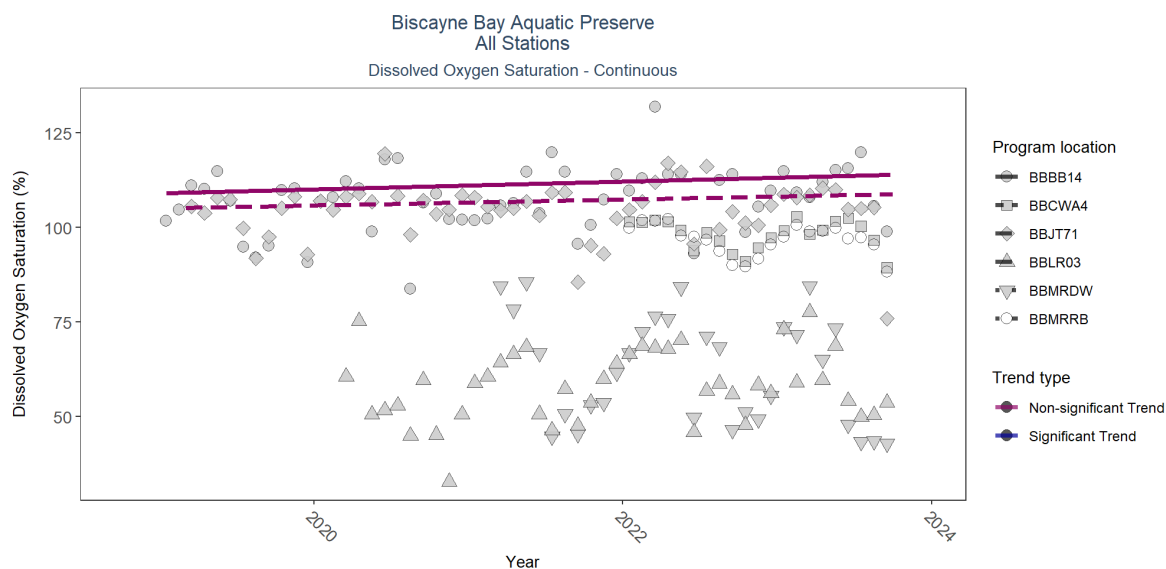| ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly increasing trend	5771	13	1995 - 2023	90.1	0.3877	56.9734	1.31463	0.0000

Dissolved Oxygen Saturation - Continuous

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

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBBB14	No significant trend	143703	5	2019 - 2023	105.3	0.2	109.08	1.02	0.1052
BBCWA4	Insufficient data to calculate trend	57632	2	2022 - 2023	98.0	-	-	-	-
BBJT71	No significant trend	159687	5	2019 - 2023	102.2	0.17	105.08	0.77	0.1790
BBMRDW	Insufficient data to calculate trend	84142	3	2021 - 2023	60.3	-	-	-	-
BBMRRB	Insufficient data to calculate trend	59430	2	2022 - 2023	96.2	-	-	-	-
BBLR03	Insufficient data to calculate trend	112890	4	2020 - 2023	56.8	-	-	-	-

Salinity - Discrete

Salinity - Discrete, All Depths
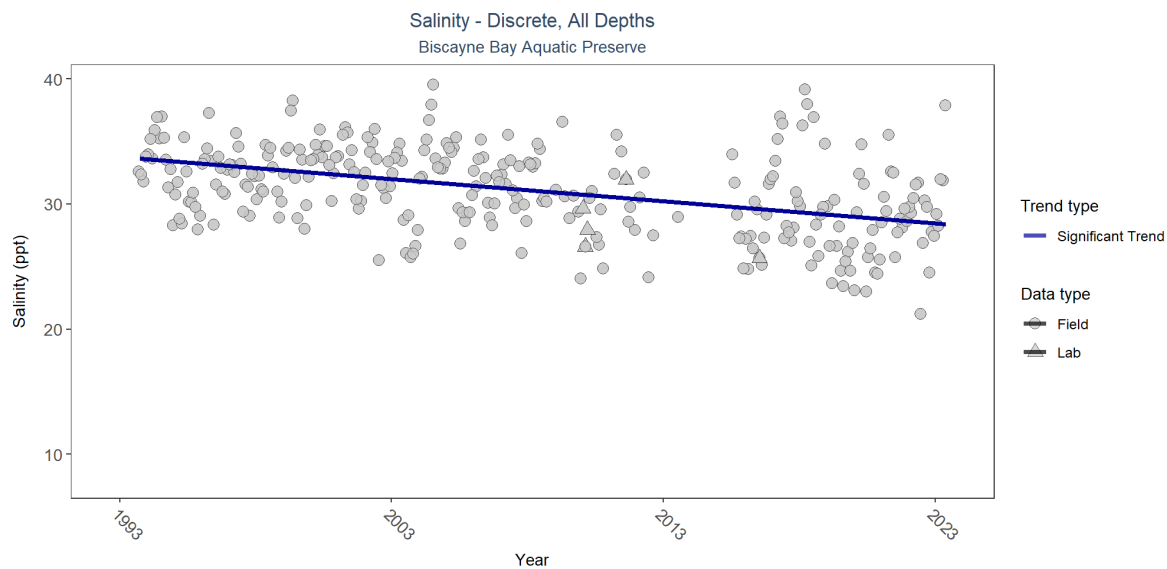Biscayne Bay Aquatic Preserve

Table 7: Seasonal Kendall-Tau Results for - Salinity

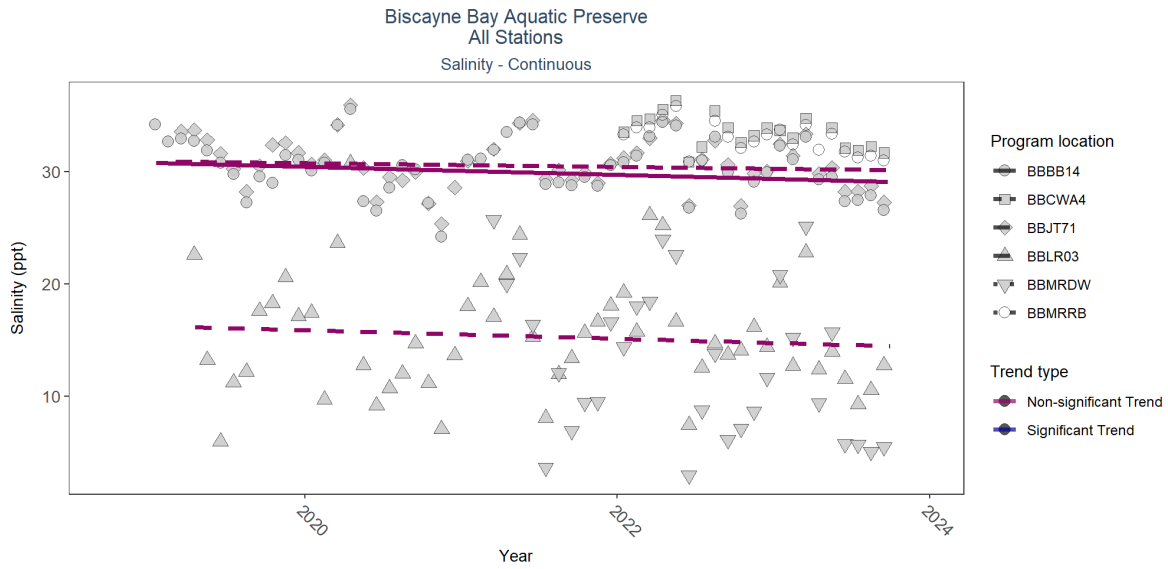| ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
All	Significantly decreasing trend	19366	31	1993 - 2023	32.2	-0.374	33.75433	-0.17629	0.0000

Salinity - Continuous

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

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBLR03	No significant trend	134713	5	2019 - 2023	15.7	-0.09	16.24	-0.37	0.4654
BBMRDW	Insufficient data to calculate trend	82270	3	2021 - 2023	11.1	-	-	-	-
BBJT71	No significant trend	145764	5	2019 - 2023	31.0	-0.06	30.91	-0.17	0.6207
BBCWA4	Insufficient data to calculate trend	52024	2	2022 - 2023	33.7	-	-	-	-
BBBB14	No significant trend	133576	5	2019 - 2023	30.3	-0.18	30.76	-0.35	0.2728
BBMRRB	Insufficient data to calculate trend	59430	2	2022 - 2023	33.1	-	-	-	-

Water Temperature - Discrete

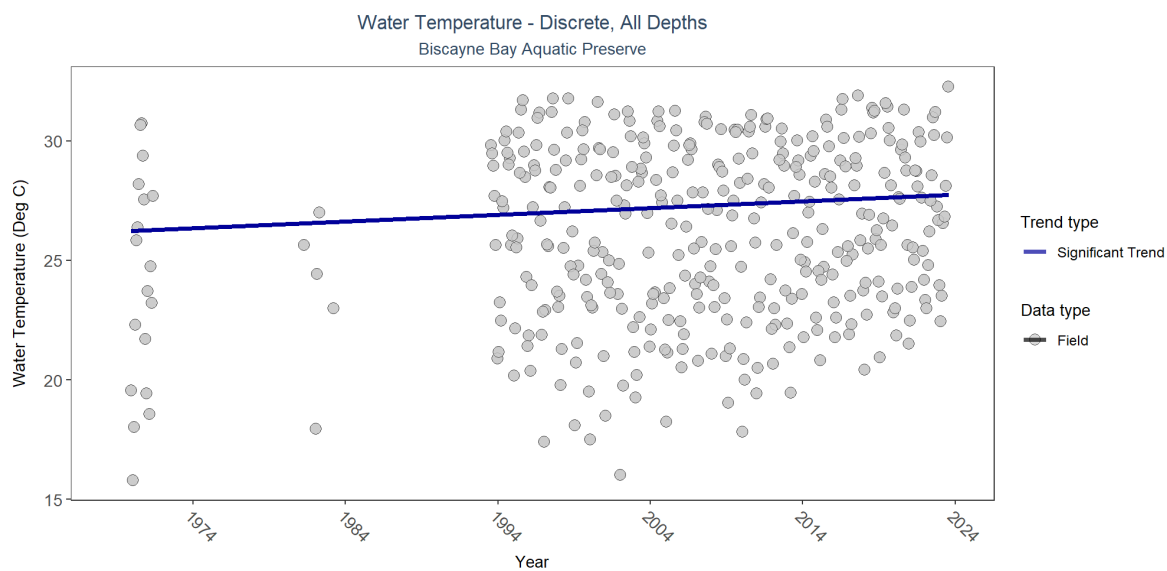Water Temperature - Discrete, All Depths
Biscayne Bay Aquatic Preserve

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

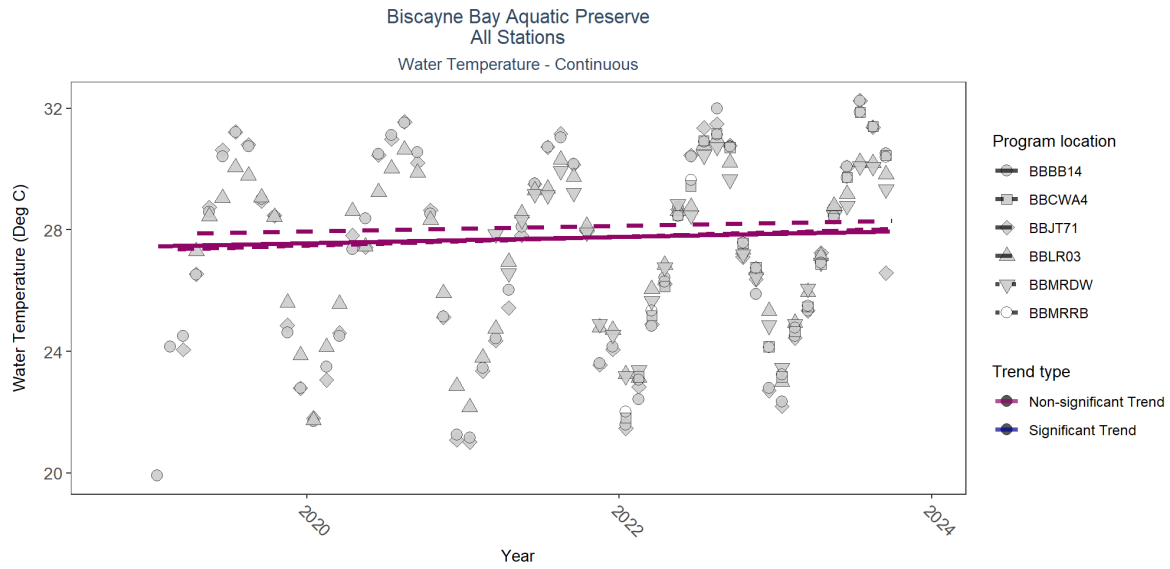| ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly increasing trend	20489	37	1969 - 2023	26.99	0.1597	26.20279	0.02827	0.0000

Water Temperature - Continuous

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

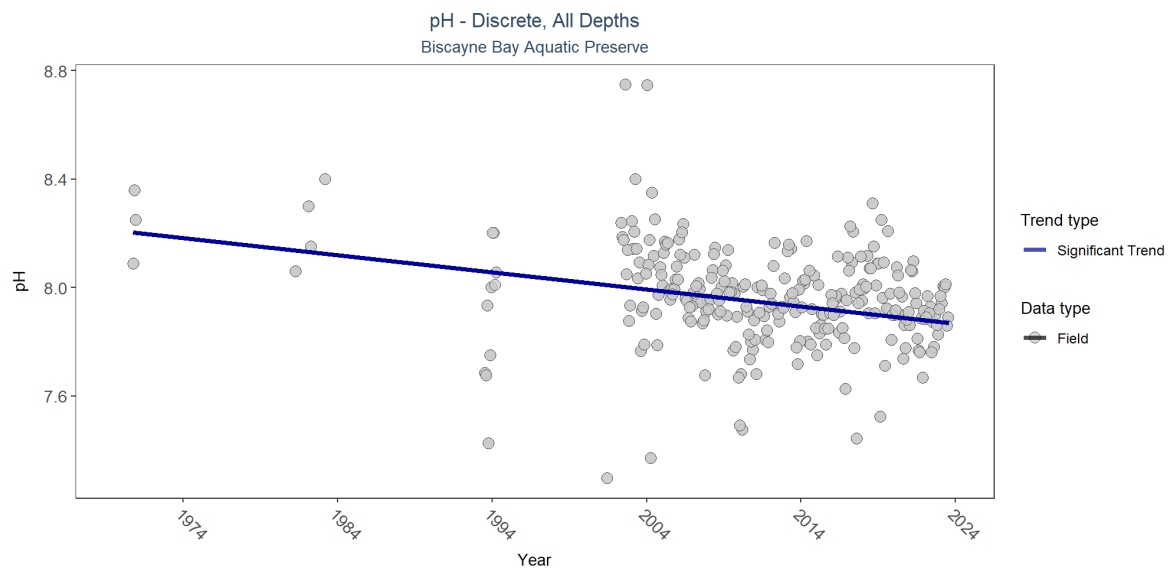| ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBJT71	No significant trend	160039	5	2019 - 2023	27.7	0.12	27.34	0.15	0.3845
BBBB14	No significant trend	144074	5	2019 - 2023	27.5	0.16	27.45	0.1	0.1897
BBLR03	No significant trend	139156	5	2019 - 2023	28.0	0.19	27.86	0.09	0.1679
BBMRDW	Insufficient data to calculate trend	84153	3	2021 - 2023	27.9	-	-	-	-
BBCWA4	Insufficient data to calculate trend	57815	2	2022 - 2023	27.6	-	-	-	-
BBMRRB	Insufficient data to calculate trend	59474	2	2022 - 2023	27.7	-	-	-	-

pH - Discrete

Table 11: Seasonal Kendall-Tau Results for - pH

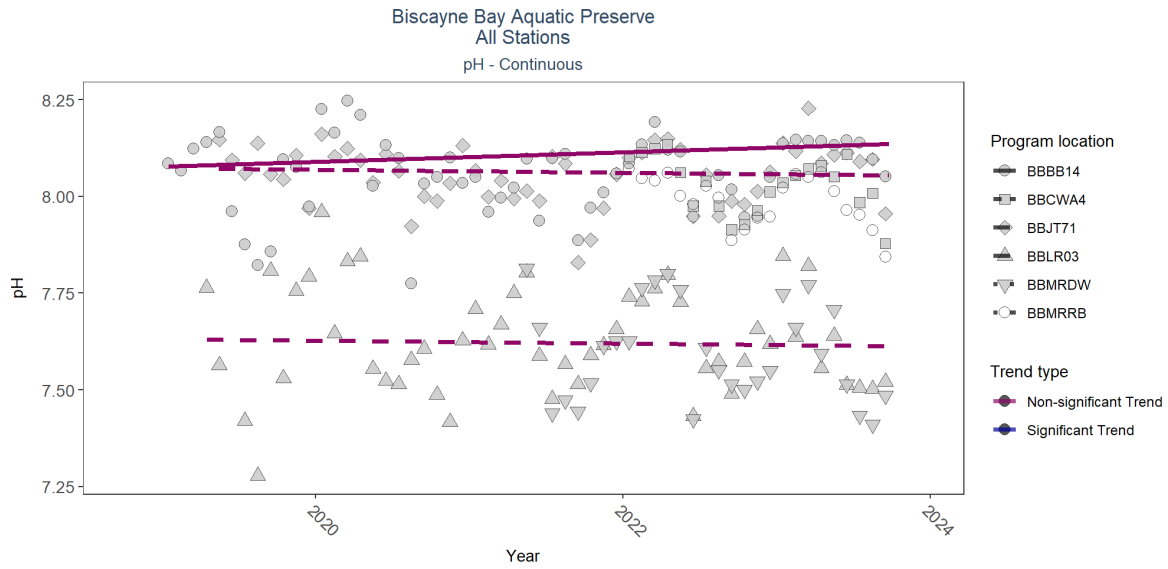| ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly decreasing trend	13516	29	1970 - 2023	7.98	-0.265	8.2082	-0.00632	0.0000

pH - Continuous

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

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBJT71	No significant trend	147940	5	2019 - 2023	8.1	-0.03	8.07	0	0.8026
BBLR03	No significant trend	130226	5	2019 - 2023	7.6	-0.09	7.63	0	0.5597
BBBB14	No significant trend	139889	5	2019 - 2023	8.1	0.14	8.08	0.01	0.2472
BBCWA4	Insufficient data to calculate trend	57814	2	2022 - 2023	8.0	-	-	-	-
BBMRDW	Insufficient data to calculate trend	80596	3	2021 - 2023	7.6	-	-	-	-
BBMRRB	Insufficient data to calculate trend	59474	2	2022 - 2023	8.0	-	-	-	-

Water Clarity

Turbidity - Discrete

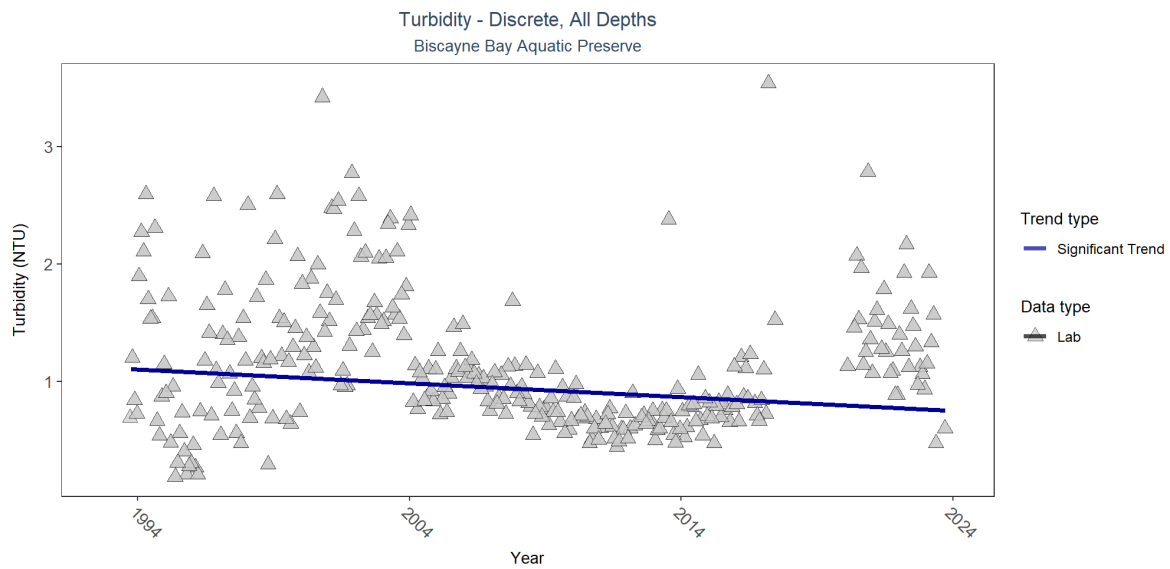Turbidity - Discrete, All Depths
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Table 13: Seasonal Kendall-Tau Results for - Turbidity

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly decreasing trend	11184	29	1993 - 2023	0.8	-0.127	1.11312	-0.01177	0.0014

Turbidity - Continuous

Biscayne Bay Aquatic Preserve
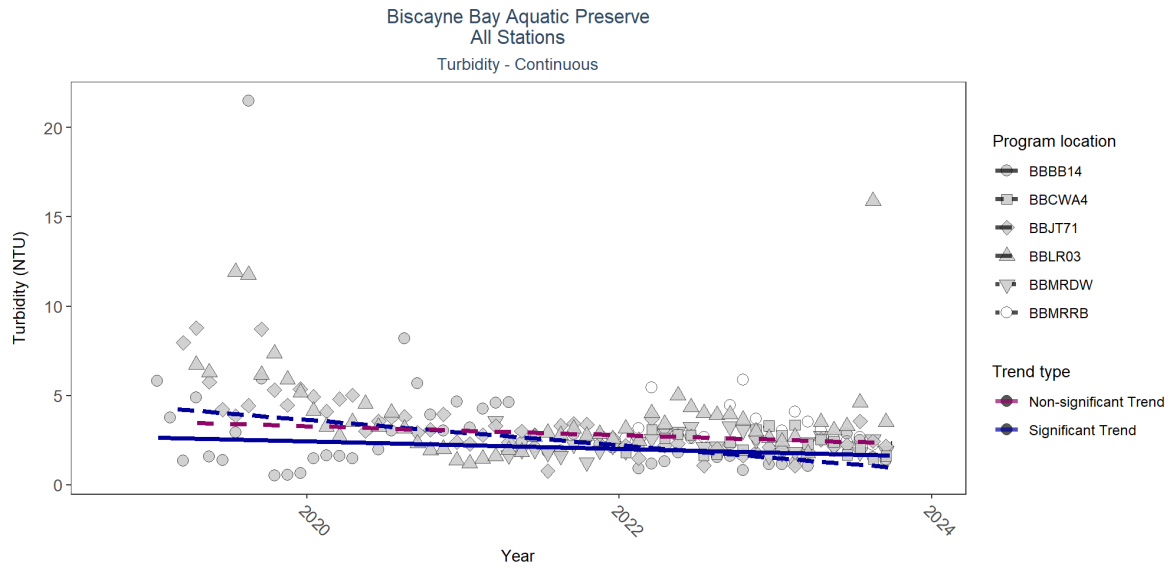All Stations
Turbidity - Continuous

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

| ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBBB14	Significantly decreasing trend	135830	5	2019 - 2023	2	-0.25	2.64	-0.21	0.0328
BBMRDW	Insufficient data to calculate trend	83887	3	2021 - 2023	2	-	-	-	-
BBMRRB	Insufficient data to calculate trend	58662	2	2022 - 2023	3	-	-	-	-
BBJT71	Significantly decreasing trend	153730	5	2019 - 2023	3	-0.79	4.36	-0.71	0.0000
BBCWA4	Insufficient data to calculate trend	55231	2	2022 - 2023	2	-	-	-	-
BBLR03	No significant trend	135373	5	2019 - 2023	3	-0.08	3.54	-0.25	0.5597

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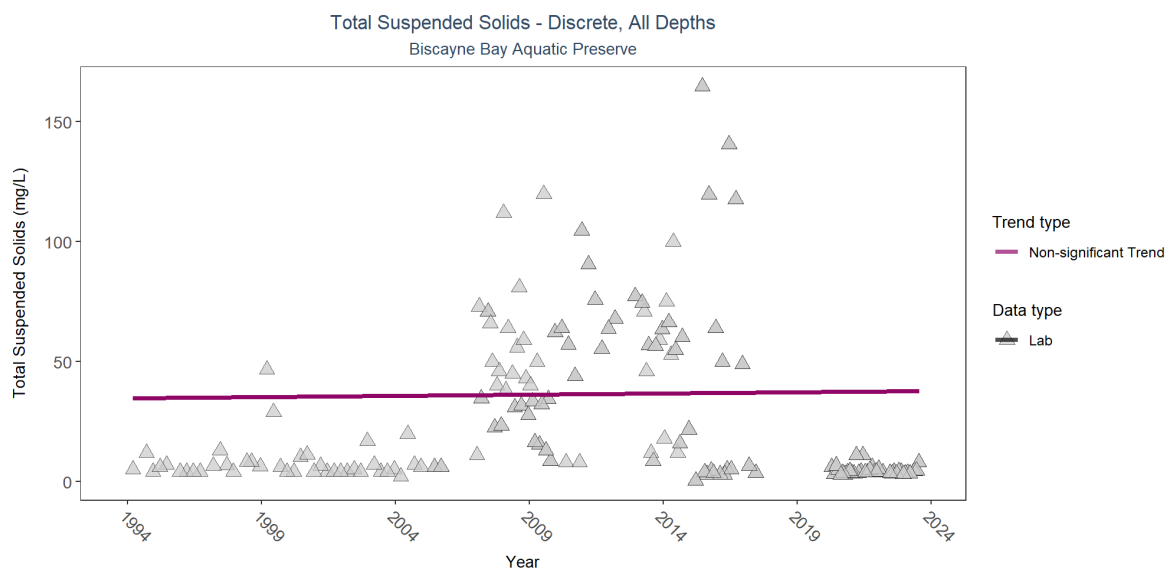
Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	No significant trend	1577	27	1994 - 2023	6	-0.0774	34.83041	0.10125	0.2087

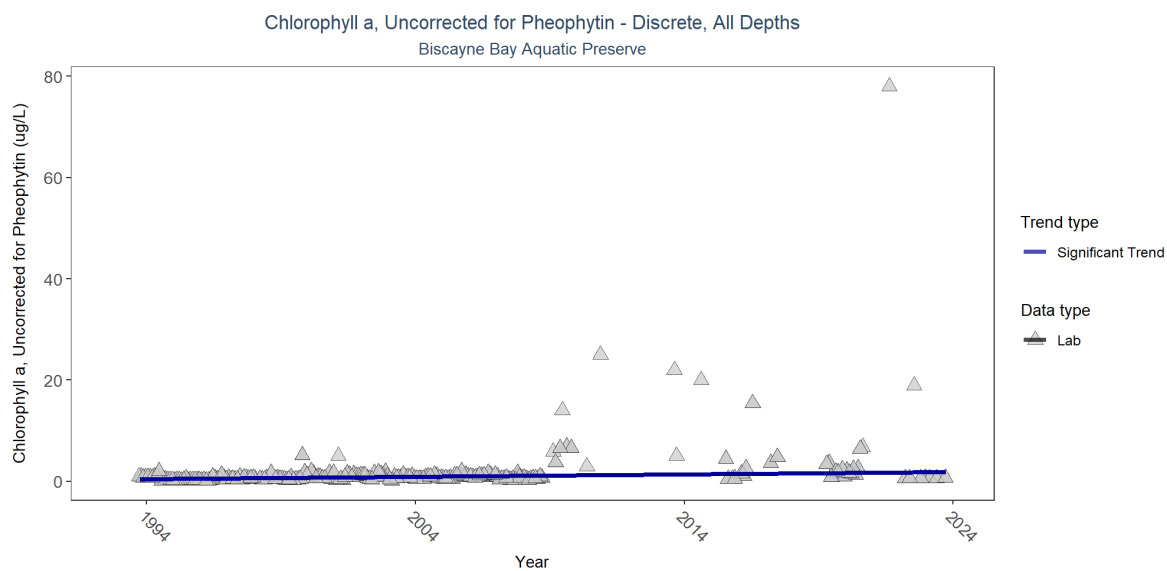# Chlorophyll a, Uncorrected for Pheophytin - Discrete

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

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly increasing trend	2228	28	1993 - 2023	0.6594	0.3765	0.33861	0.04698	0.0000

Chlorophyll a, Corrected for Pheophytin - Discrete

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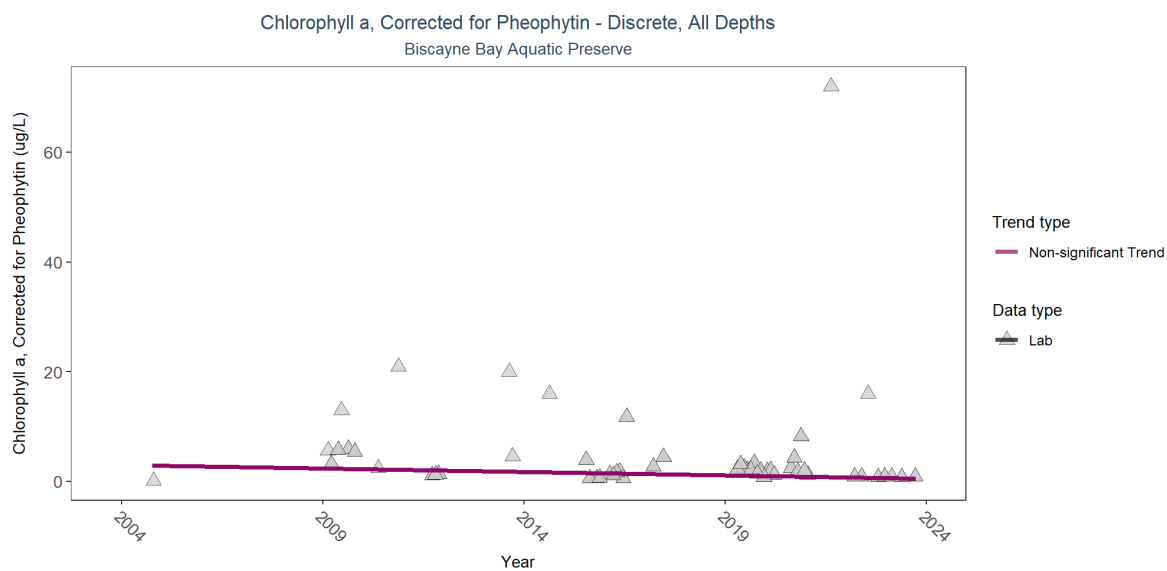
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Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	No significant trend	449	14	2004 - 2023	1.4	-0.1617	2.96	-0.12234	0.2278

Secchi Depth - Discrete

Secchi Depth - Discrete, Surface
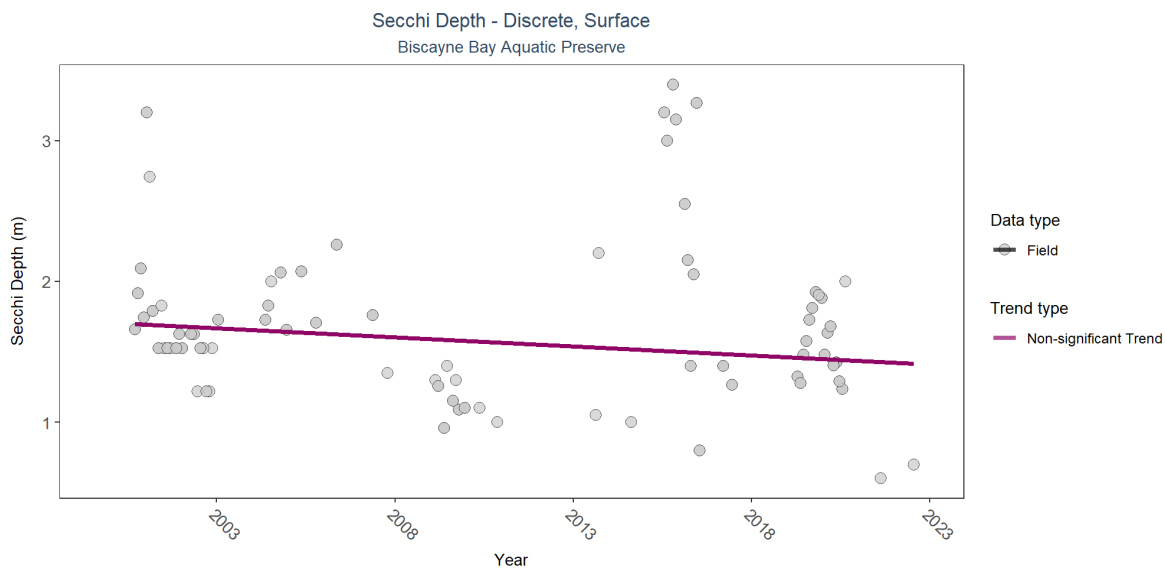Biscayne Bay Aquatic Preserve

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

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	No significant trend	667	19	2000 - 2022	1.52402	-0.1204	1.70837	-0.01288	0.3144

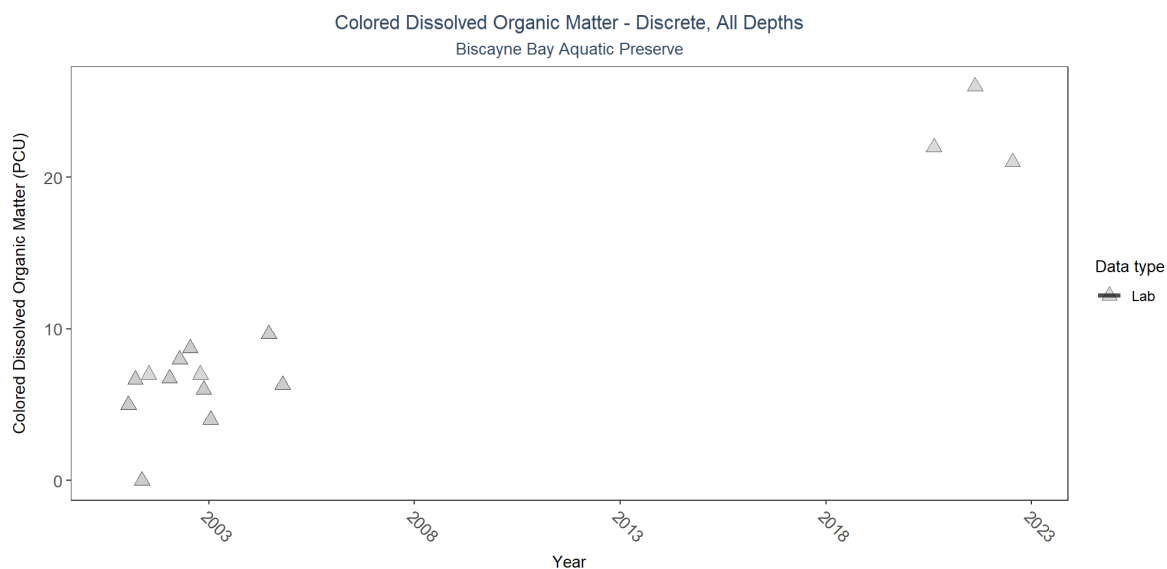## Colored Dissolved Organic Matter - Discrete

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

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Insufficient data to calculate trend	38	7	2001 - 2022	7	-	-	-	NA