# Pinellas County Aquatic Preserve

SEACAR Water Quality Analysis

Last compiled on 27 January, 2025

## Contents

# Indicators

## Nutrients

### Total Nitrogen - Discrete

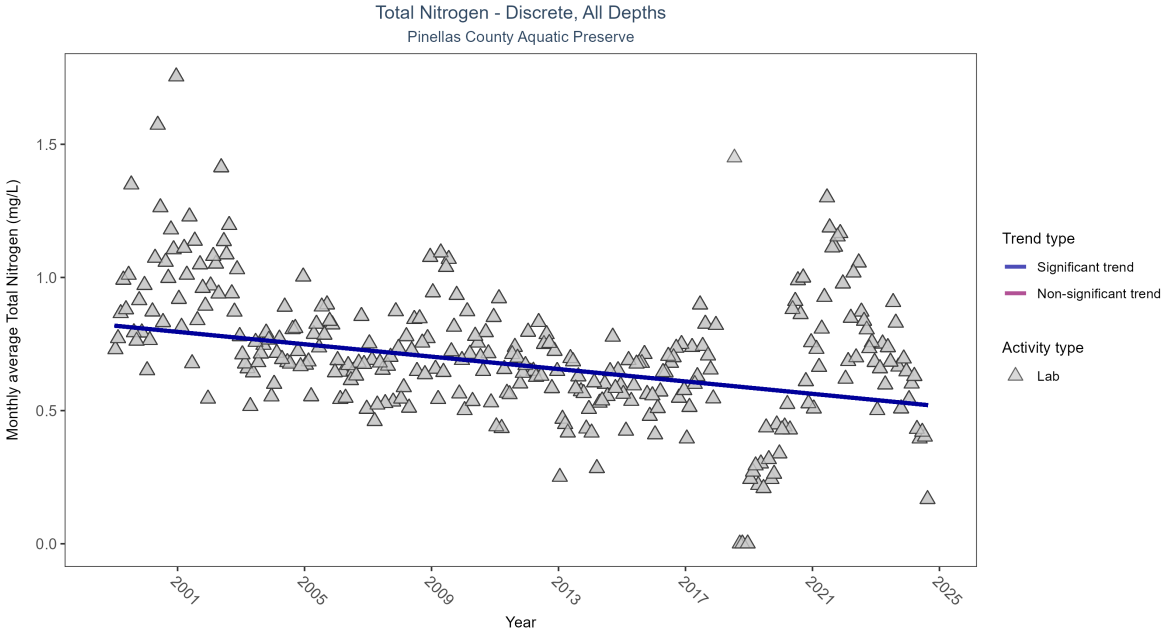


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

| 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 | 16034 | 26 | 1999 - 2024 | 0.59 | -0.2761 | 0.81905 | -0.01164 | 0.0000 |

## Total Phosphorus - Discrete

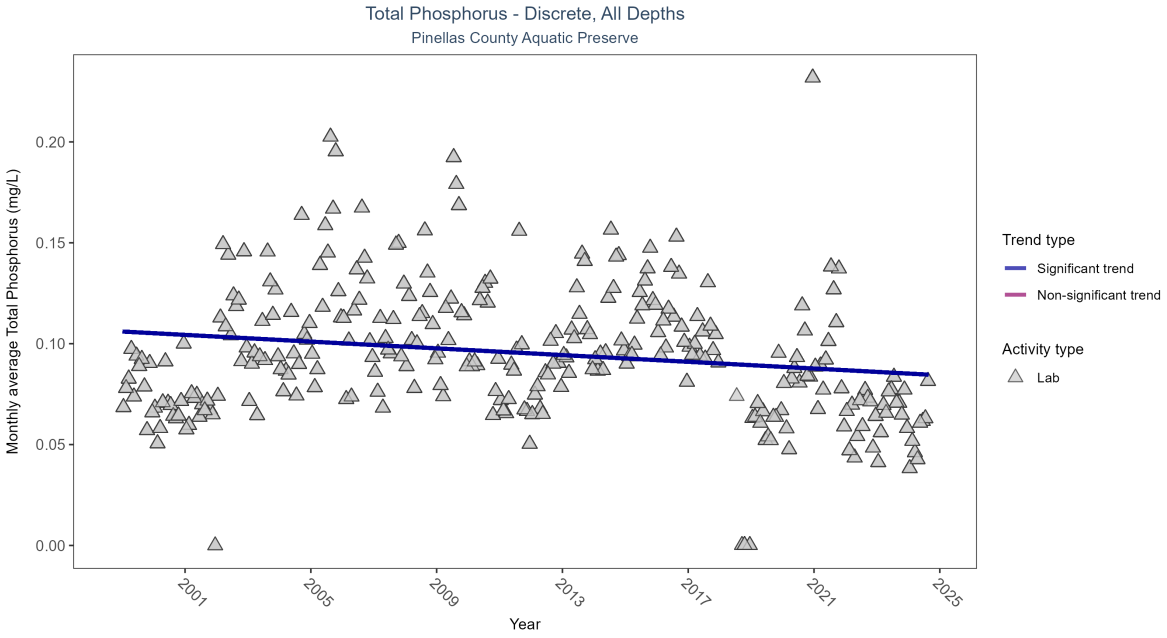


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---|---|---|---|---|---|---|---|---|---|
| Lab | Significantly decreasing trend | 15870 | 26 | 1999 - 2024 | 0.088 | -0.1522 | 0.10603 | -0.00083 | 0.0002 |

# Water Quality

## Dissolved Oxygen - Discrete

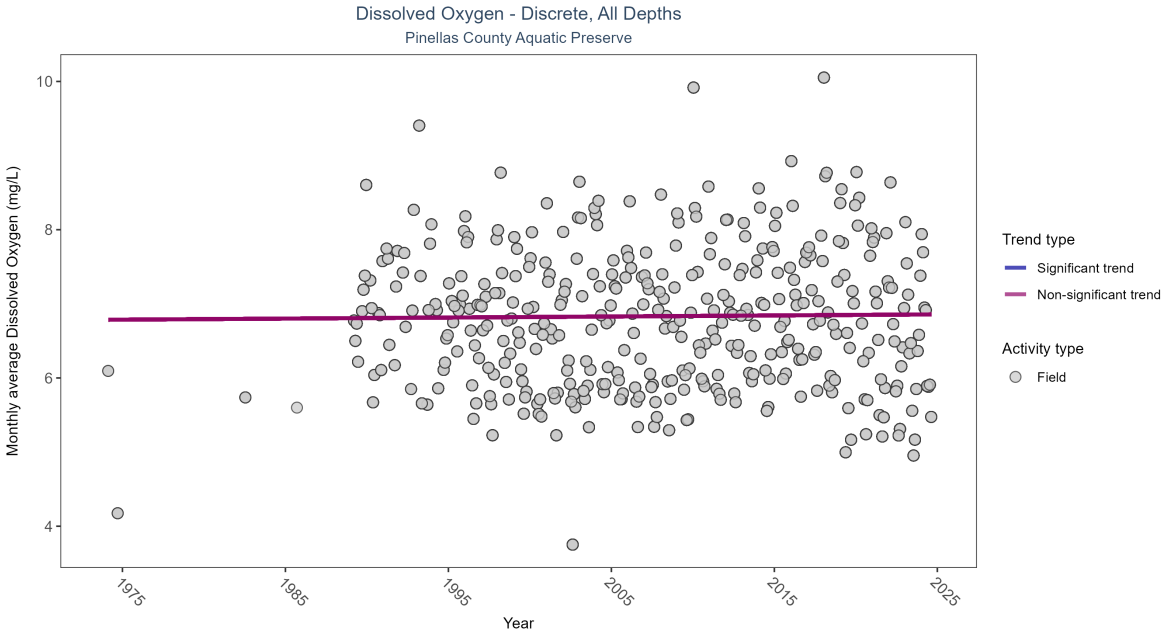


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

| 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 | 95575 | 39 | 1974 - 2024 | 6.6 | 0.0246 | 6.78518 | 0.00142 | 0.5699 |

## Dissolved Oxygen Saturation - Discrete

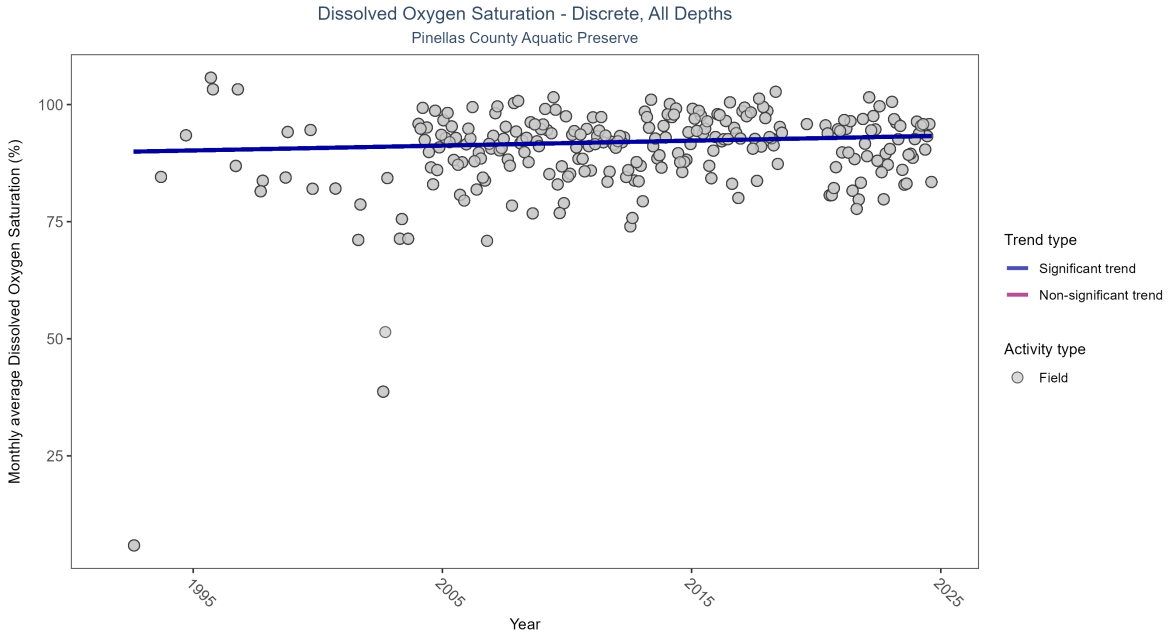


Table 4: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

| 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 | 30215 | 33 | 1992 - 2024 | 90.9 | 0.0944 | 89.88893 | 0.10434 | 0.0395 |

## Salinity - Discrete

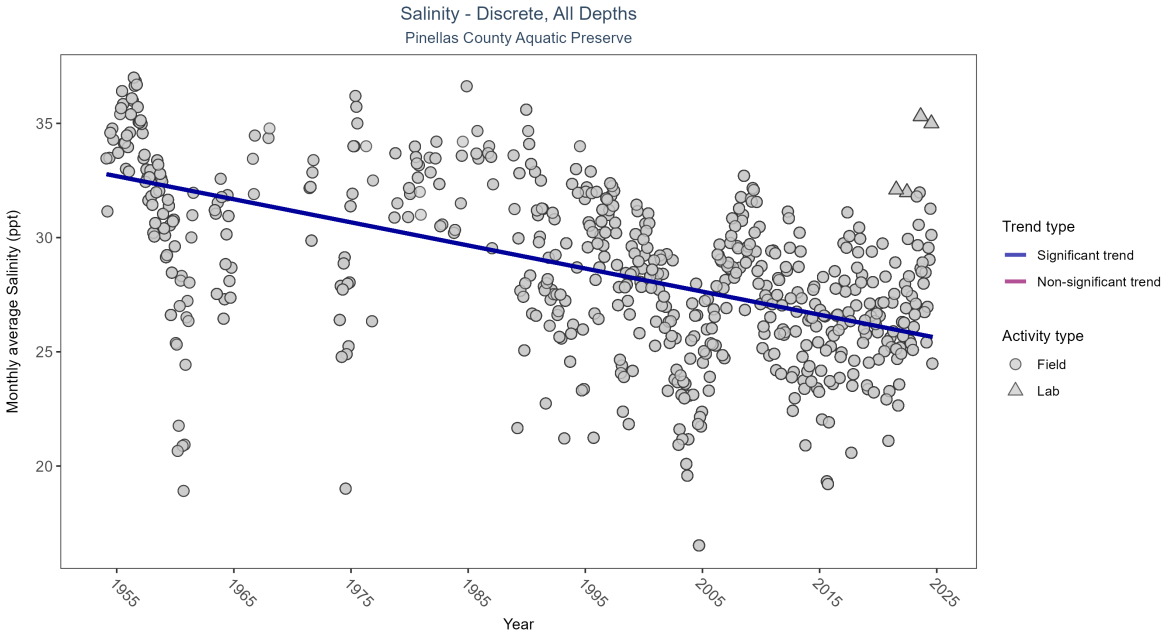


Table 5: Seasonal Kendall-Tau Results for - Salinity

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---|---|---|---|---|---|---|---|---|---|
| All | Significantly decreasing trend | 93362 | 64 | 1954 - 2024 | 28.93 | -0.3821 | 32.7897 | -0.10107 | 0.0000 |

## Water Temperature - Discrete

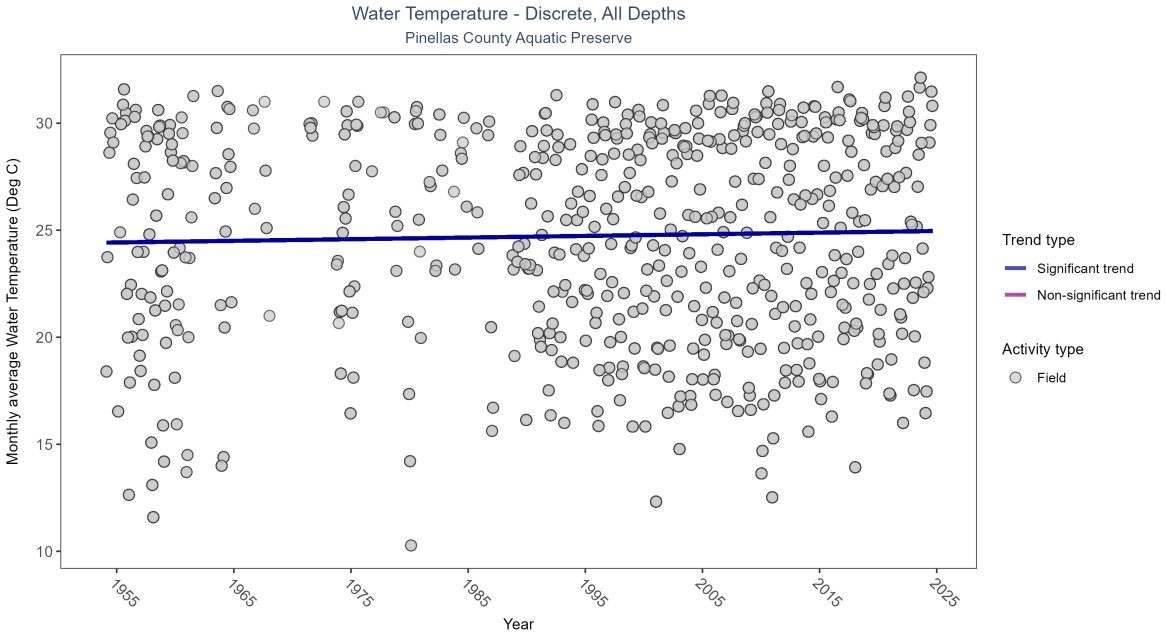


Table 6: Seasonal Kendall-Tau Results for - Water Temperature

| 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 | 101236 | 67 | 1954 - 2024 | 26.58 | 0.0841 | 24.41842 | 0.00766 | 0.0037 |

## Water Temperature - Continuous

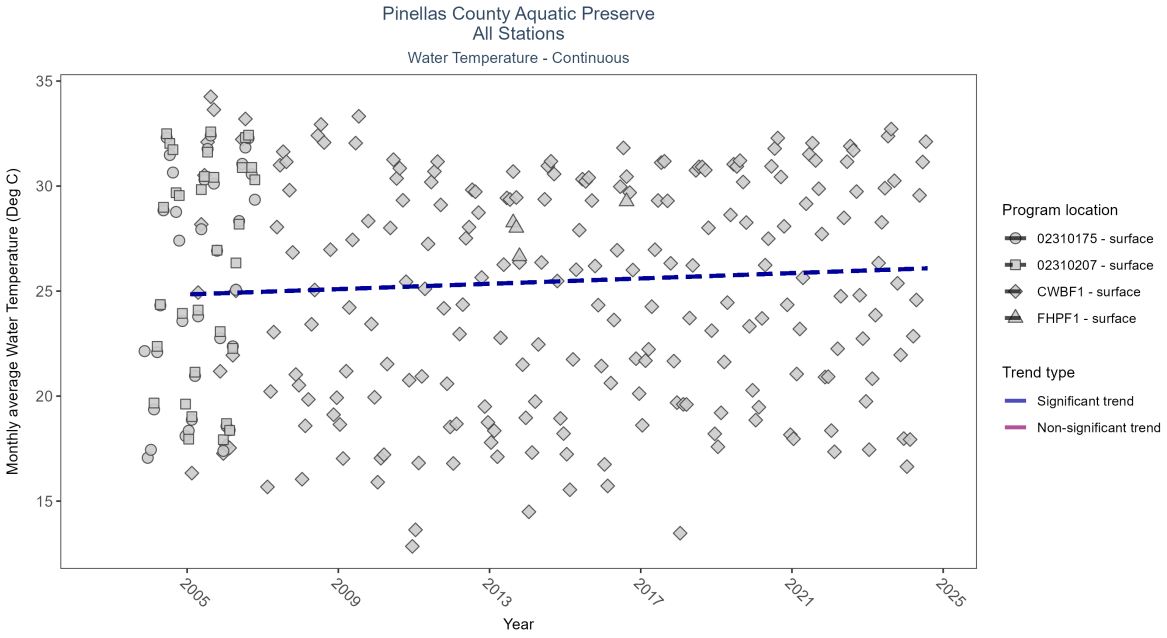


Table 7: Seasonal Kendall-Tau Results for All Stations - Water Temperature

| Program Location | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---|---|---|---|---|---|---|---|---|---|
| CWBF1 | Significantly increasing trend | 1383446 | 20 | 2005 - 2024 | 25.30 | 0.18 | 24.84 | 0.06 | 0.0003 |
| FHPF1 | Insufficient data to calculate trend | 12636 | 2 | 2013 - 2016 | 27.90 | - | - | - | NA |
| 02310175 | Insufficient data to calculate trend | 1421 | 4 | 2003 - 2006 | 26.50 | - | - | - | NA |
| 02310207 | Insufficient data to calculate trend | 1424 | 3 | 2004 - 2006 | 27.55 | - | - | - | NA |

## pH - Discrete

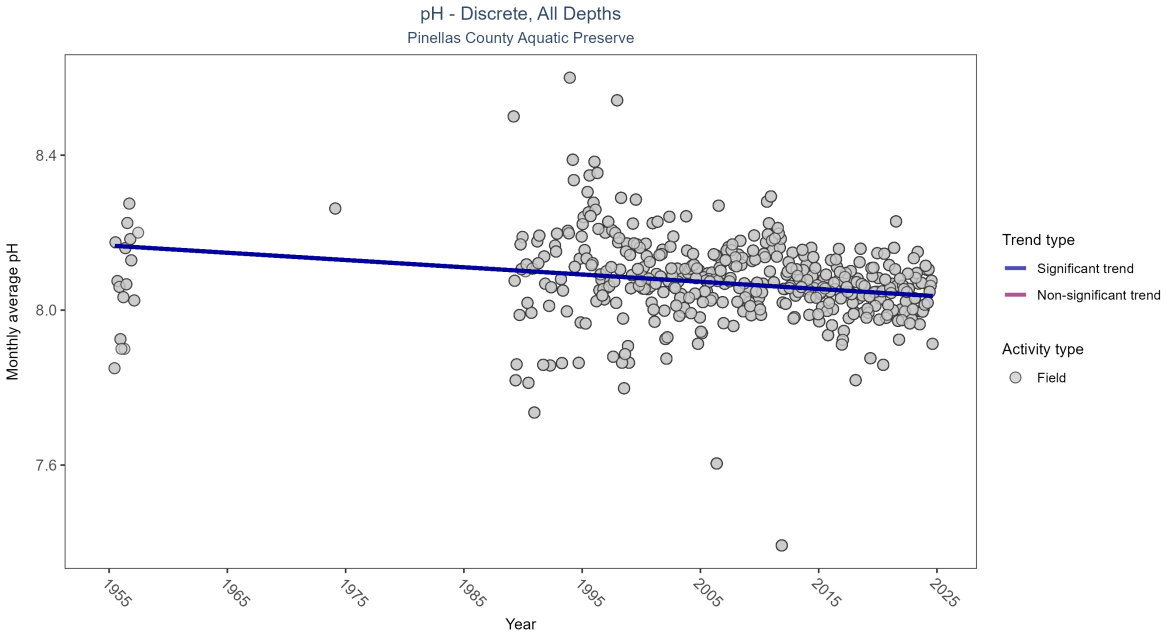


Table 8: Seasonal Kendall-Tau Results for - pH

| 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 | 90795 | 40 | 1955 - 2024 | 8.1 | -0.1793 | 8.16677 | -0.00187 | 0.0000 |

# Water Clarity

## Turbidity - Discrete

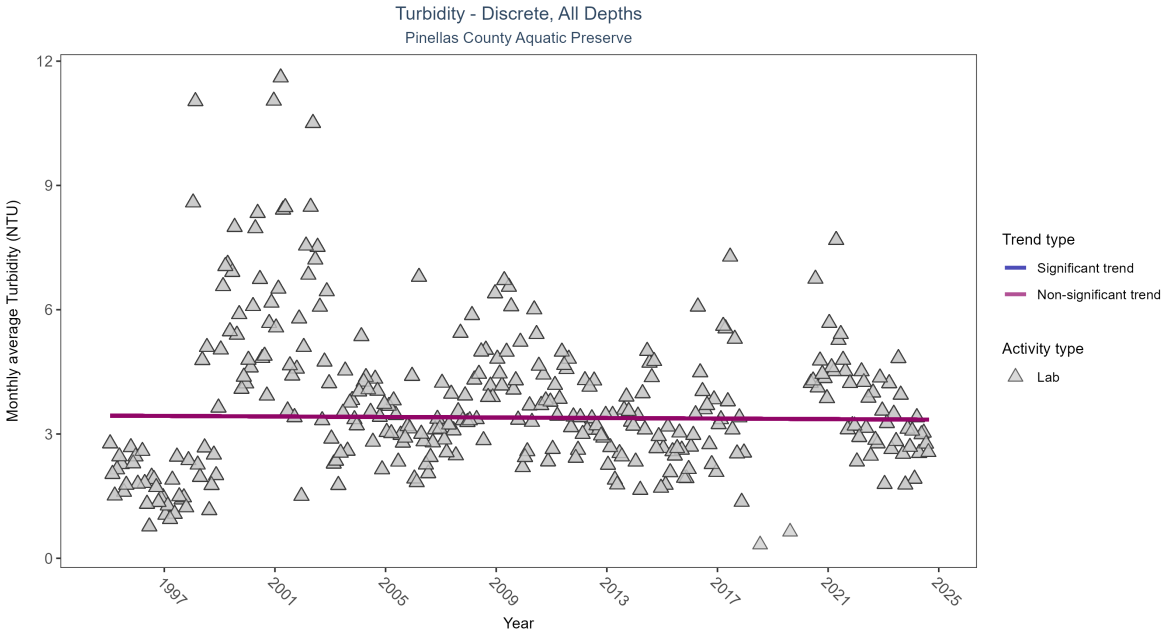


Table 9: Seasonal Kendall-Tau Results for - Turbidity

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---|---|---|---|---|---|---|---|---|---|
| Lab | No significant trend | 21091 | 30 | 1995 - 2024 | 2.5 | -0.0146 | 3.44229 | -0.00318 | 0.7535 |

## Total Suspended Solids - Discrete

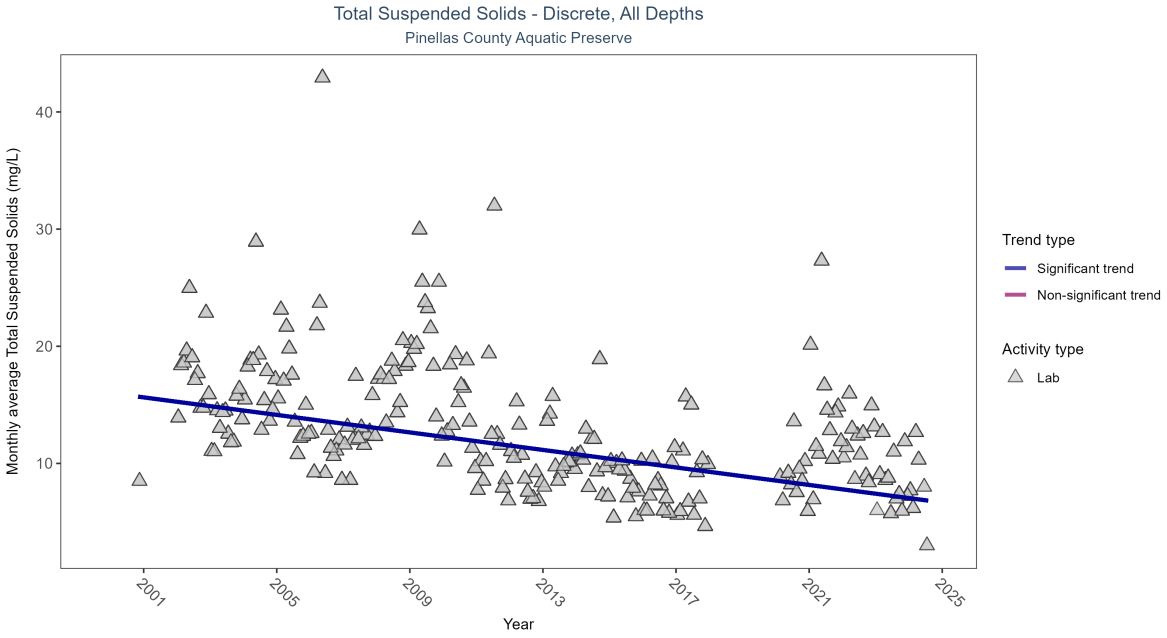


Table 10: Seasonal Kendall-Tau Results for - Total Suspended Solids

| 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 | 12084 | 22 | 2000 - 2024 | 10 | -0.3936 | 16.01068 | -0.37372 | 0.0000 |

## Chlorophyll a, Uncorrected for Pheophytin - Discrete

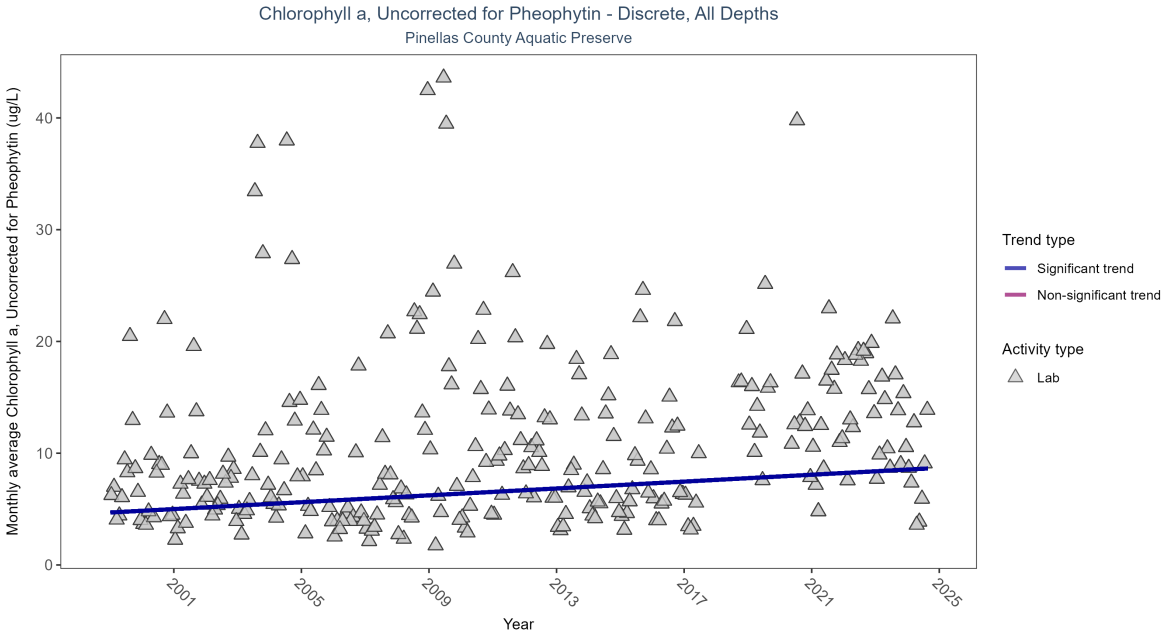


Table 11: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

| 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 | 6694 | 26 | 1999 - 2024 | 6.2 | 0.2256 | 4.69286 | 0.15365 | 0.0000 |

## Chlorophyll a, Corrected for Pheophytin - Discrete

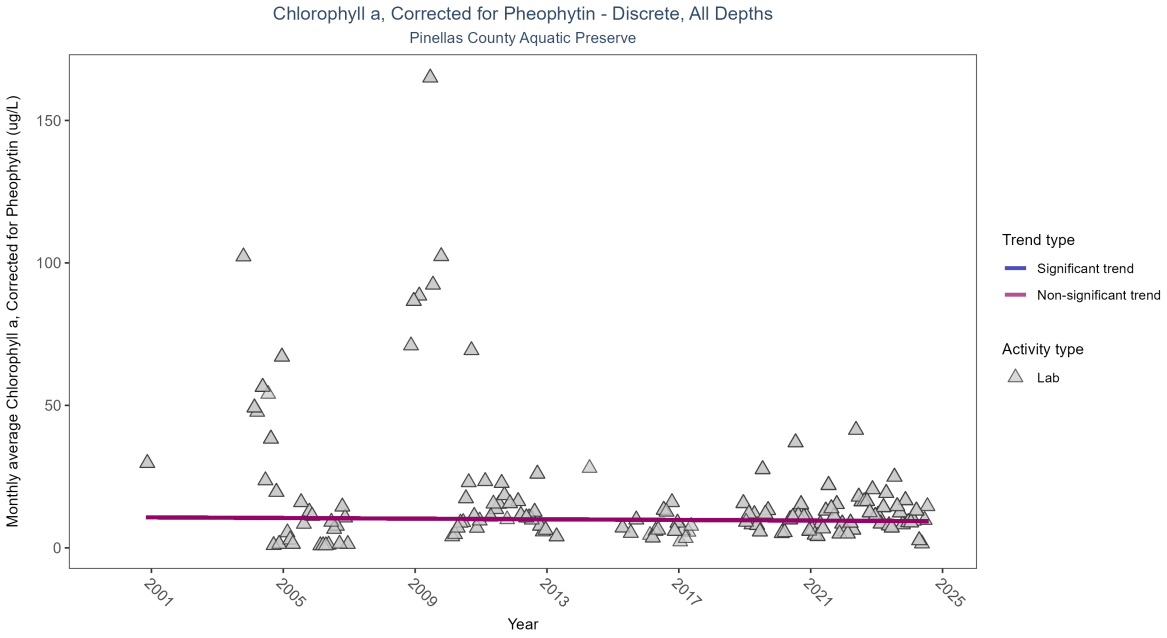


Table 12: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

| 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 | 3530 | 22 | 2000 - 2024 | 5.5 | -0.0201 | 10.75439 | -0.05603 | 0.6750 |

## Secchi Depth - Discrete

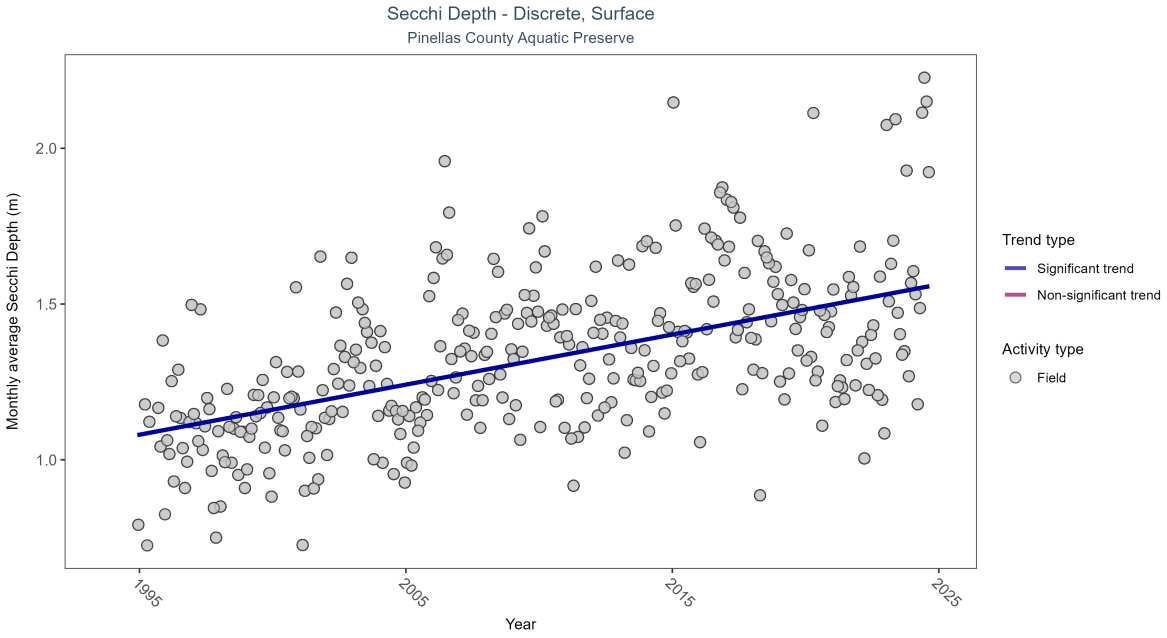


Table 13: Seasonal Kendall-Tau Results for - Secchi Depth

| 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 | 30855 | 31 | 1994 - 2024 | 1.2 | 0.3994 | 1.0644 | 0.01608 | 0.0000 |

## Colored Dissolved Organic Matter - Discrete

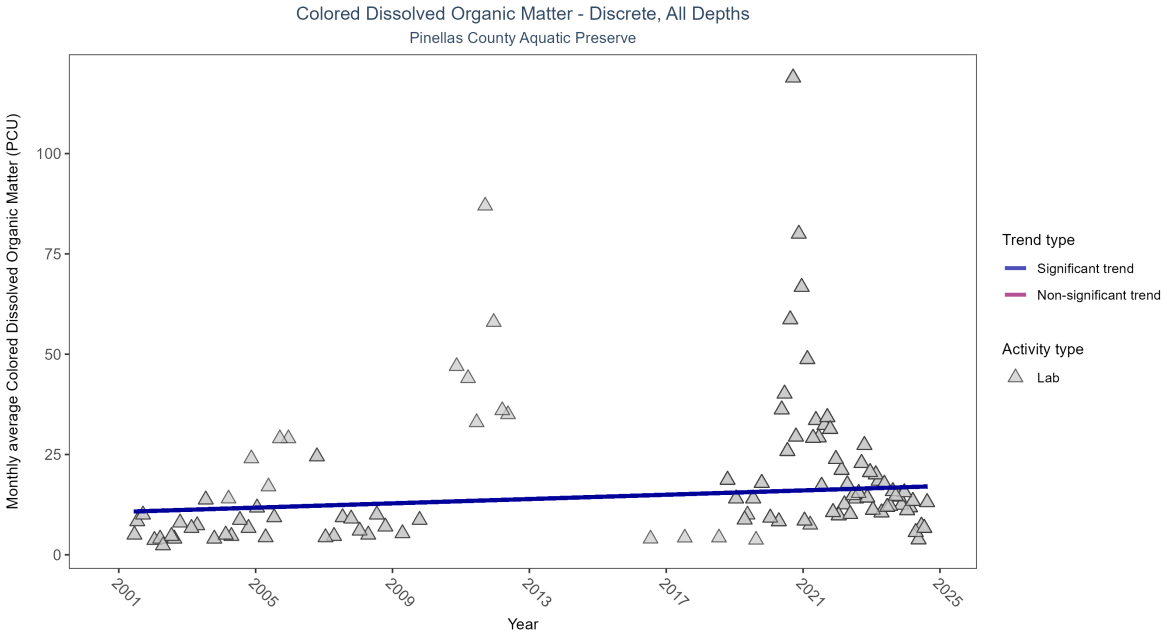


Table 14: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

| 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 | 1060 | 21 | 2001 - 2024 | 9.5 | 0.1149 | 10.67559 | 0.26852 | 0.0085 |