

Yellow River Marsh Aquatic Preserve

SEACAR Discrete Water Quality Analysis

Last compiled on 15 August, 2024

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Indicators

Nutrients

Total Nitrogen - Discrete

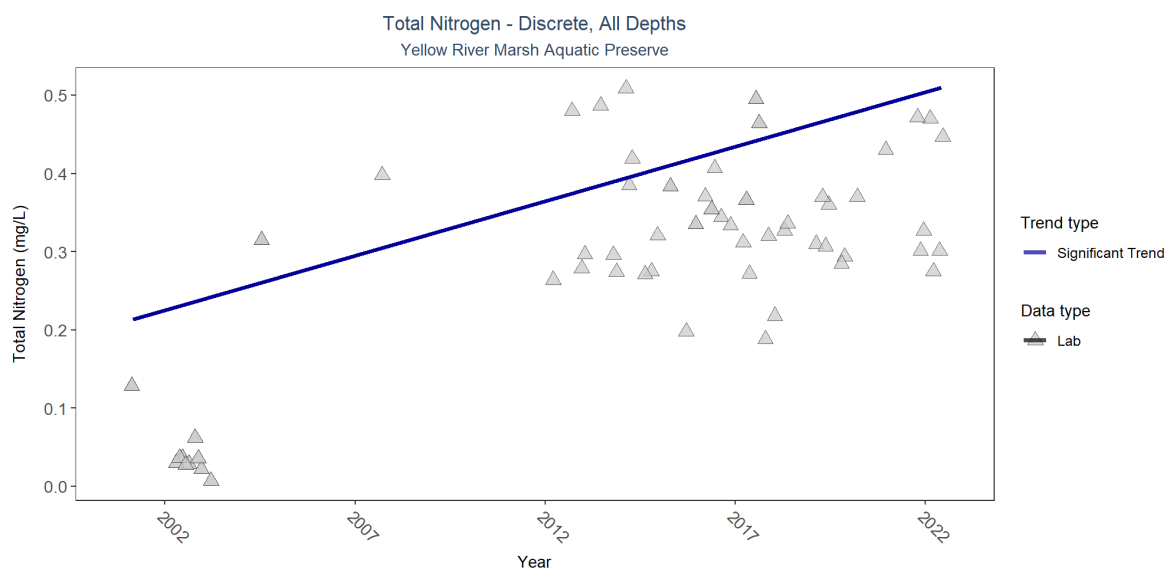


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Lab | Significantly increasing trend | 89 | 16 | 2001 - 2022 | 0.297 | 0.2851 | 0.21133 | 0.01395 | 0.0172 |

Total Phosphorus - Discrete

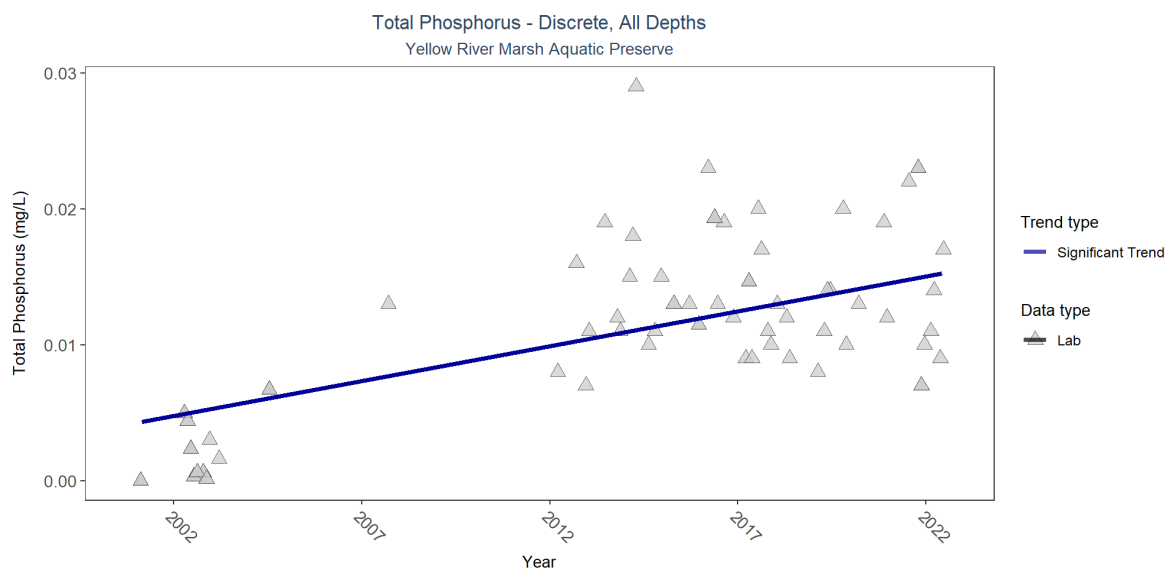


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Lab | Significantly increasing trend | 82 | 16 | 2001 - 2022 | 0.011 | 0.3544 | 0.00426 | 0.00051 | 0.0085 |

Water Quality

Dissolved Oxygen - Discrete

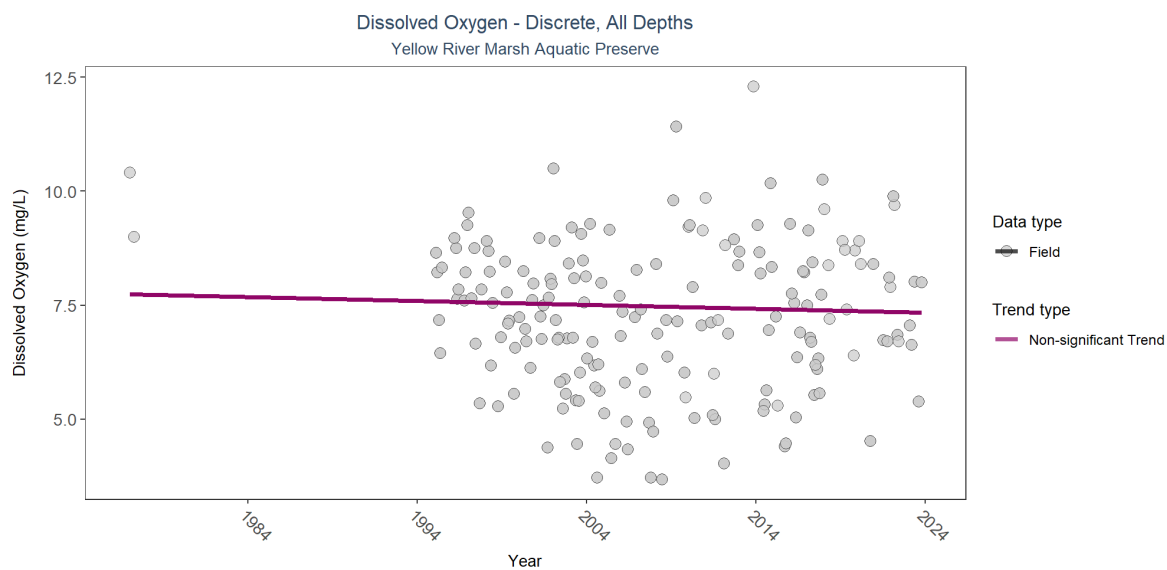


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|----------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| Field | No significant trend | 892 | 30 | 1977 - 2023 | 7.4 | -0.0035 | 7.73614 | -0.00833 | 0.5074 |

Dissolved Oxygen - Continuous

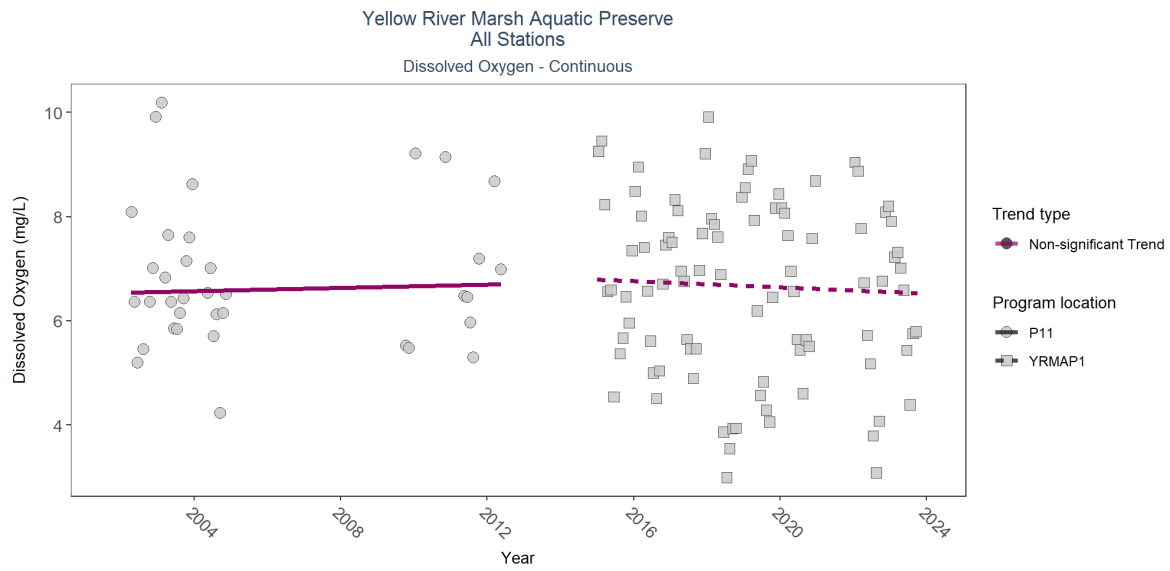


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|----------------------|--------|---------|------------------|--------|-------|---------------|-----------|--------|
| P11 | No significant trend | 131 | 7 | 2002 - 2012 | 6.37 | 0.04 | 6.54 | 0.02 | 0.4884 |
| YRMAP1 | No significant trend | 221521 | 8 | 2015 - 2023 | 6.90 | -0.09 | 6.80 | -0.03 | 0.2359 |

Dissolved Oxygen Saturation - Discrete

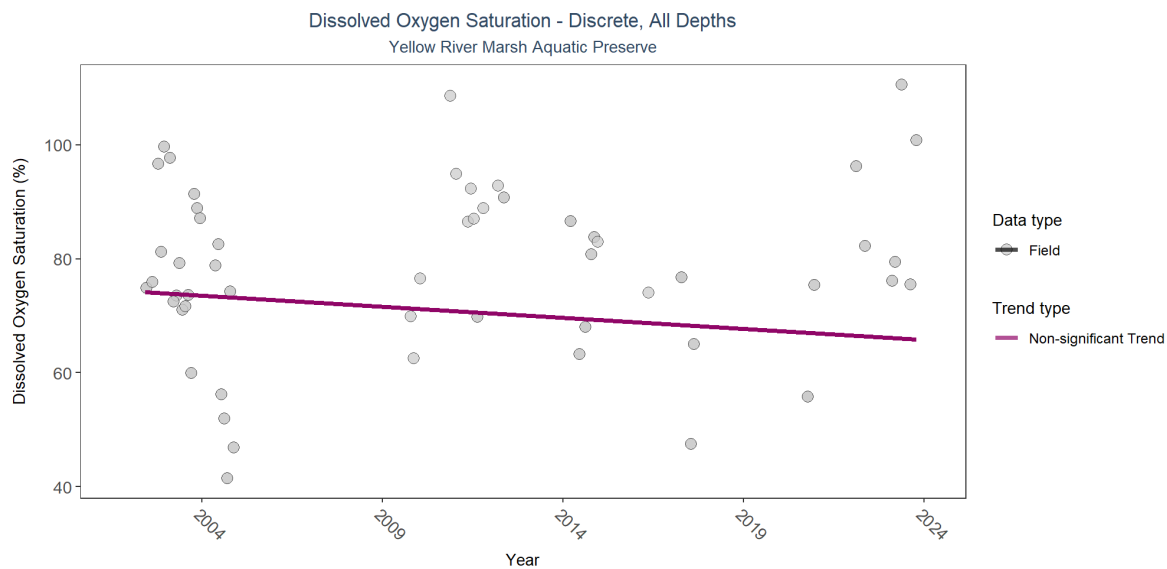


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|----------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| Field | No significant trend | 114 | 13 | 2002 - 2023 | 78.12 | -0.1145 | 74.31369 | -0.38727 | 0.5112 |

Dissolved Oxygen Saturation - Continuous

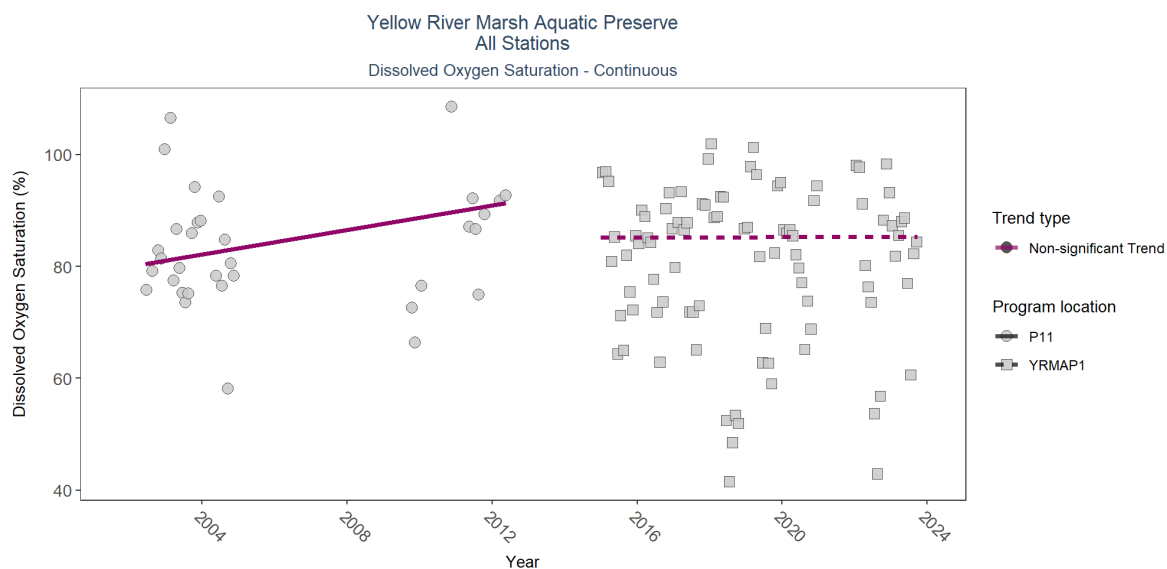


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|----------------------|--------|---------|------------------|--------|------|---------------|-----------|--------|
| P11 | No significant trend | 126 | 7 | 2002 - 2012 | 79.93 | 0.09 | 79.97 | 1.09 | 0.7119 |
| YRMAP1 | No significant trend | 227789 | 8 | 2015 - 2023 | 86.80 | 0.02 | 85.13 | 0.01 | 1.0000 |

Salinity - Discrete

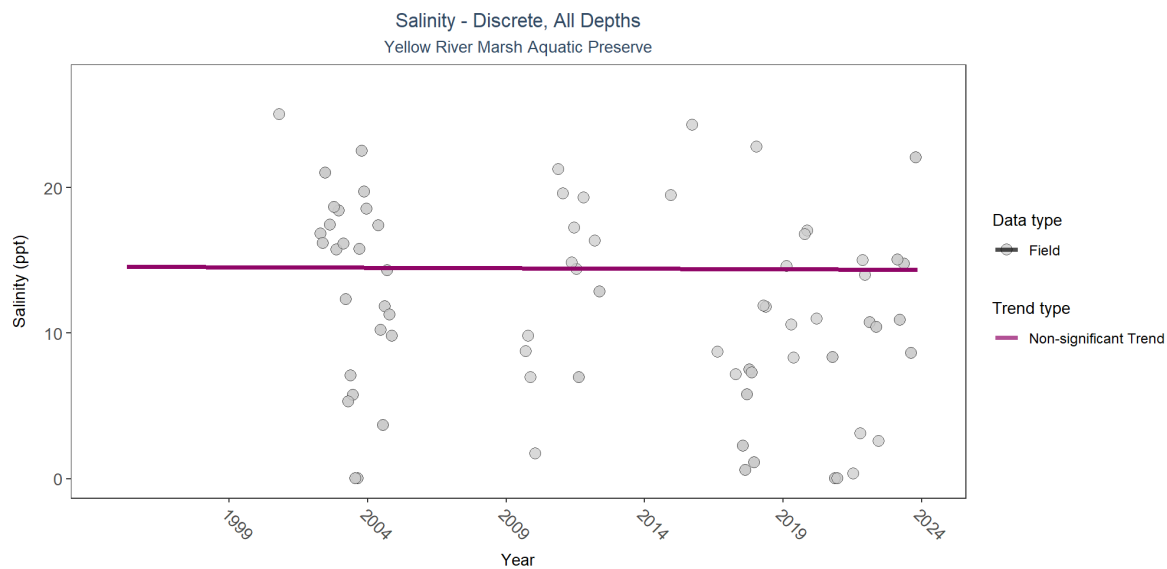


Table 7: Seasonal Kendall-Tau Results for - Salinity

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|----------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| All | No significant trend | 1069 | 29 | 1995 - 2023 | 12.2 | -0.0102 | 14.56652 | -0.00714 | 0.9029 |

Salinity - Continuous

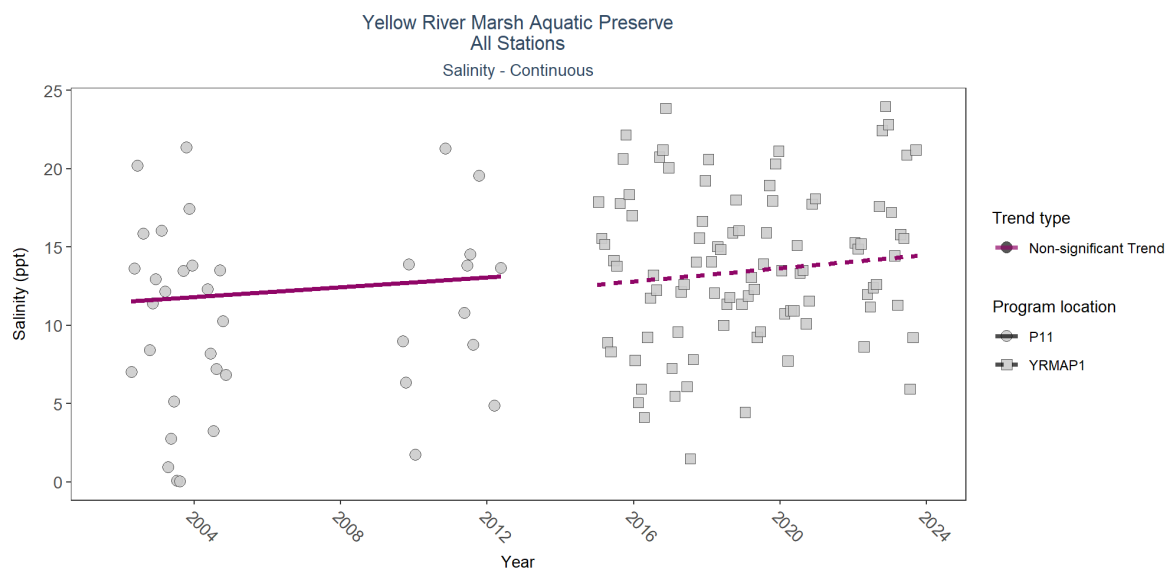


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|----------------------|--------|---------|------------------|--------|------|---------------|-----------|--------|
| P11 | No significant trend | 136 | 7 | 2002 - 2012 | 10.05 | 0.06 | 11.52 | 0.15 | 0.6499 |
| YRMAP1 | No significant trend | 238173 | 8 | 2015 - 2023 | 14.00 | 0.10 | 12.61 | 0.21 | 0.2334 |

Water Temperature - Discrete

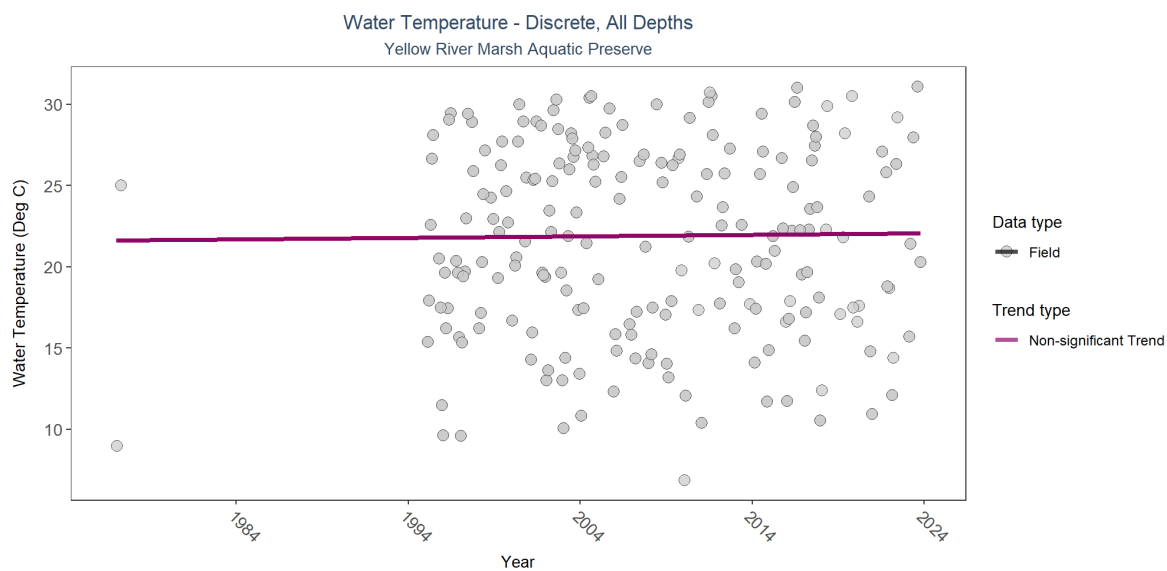


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|----------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Field | No significant trend | 1063 | 30 | 1977 - 2023 | 22 | 0.0175 | 21.62783 | 0.00907 | 0.6385 |

Water Temperature - Continuous

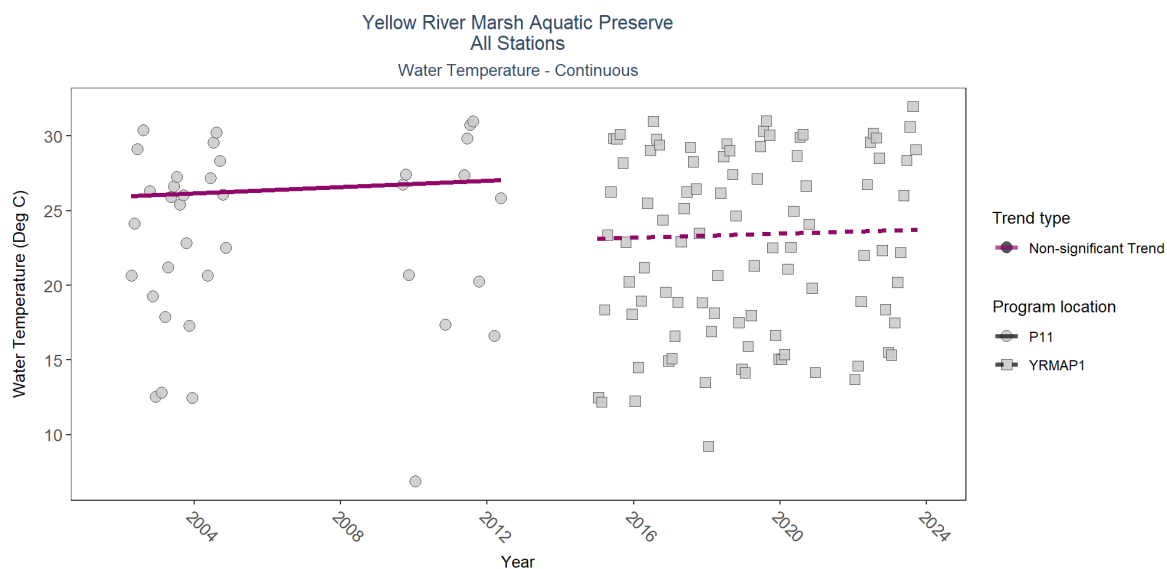


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|----------------------|--------|---------|------------------|--------|------|---------------|-----------|--------|
| P11 | No significant trend | 136 | 7 | 2002 - 2012 | 26.22 | 0.13 | 25.96 | 0.10 | 0.4960 |
| YRMAP1 | No significant trend | 262942 | 8 | 2015 - 2023 | 23.00 | 0.07 | 23.12 | 0.07 | 0.3714 |

pH - Discrete

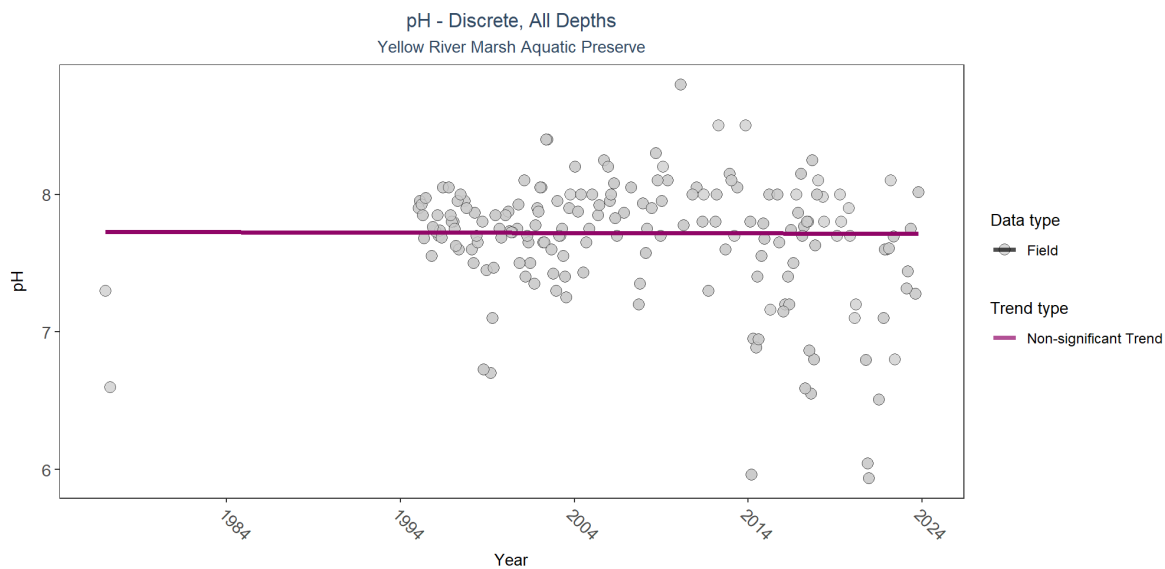


Table 11: Seasonal Kendall-Tau Results for - pH

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|----------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Field | No significant trend | 567 | 30 | 1977 - 2023 | 7.7 | -0.037 | 7.728 | -0.00028 | 0.7221 |

pH - Continuous

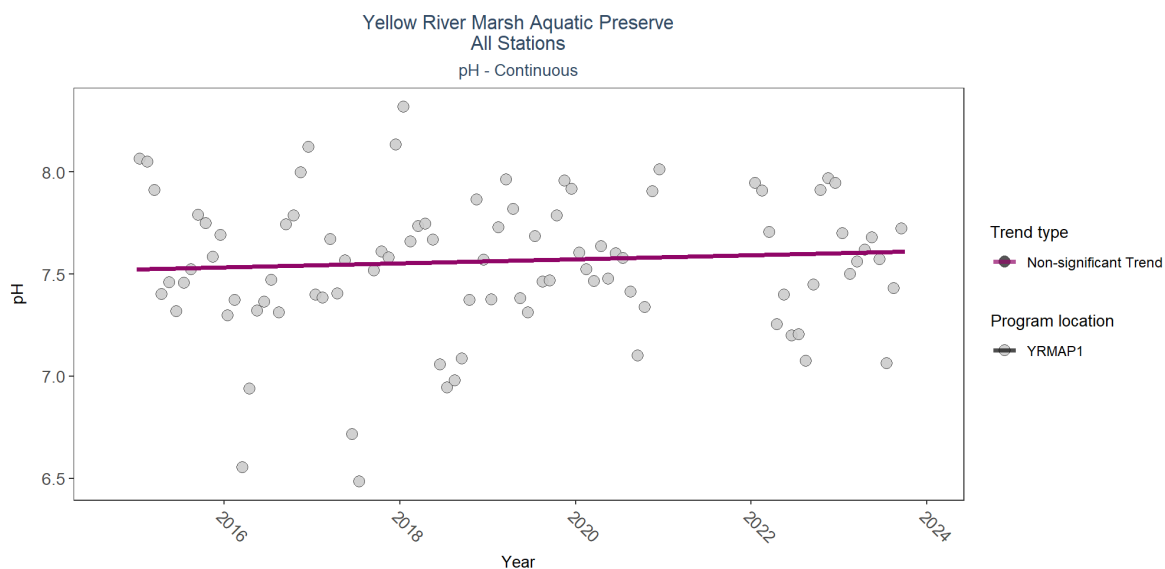


Table 12: Seasonal Kendall-Tau Results for All Stations - pH

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|----------------------|--------|---------|------------------|--------|------|---------------|-----------|--------|
| YRMAP1 | No significant trend | 236519 | 8 | 2015 - 2023 | 7.6 | 0.07 | 7.52 | 0.01 | 0.4727 |

Water Clarity

Turbidity - Discrete

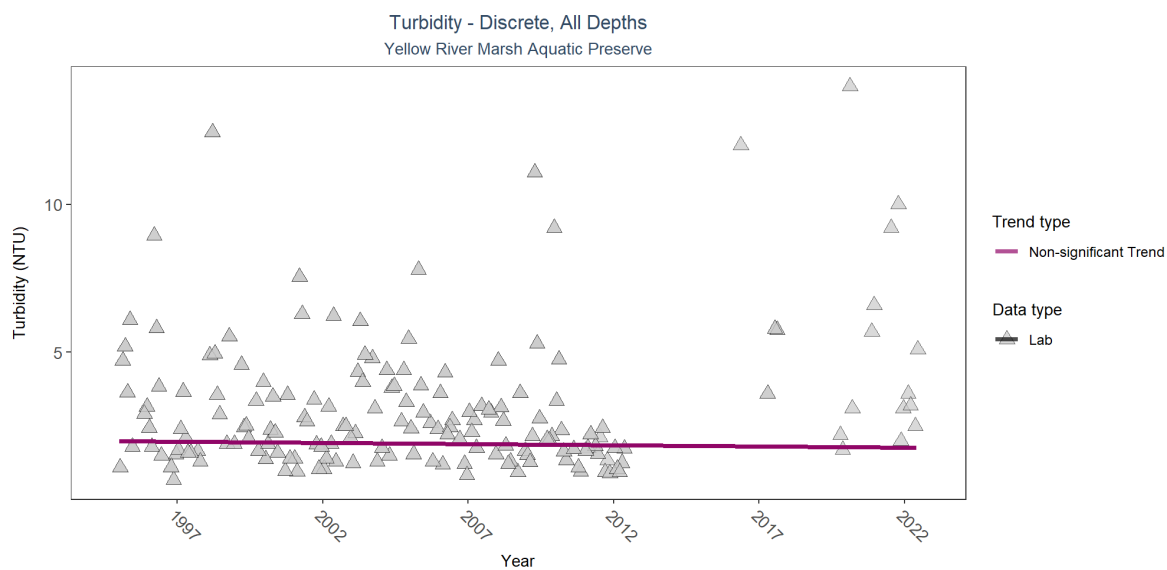


Table 13: Seasonal Kendall-Tau Results for - Turbidity

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|----------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Lab | No significant trend | 569 | 24 | 1995 - 2022 | 2.4 | 0.0176 | 1.98943 | -0.0082 | 0.6223 |

Turbidity - Continuous

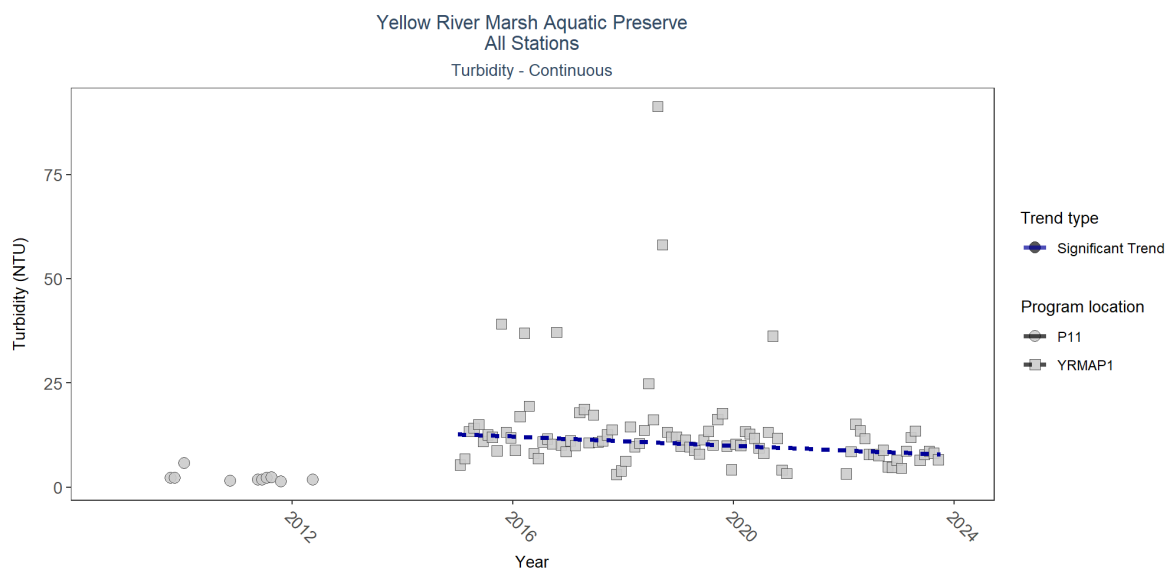


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|--------------------------------------|--------|---------|------------------|--------|-------|---------------|-----------|--------|
| P11 | Insufficient data to calculate trend | 37 | 4 | 2009 - 2012 | 2 | - | - | - | - |
| YRMAP1 | Significantly decreasing trend | 250273 | 8 | 2015 - 2023 | 6 | -0.33 | 12.76 | -0.56 | 0.0002 |

Total Suspended Solids - Discrete

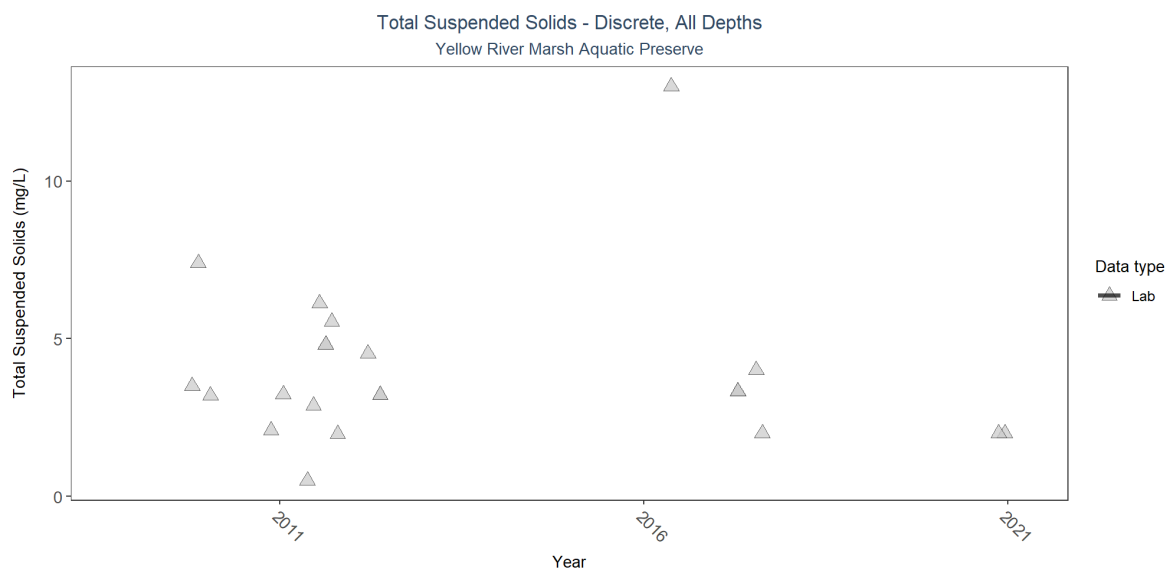


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|----|
| Lab | Insufficient data to calculate trend | 23 | 7 | 2009 - 2020 | 3.2 | - | - | - | NA |

Chlorophyll a, Uncorrected for Pheophytin - Discrete

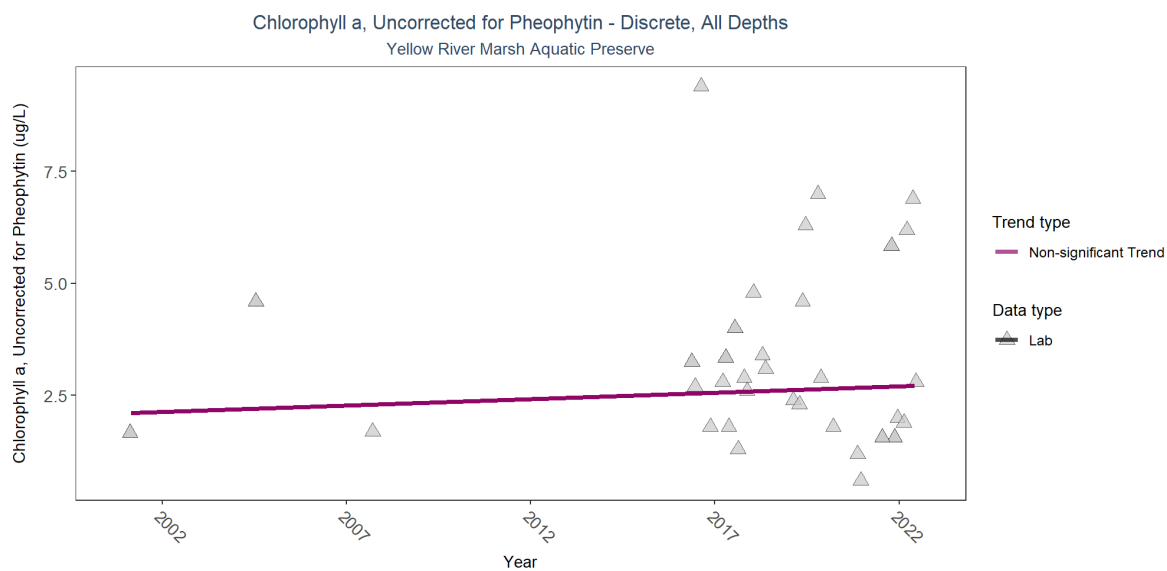


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|----------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Lab | No significant trend | 48 | 10 | 2001 - 2022 | 2.7 | 0.0625 | 2.1 | 0.0287 | 0.6920 |

Chlorophyll a, Corrected for Pheophytin - Discrete

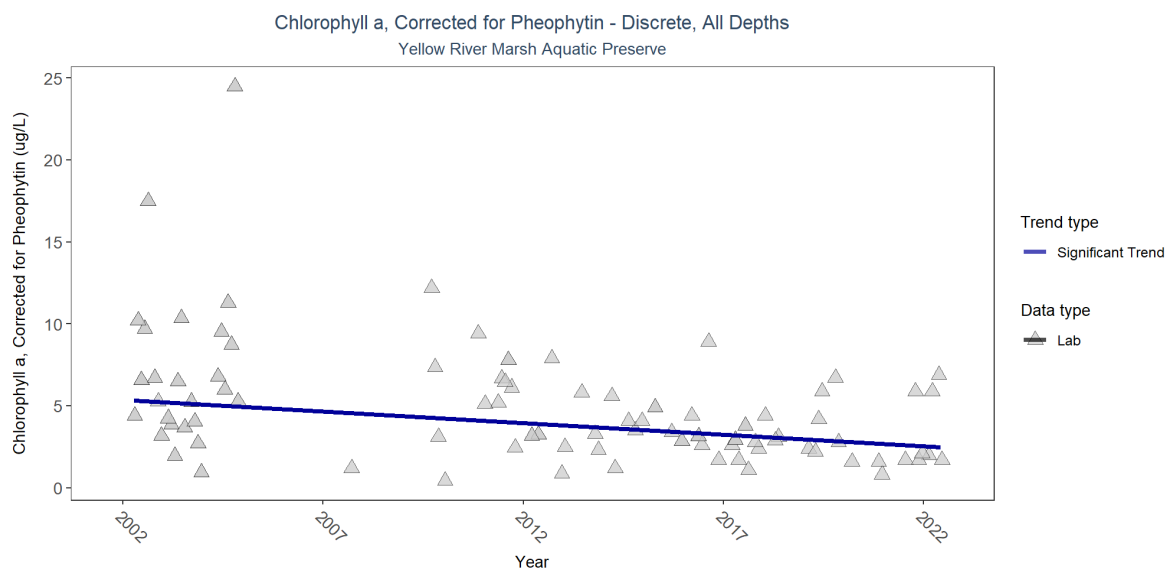


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| Lab | Significantly decreasing trend | 123 | 18 | 2002 - 2022 | 4.15 | -0.3293 | 5.34306 | -0.14141 | 0.0003 |

Secchi Depth - Discrete

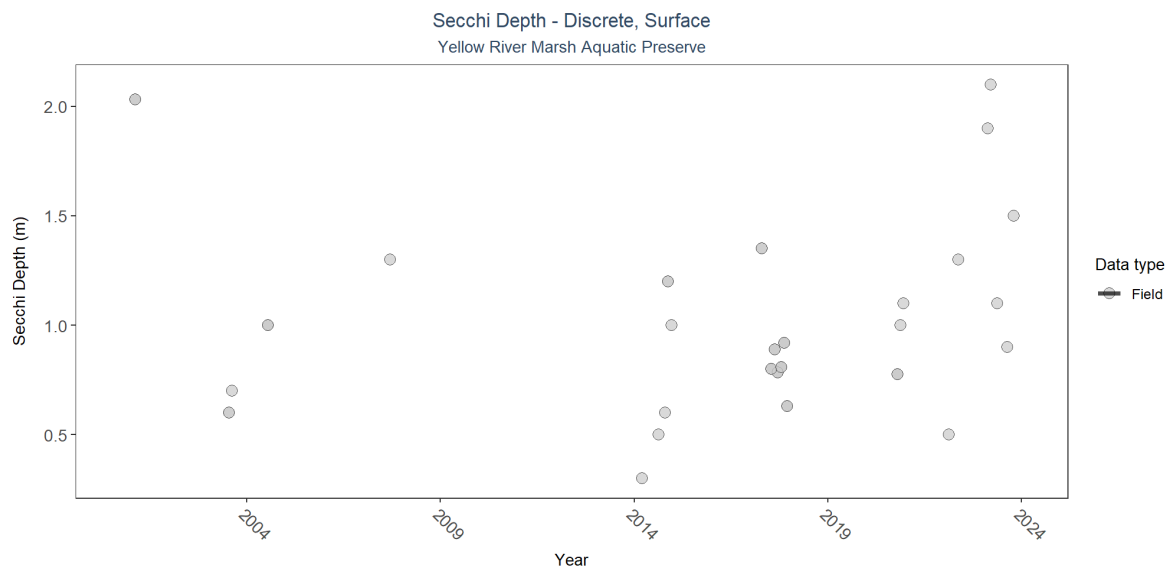


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|----|
| Field | Insufficient data to calculate trend | 96 | 9 | 2001 - 2023 | 0.8 | - | - | - | NA |

Colored Dissolved Organic Matter - Discrete

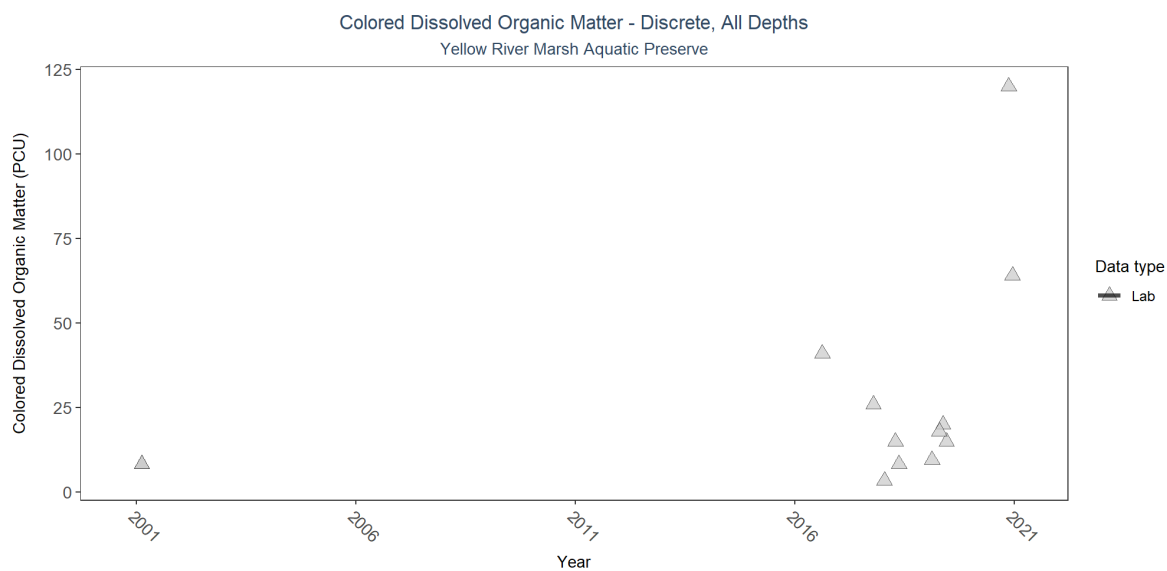


Table 19: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|----|
| Lab | Insufficient data to calculate trend | 14 | 6 | 2001 - 2020 | 15 | - | - | - | NA |