

Apalachicola Bay Aquatic Preserve

SEACAR Discrete Water Quality Analysis

Last compiled on 14 August, 2024

Contents

Indicators	2
Nutrients	2
Total Nitrogen - Discrete	2
Total Phosphorus - Discrete	3
Water Quality	4
Dissolved Oxygen - Discrete	4
Dissolved Oxygen - Continuous	5
Dissolved Oxygen Saturation - Discrete	6
Dissolved Oxygen Saturation - Continuous	7
Salinity - Discrete	8
Salinity - Continuous	9
Water Temperature - Discrete	10
Water Temperature - Continuous	11
pH - Discrete	12
pH - Continuous	13
Water Clarity	14
Turbidity - Discrete	14
Turbidity - Continuous	15
Total Suspended Solids - Discrete	16
Chlorophyll a, Uncorrected for Pheophytin - Discrete	17
Chlorophyll a, Corrected for Pheophytin - Discrete	18
Secchi Depth - Discrete	19
Colored Dissolved Organic Matter - Discrete	20

Indicators

Nutrients

Total Nitrogen - Discrete

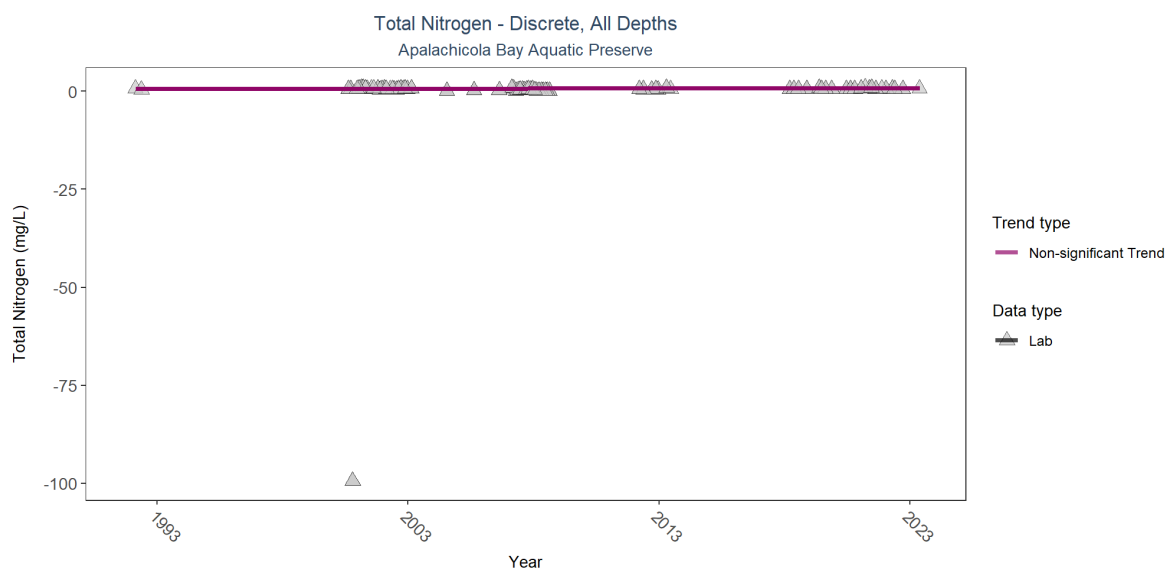


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	No significant trend	488	18	1992 - 2023	0.54	0.101	0.58573	0.0047	0.1175

Total Phosphorus - Discrete

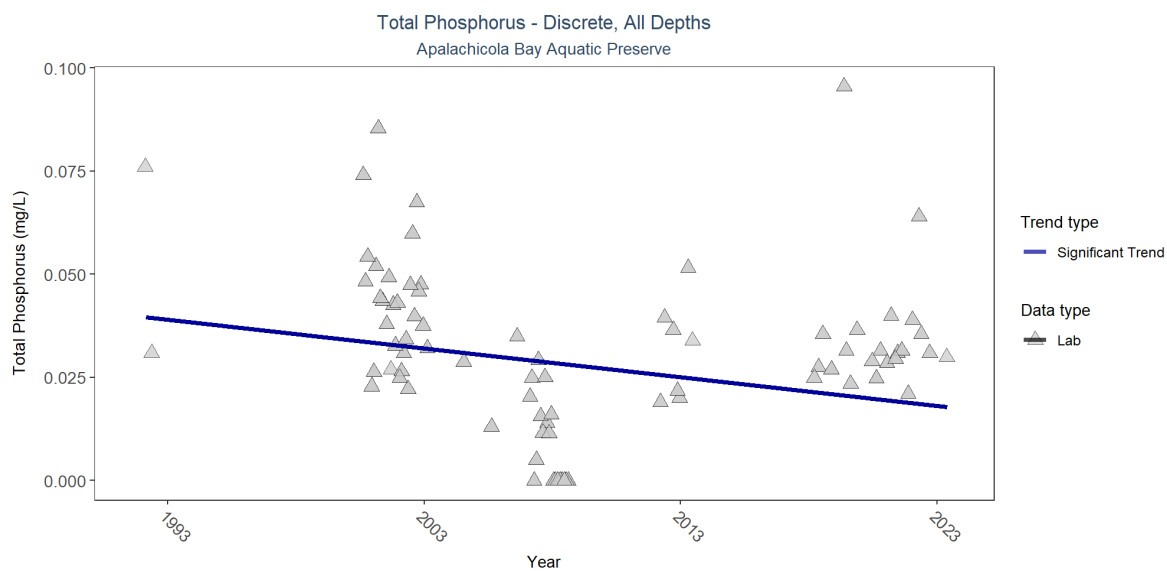


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly decreasing trend	551	18	1992 - 2023	0.033	-0.2151	0.03975	-0.0007	0.0428

Water Quality

Dissolved Oxygen - Discrete

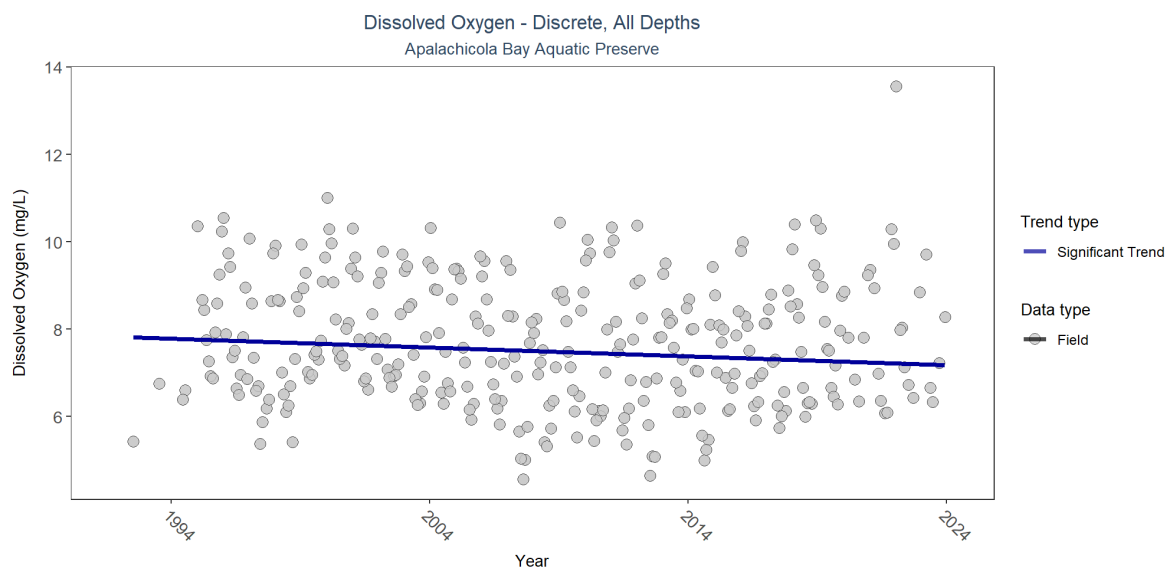


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly decreasing trend	46230	32	1992 - 2023	7.5	-0.1422	7.82386	-0.02006	0.0003

Dissolved Oxygen - Continuous

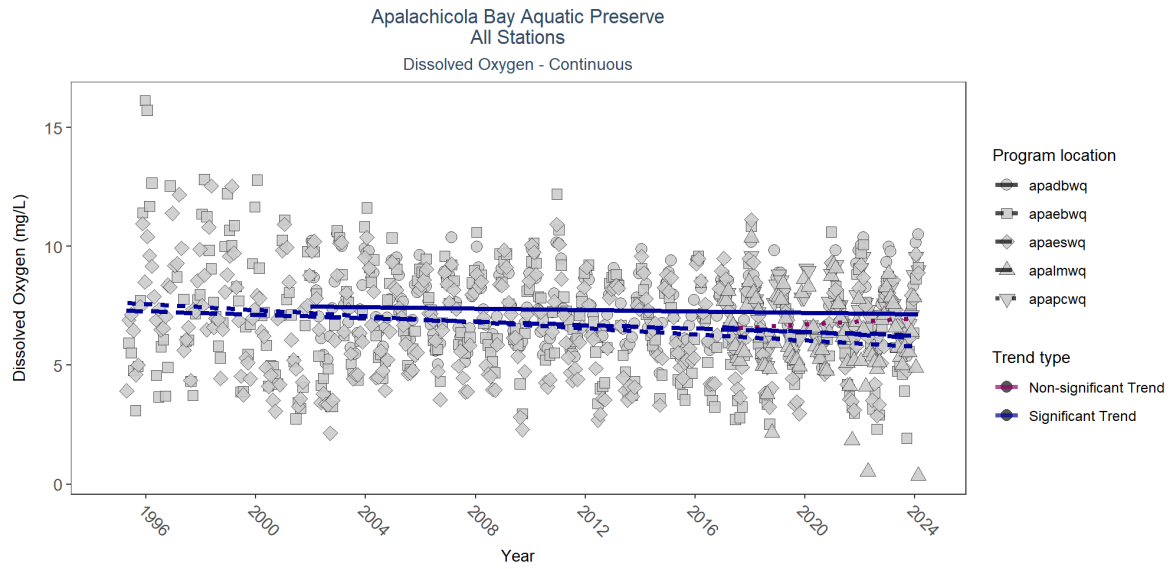


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apadbwq	Significantly decreasing trend	588608	23	2002 - 2024	7.3	-0.13	7.47	-0.01	0.0060
apapcwq	No significant trend	232084	8	2017 - 2024	6.9	0.16	6.52	0.07	0.0727
apaebwq	Significantly decreasing trend	630825	30	1995 - 2024	6.9	-0.29	7.64	-0.06	0.0000
apaeswq	Significantly decreasing trend	681262	30	1995 - 2024	6.8	-0.19	7.30	-0.04	0.0000
apalmwq	Significantly decreasing trend	228250	8	2017 - 2024	6.4	-0.18	6.61	-0.06	0.0498

Dissolved Oxygen Saturation - Discrete

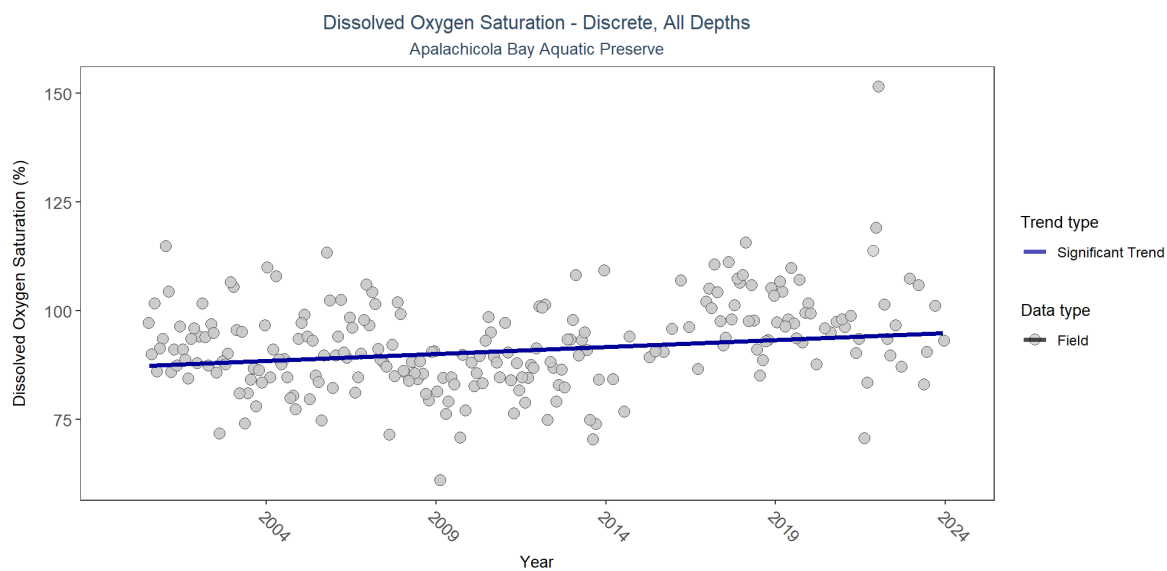


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly increasing trend	4454	24	2000 - 2023	92.6	0.1655	87.21218	0.32283	0.0004

Dissolved Oxygen Saturation - Continuous

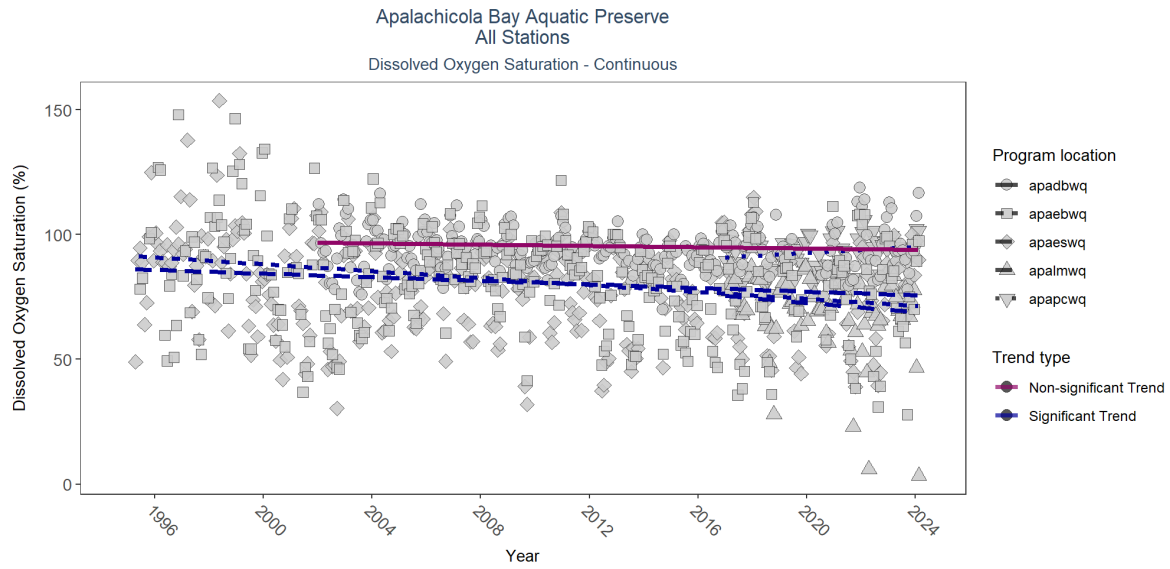


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apapcwq	Significantly increasing trend	235540	8	2017 - 2024	94.4	0.18	90.96	0.57	0.0408
apaeswq	Significantly decreasing trend	682431	30	1995 - 2024	83.9	-0.15	86.12	-0.36	0.0001
apalmwq	Significantly decreasing trend	228186	8	2017 - 2024	75.0	-0.20	75.37	-0.91	0.0270
apadbwq	No significant trend	592057	23	2002 - 2024	94.8	-0.08	96.82	-0.13	0.0788
apaebwq	Significantly decreasing trend	626646	30	1995 - 2024	85.0	-0.26	91.67	-0.69	0.0000

Salinity - Discrete

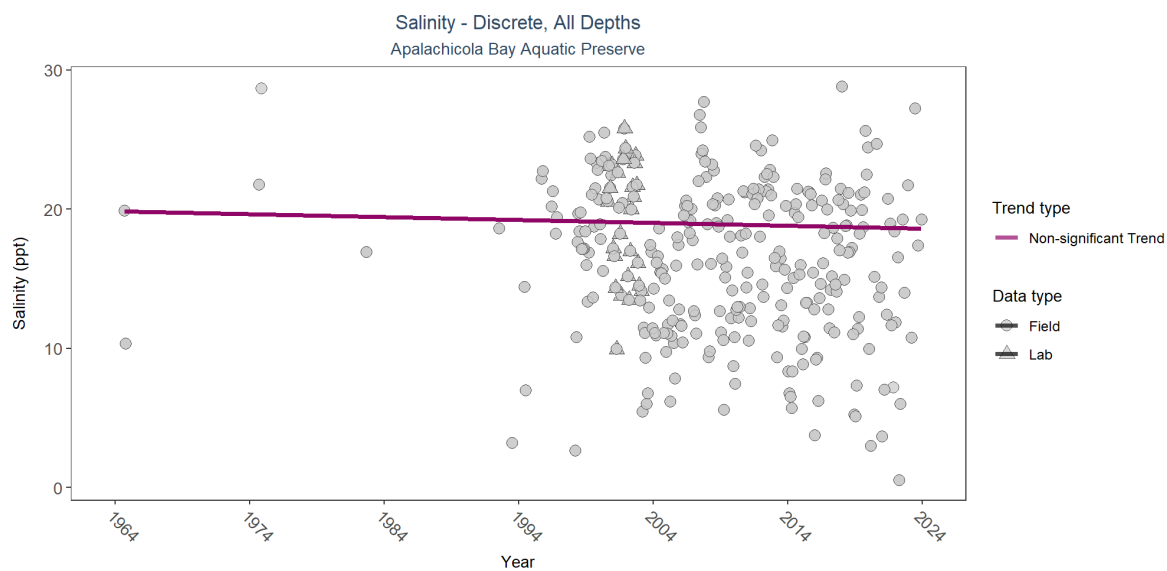


Table 7: Seasonal Kendall-Tau Results for - Salinity

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
All	No significant trend	56237	35	1964 - 2023	16.2	-0.0327	19.85562	-0.02083	0.4595

Salinity - Continuous

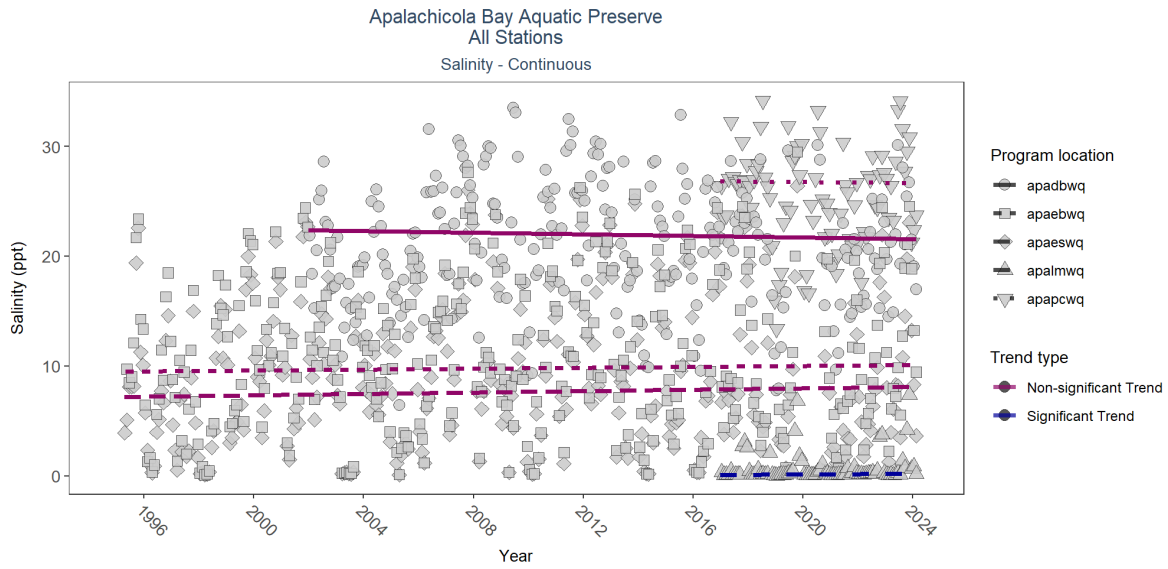


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apaeswq	No significant trend	725430	30	1995 - 2024	7.5	0.05	7.18	0.03	0.1880
apapcwq	No significant trend	234391	8	2017 - 2024	26.6	-0.03	26.82	-0.02	0.8347
apadbwq	No significant trend	586052	23	2002 - 2024	22.1	-0.03	22.36	-0.04	0.4487
apaebwq	No significant trend	712575	30	1995 - 2024	9.9	0.04	9.50	0.02	0.3779
apalmwq	Significantly increasing trend	240151	8	2017 - 2024	0.1	0.18	0.10	0.01	0.0494

Water Temperature - Discrete

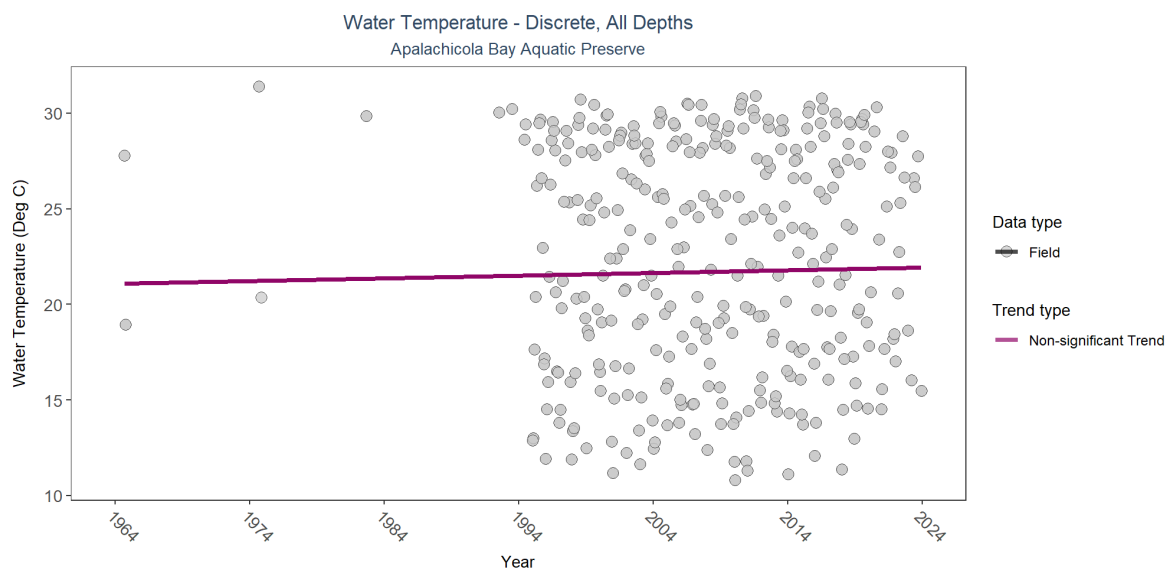


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	No significant trend	55058	35	1964 - 2023	24	0.0571	21.07583	0.01408	0.1427

Water Temperature - Continuous

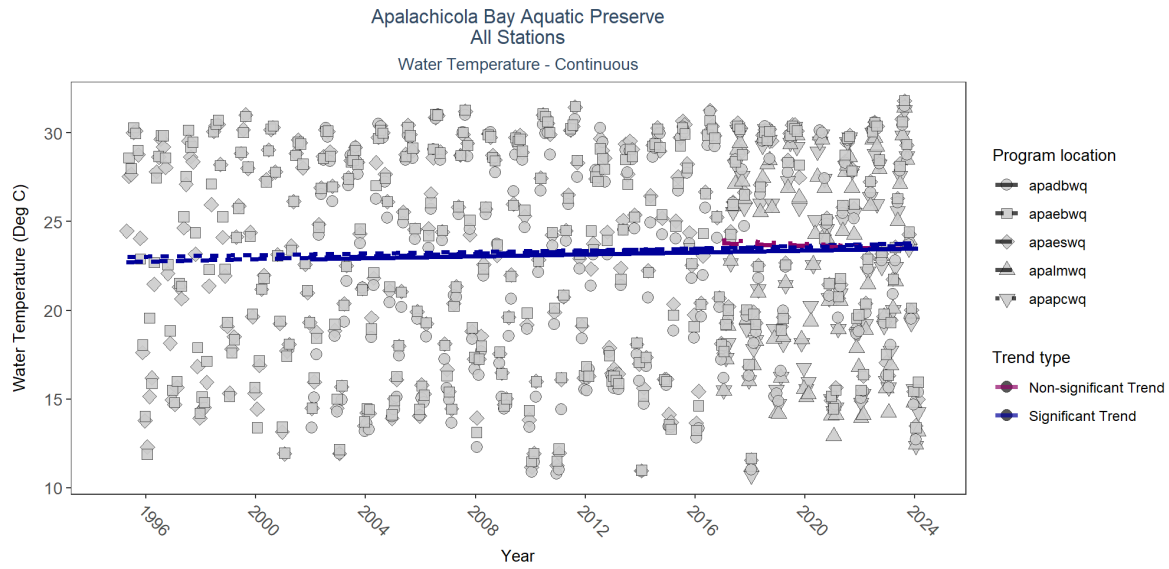


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apaeswq	Significantly increasing trend	734660	30	1995 - 2024	24.1	0.17	22.72	0.04	0.0000
apapcwq	No significant trend	237844	8	2017 - 2024	23.0	-0.10	23.93	-0.06	0.2598
apalmwq	No significant trend	240151	8	2017 - 2024	22.5	-0.07	23.78	-0.04	0.3807
apadbwq	Significantly increasing trend	611217	23	2002 - 2024	23.2	0.13	22.89	0.03	0.0037
apaebwq	Significantly increasing trend	727646	30	1995 - 2024	24.1	0.13	23.00	0.02	0.0009

pH - Discrete

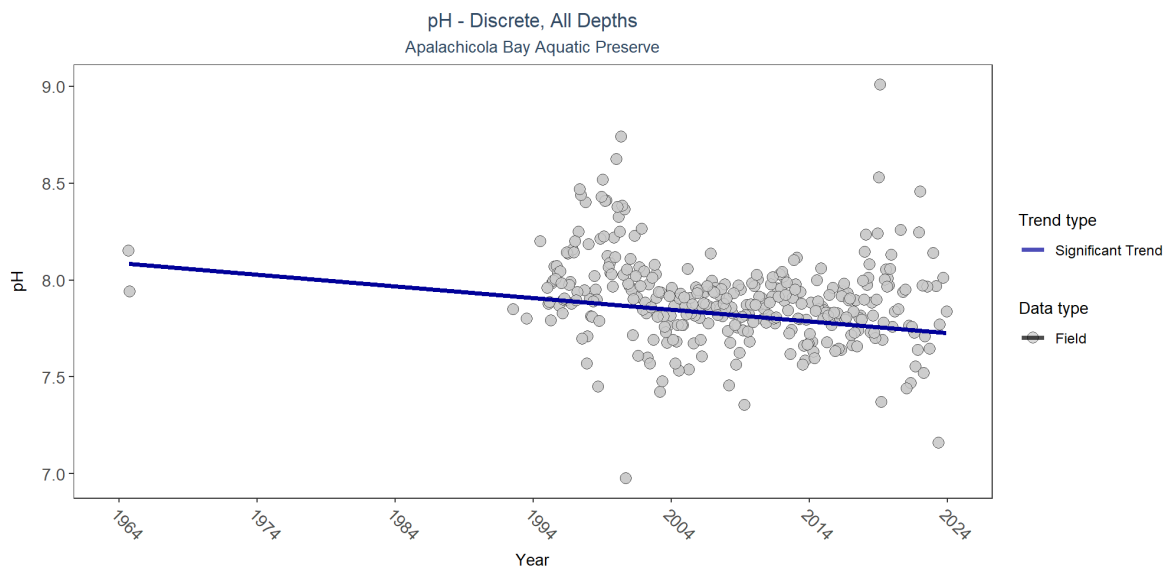


Table 11: Seasonal Kendall-Tau Results for - pH

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly decreasing trend	35507	33	1964 - 2023	8	-0.1801	8.08769	-0.00604	0.0000

pH - Continuous

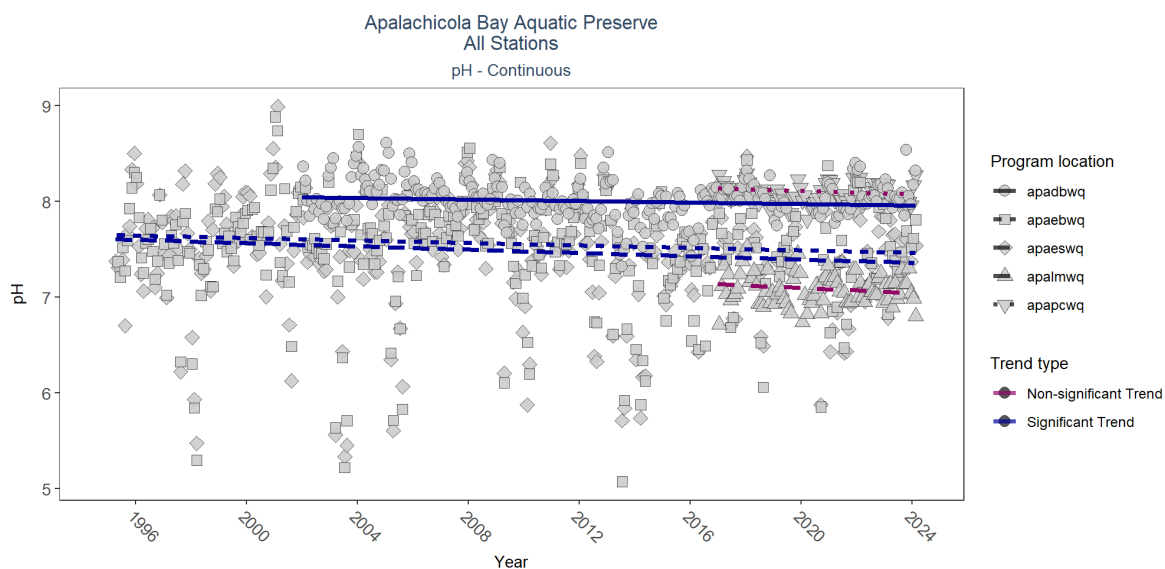


Table 12: Seasonal Kendall-Tau Results for All Stations - pH

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apaeswq	Significantly decreasing trend	688178	30	1995 - 2024	7.5	-0.14	7.61	-0.01	0.0004
apapcwq	No significant trend	231974	8	2017 - 2024	8.1	-0.14	8.13	-0.01	0.1441
apaebwq	Significantly decreasing trend	683408	30	1995 - 2024	7.6	-0.11	7.65	-0.01	0.0049
apalmwq	No significant trend	230318	8	2017 - 2024	7.1	-0.09	7.13	-0.01	0.3371
apadbwq	Significantly decreasing trend	569023	23	2002 - 2024	8.0	-0.11	8.04	0.00	0.0131

Water Clarity

Turbidity - Discrete

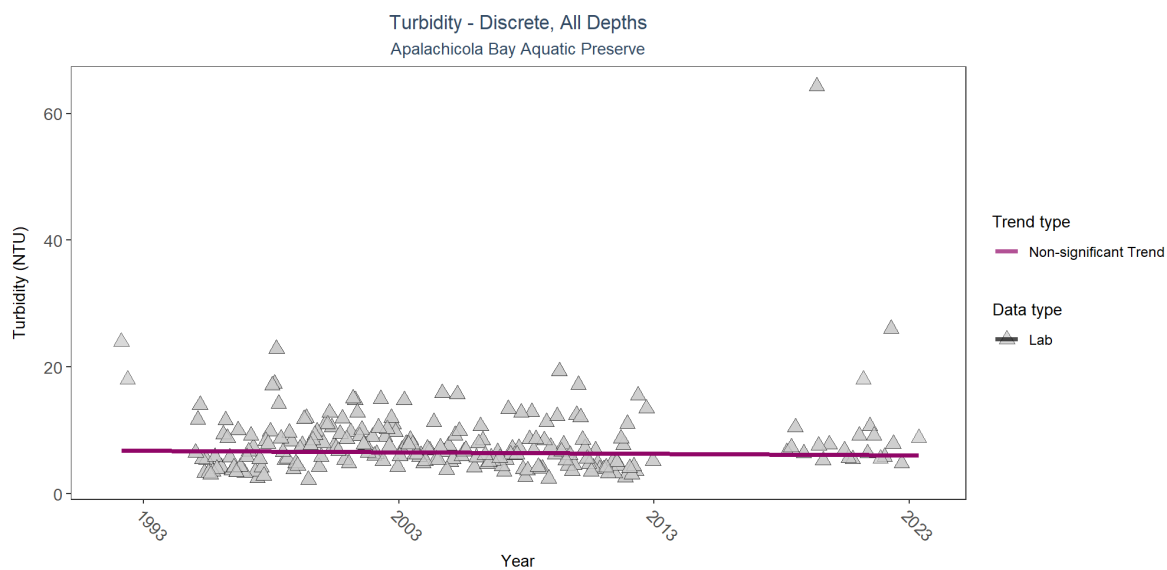


Table 13: Seasonal Kendall-Tau Results for - Turbidity

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	No significant trend	15514	25	1992 - 2023	5.6	-0.0454	6.77633	-0.02249	0.3646

Turbidity - Continuous

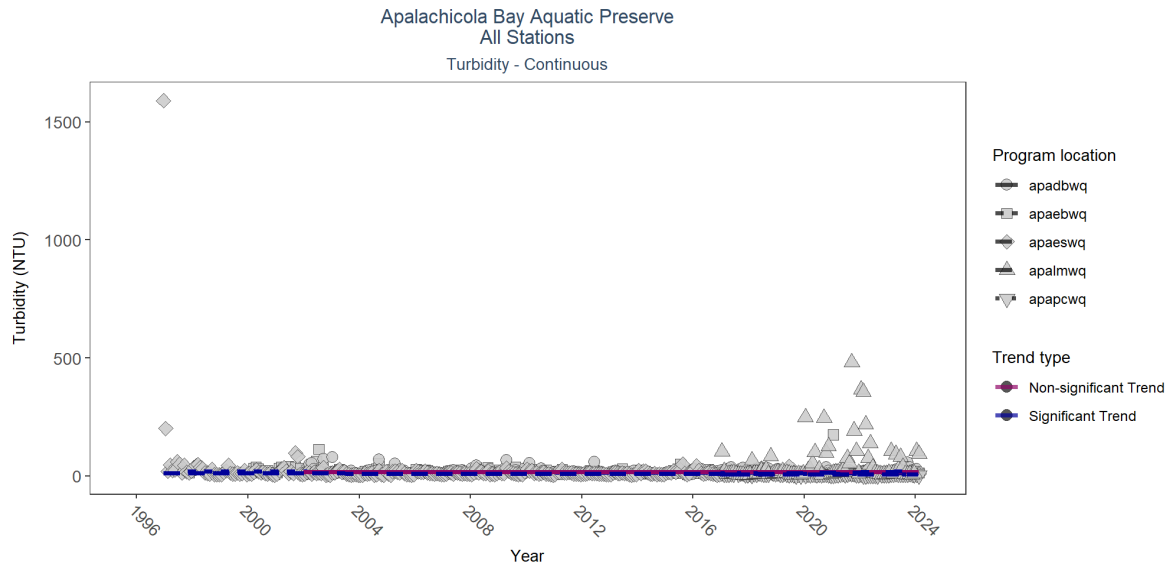


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apaebwq	Significantly decreasing trend	601147	26	1997 - 2024	13	-0.21	19.74	-0.24	0.0000
apadbwq	No significant trend	575230	23	2002 - 2024	10	0.00	16.21	0.00	0.9655
apaeswq	Significantly decreasing trend	669279	29	1996 - 2024	9	-0.17	11.58	-0.13	0.0000
apapcwq	Significantly decreasing trend	223412	8	2017 - 2024	7	-0.22	11.67	-0.48	0.0158
apalmwq	Significantly increasing trend	214143	8	2017 - 2024	12	0.33	8.07	1.80	0.0004

Total Suspended Solids - Discrete

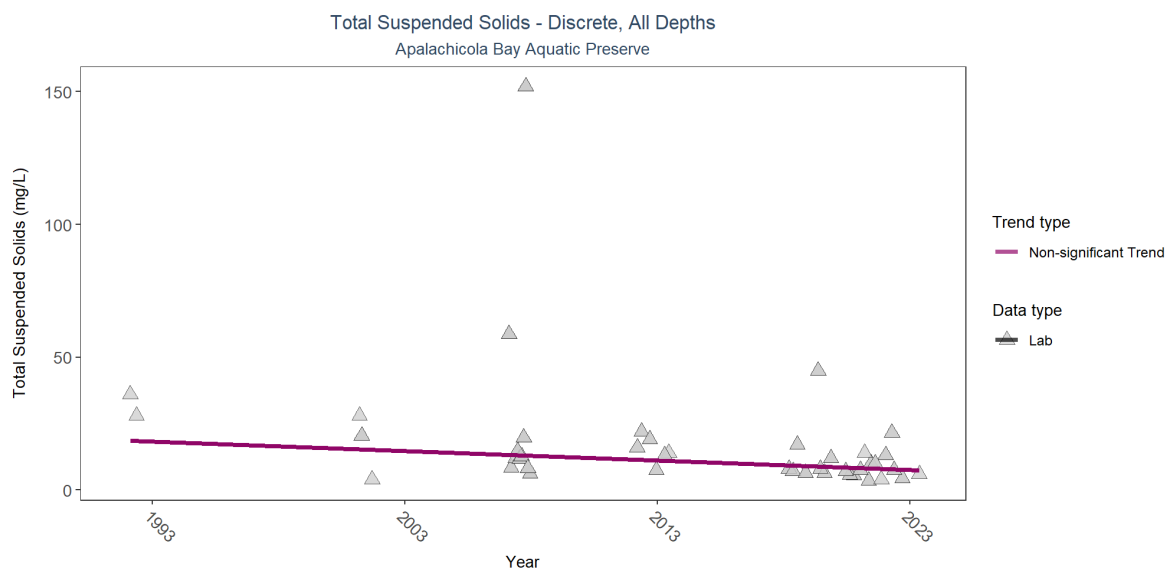


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	No significant trend	112	11	1992 - 2023	9	-0.0952	18.55084	-0.35417	0.0690

Chlorophyll a, Uncorrected for Pheophytin - Discrete

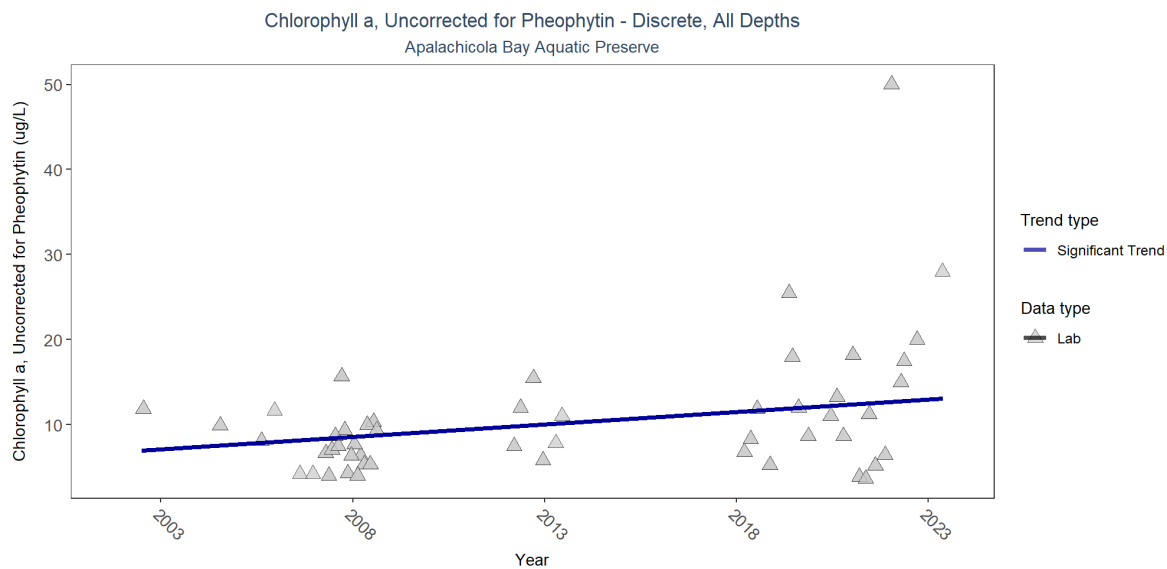


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly increasing trend	135	14	2002 - 2023	7.8	0.2726	6.7641	0.29524	0.0186

Chlorophyll a, Corrected for Pheophytin - Discrete

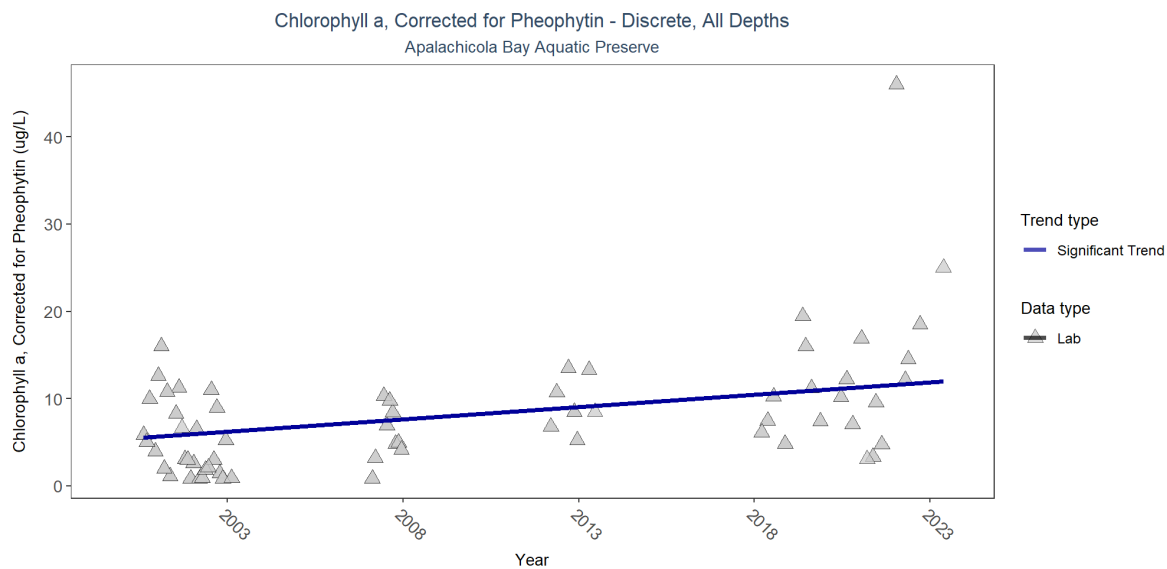


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly increasing trend	493	13	2000 - 2023	2.6	0.313	5.38179	0.28227	0.0015

Secchi Depth - Discrete

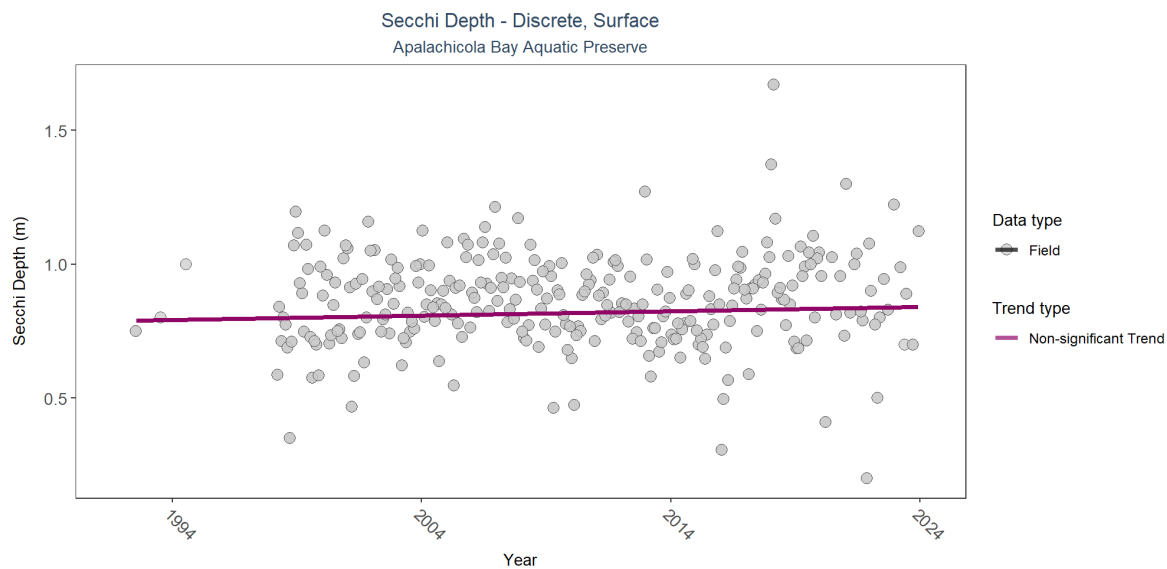


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	No significant trend	21885	29	1992 - 2023	0.8	0.0424	0.78934	0.00162	0.2414

Colored Dissolved Organic Matter - Discrete

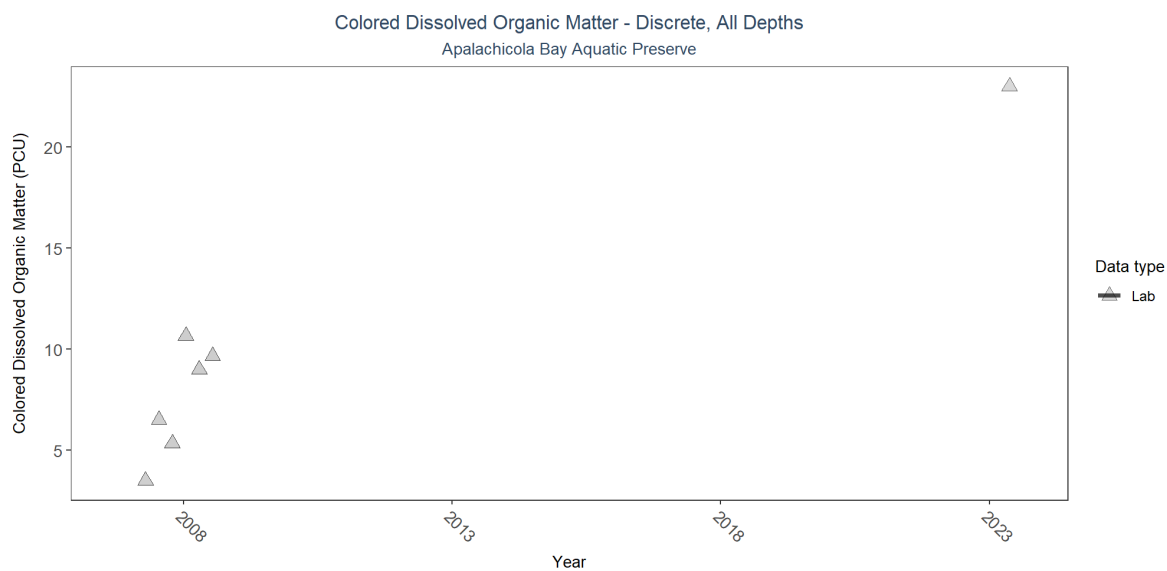


Table 19: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Insufficient data to calculate trend	17	3	2007 - 2023	7	-	-	-	NA