

# Boca Ciega Bay Aquatic Preserve

## SEACAR Water Quality Analysis

Last compiled on 27 January, 2025

### Contents

<b>Indicators</b>	<b>2</b>
Nutrients . . . . .	2
Total Nitrogen - Discrete . . . . .	2
Total Phosphorus - Discrete . . . . .	3
Water Quality . . . . .	4
Dissolved Oxygen - Discrete . . . . .	4
Dissolved Oxygen Saturation - Discrete . . . . .	5
Salinity - Discrete . . . . .	6
Water Temperature - Discrete . . . . .	7
pH - Discrete . . . . .	8
Water Clarity . . . . .	9
Turbidity - Discrete . . . . .	9
Total Suspended Solids - Discrete . . . . .	10
Chlorophyll a, Uncorrected for Pheophytin - Discrete . . . . .	11
Chlorophyll a, Corrected for Pheophytin - Discrete . . . . .	12
Secchi Depth - Discrete . . . . .	13

# Indicators

## Nutrients

### Total Nitrogen - Discrete

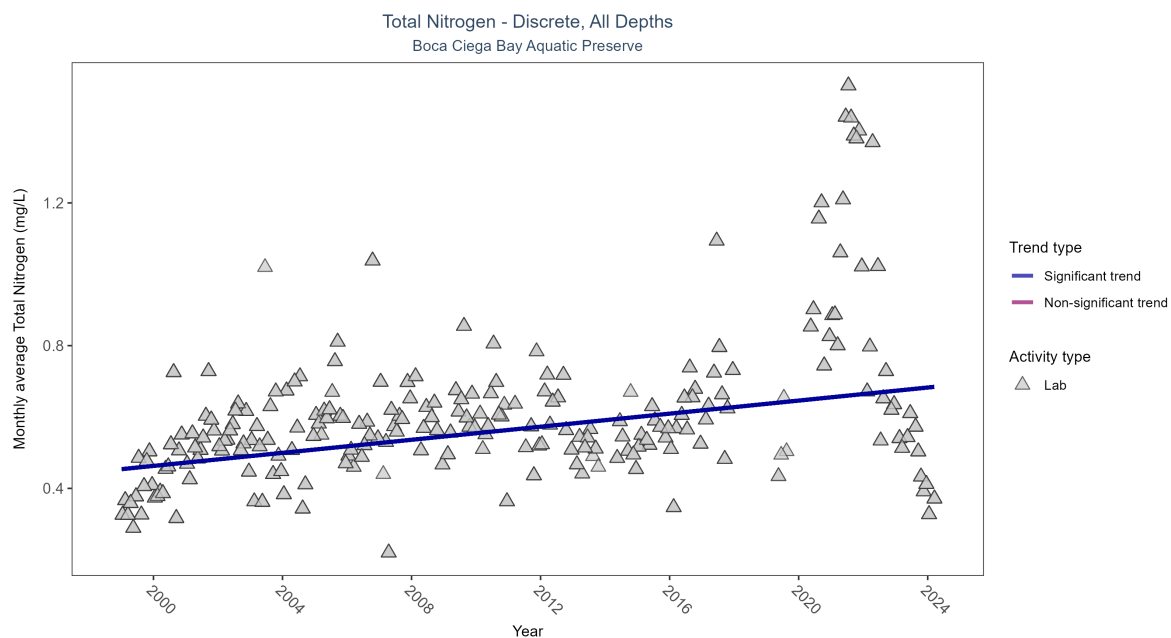


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

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	2877	25	1999 - 2024	0.55	0.2986	0.45382	0.00915	0.0000

## Total Phosphorus - Discrete

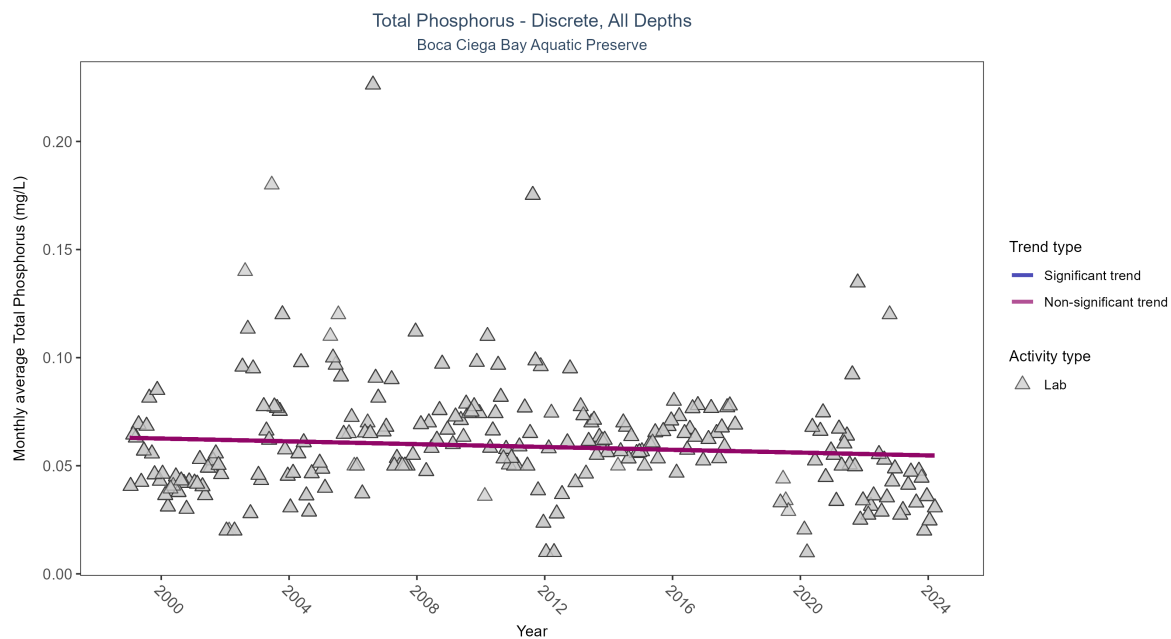


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

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	2762	25	1999 - 2024	0.05	-0.0775	0.06291	-0.00033	0.0826

# Water Quality

## Dissolved Oxygen - Discrete

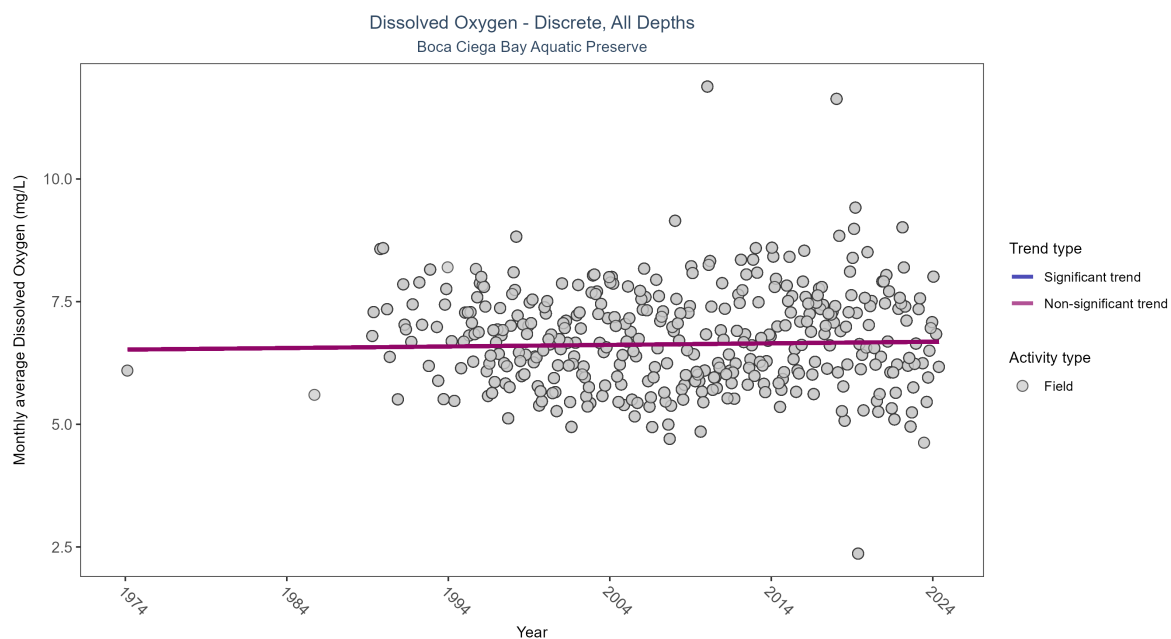


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

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	30113	38	1974 - 2024	6.44	0.0344	6.52229	0.0032	0.4012

## Dissolved Oxygen Saturation - Discrete

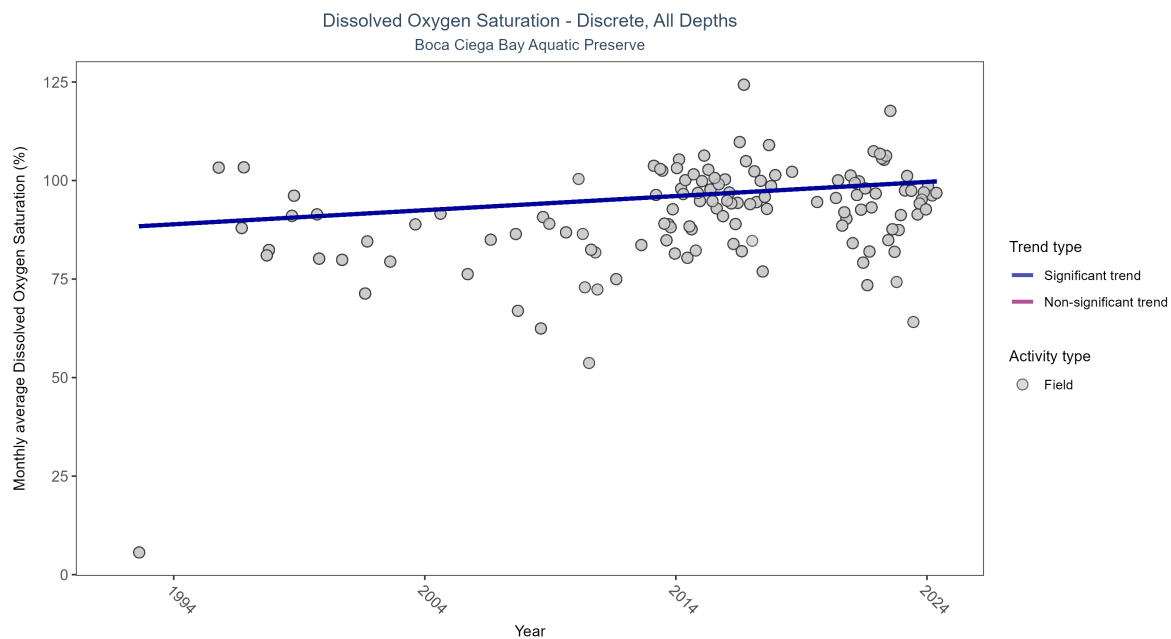


Table 4: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly increasing trend	7890	31	1992 - 2024	91.1	0.1173	88.17926	0.3583	0.0264

## Salinity - Discrete

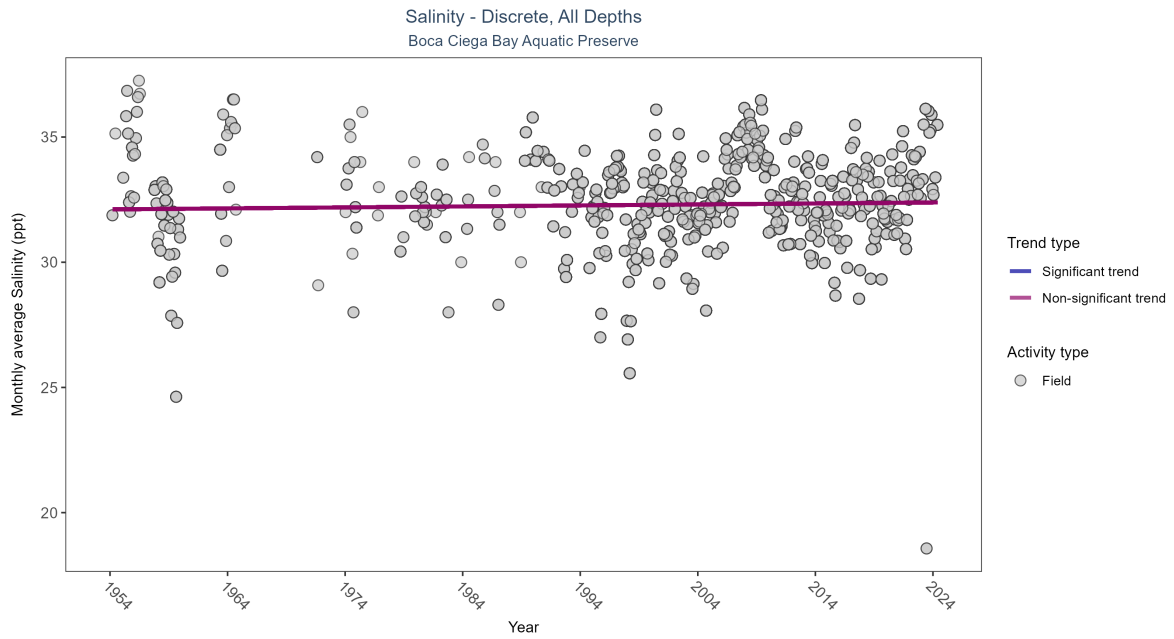


Table 5: Seasonal Kendall-Tau Results for - Salinity

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	27464	59	1954 - 2024	32.6	0.032	32.11028	0.00394	0.3354

## Water Temperature - Discrete

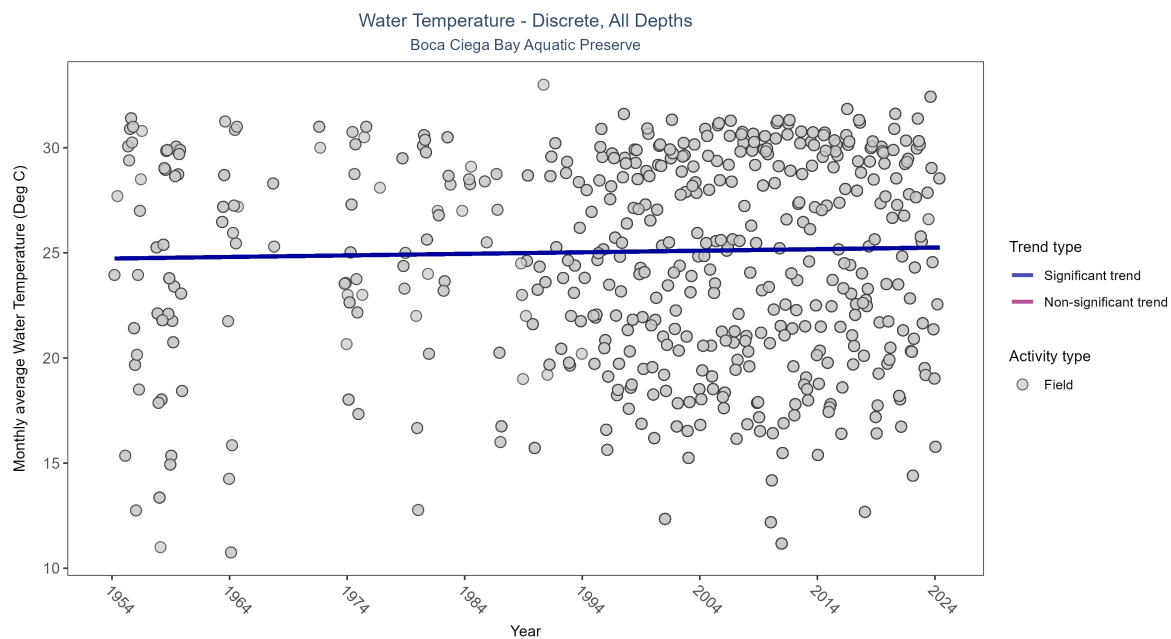


Table 6: Seasonal Kendall-Tau Results for - Water Temperature

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	30690	61	1954 - 2024	27.1	0.0628	24.73093	0.00742	0.0468

## pH - Discrete

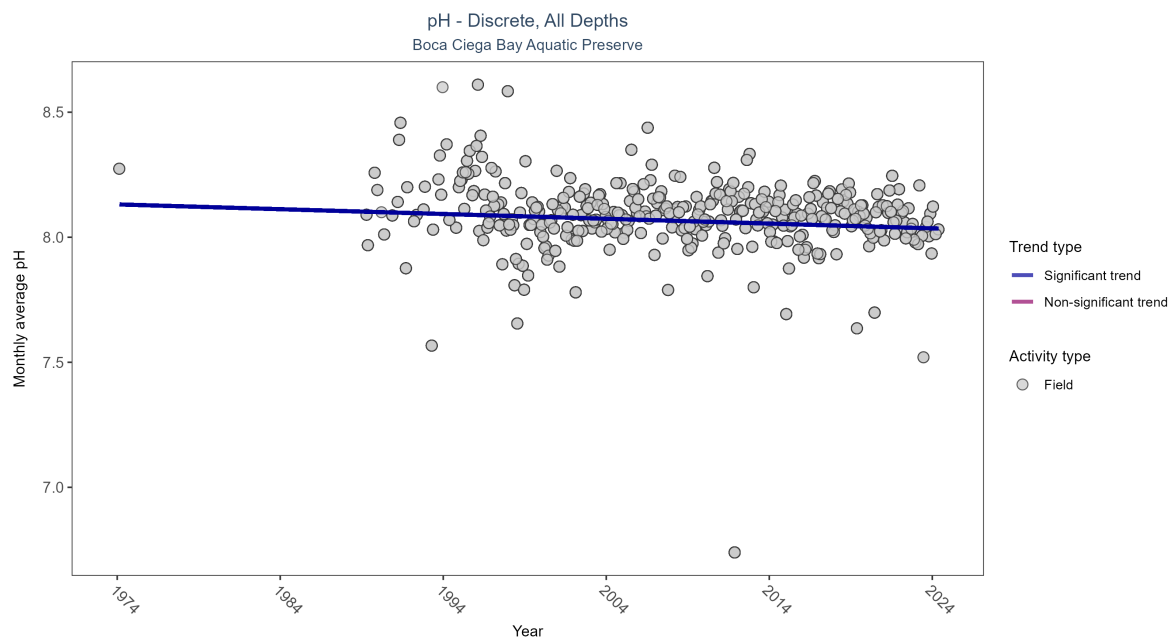


Table 7: Seasonal Kendall-Tau Results for - pH

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	27397	37	1974 - 2024	8.1	-0.1172	8.13134	-0.00192	0.0012



## Water Clarity

### Turbidity - Discrete

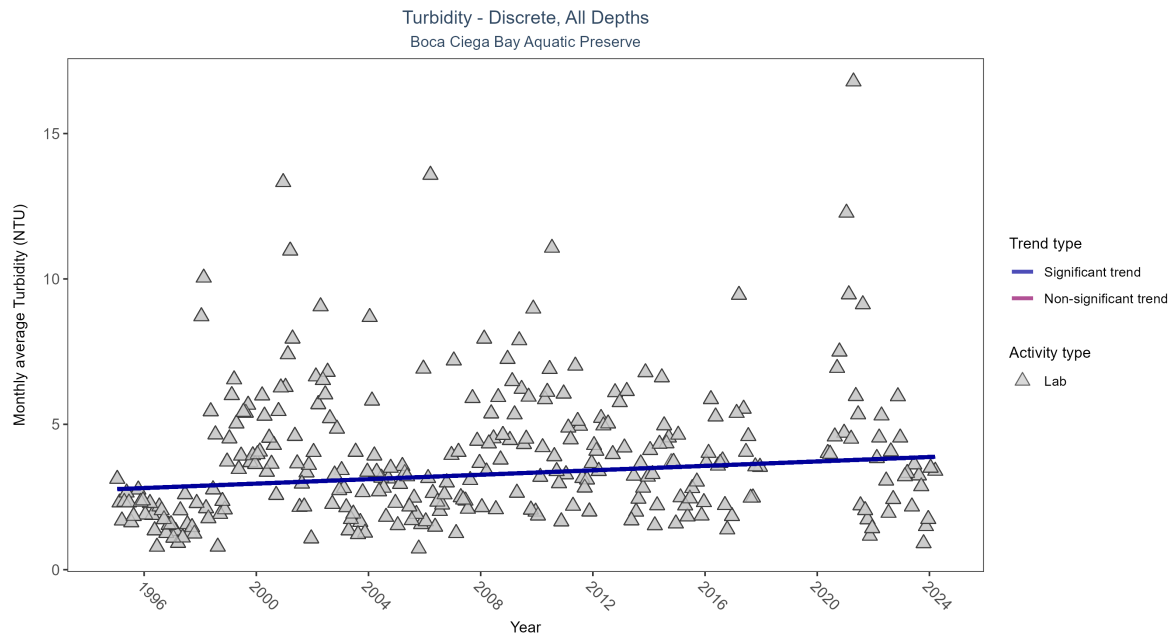


Table 8: Seasonal Kendall-Tau Results for - Turbidity

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	6946	28	1995 - 2024	2.6	0.1239	2.76978	0.03813	0.0025

## Total Suspended Solids - Discrete

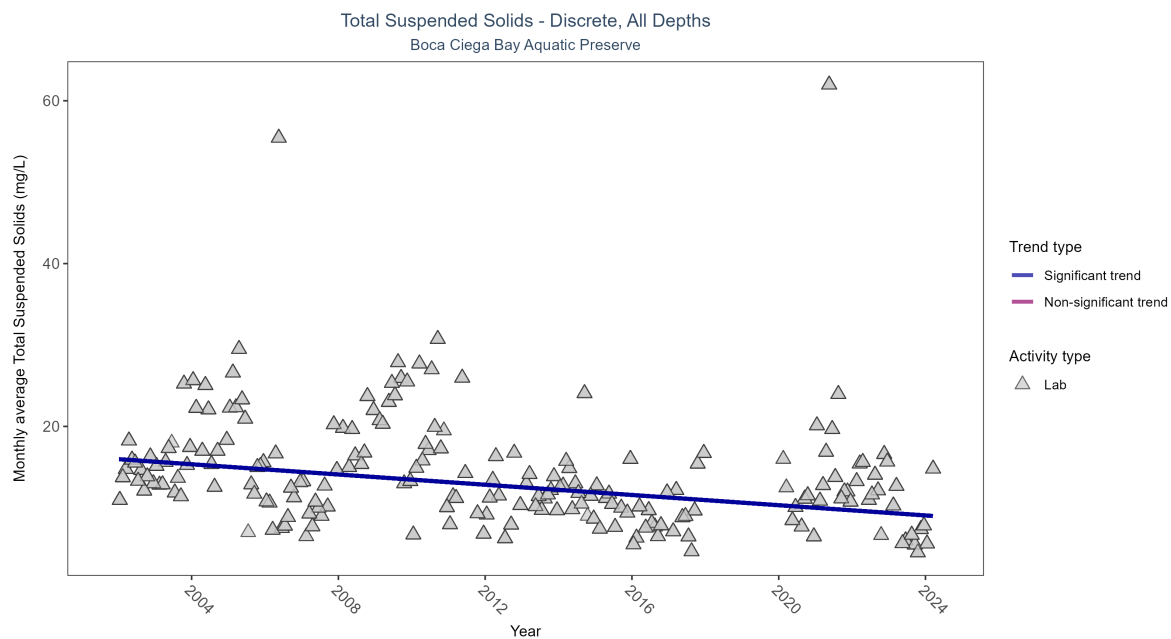


Table 9: Seasonal Kendall-Tau Results for - Total Suspended Solids

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	2663	21	2002 - 2024	12	-0.2916	15.98036	-0.31429	0.0000

## Chlorophyll a, Uncorrected for Pheophytin - Discrete

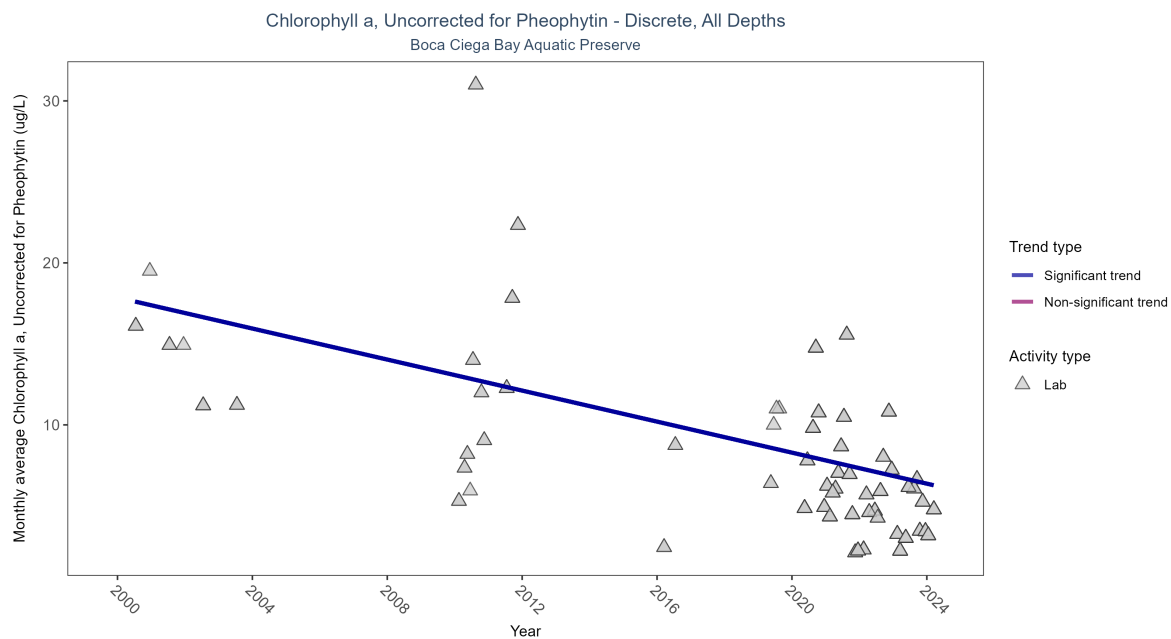


Table 10: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly decreasing trend	576	13	2000 - 2024	5.1	-0.5894	17.8627	-0.47883	0.0000

## Chlorophyll a, Corrected for Pheophytin - Discrete

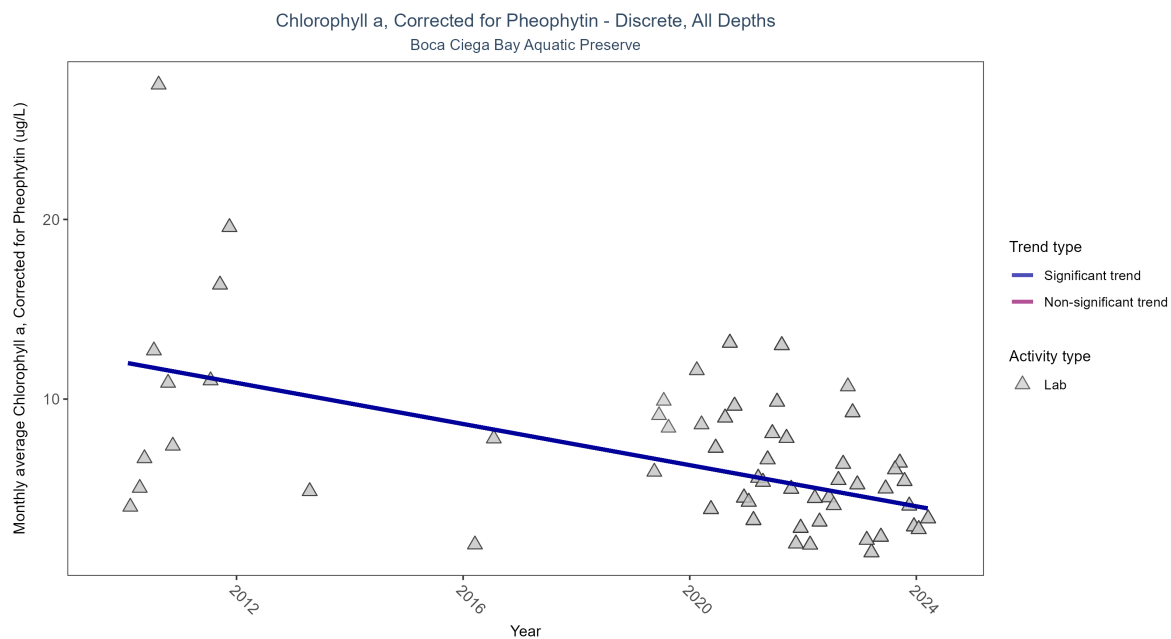


Table 11: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly decreasing trend	744	10	2010 - 2024	4.4	-0.492	12.04944	-0.57273	0.0001

## Secchi Depth - Discrete

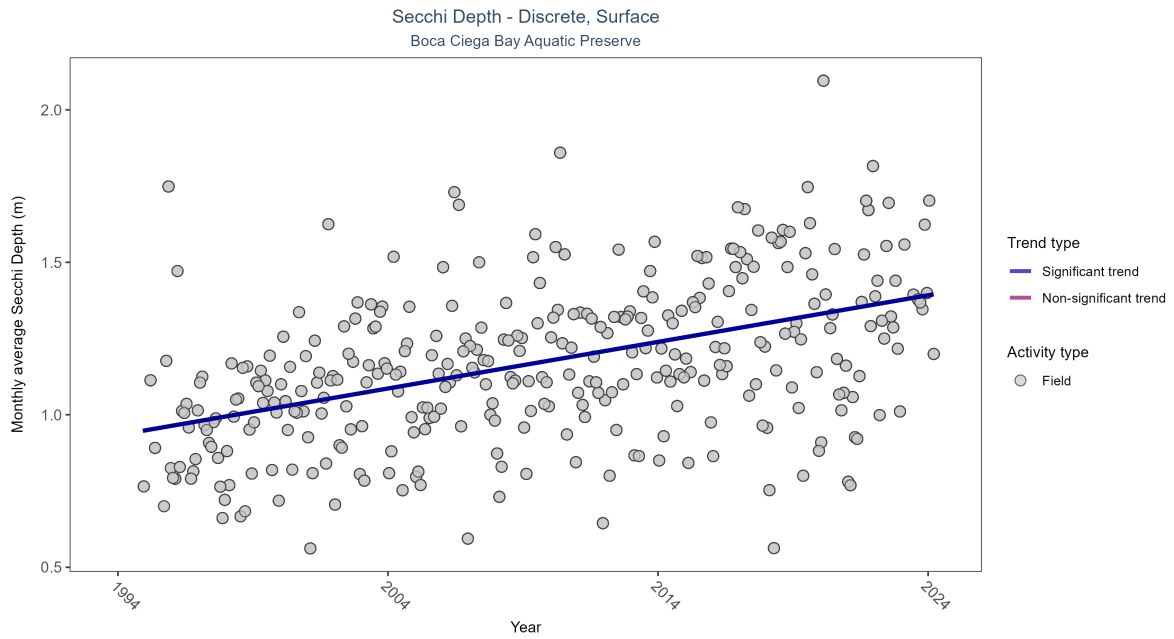


Table 12: Seasonal Kendall-Tau Results for - Secchi Depth

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly increasing trend	9714	31	1994 - 2024	1.1	0.3369	0.93333	0.01529	0.0000