

# Mosquito Lagoon Aquatic Preserve

## SEACAR Water Quality Analysis

Last compiled on 09 January, 2025

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# Indicators

## Nutrients

### Total Nitrogen - Discrete

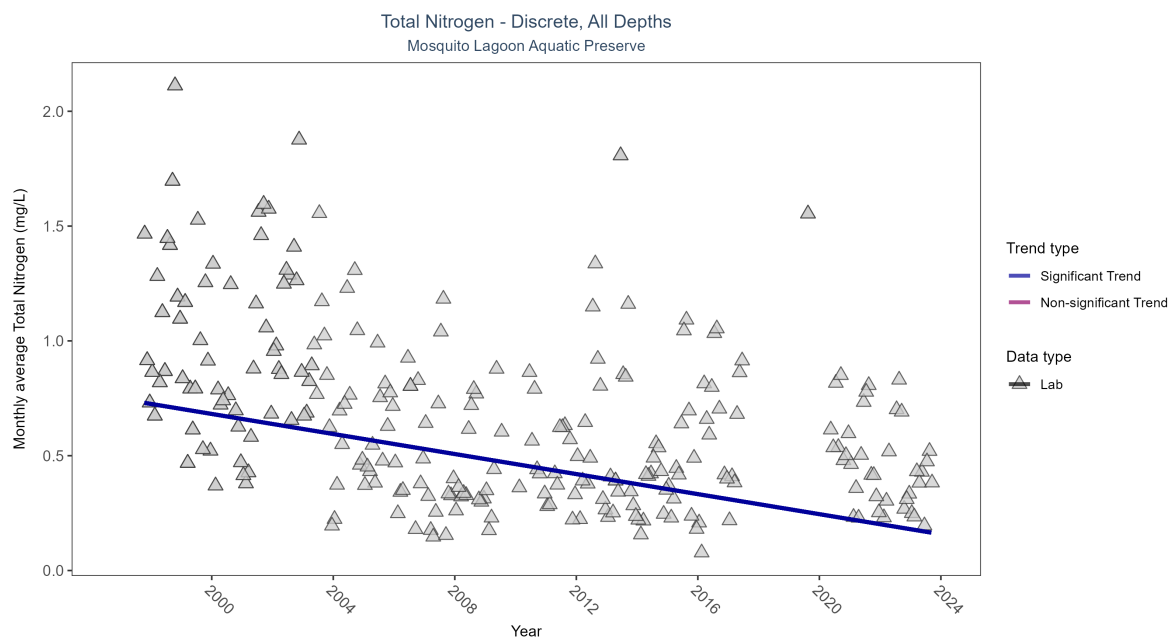


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

| ActivityType | Statistical Trend              | N-Data | N-Years | Period of Record | Median | tau     | SennIntercept | SennSlope | p      |
|--------------|--------------------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| Lab          | Significantly decreasing trend | 366    | 26      | 1997 - 2023      | 0.7115 | -0.4098 | 0.74734       | -0.02182  | 0.0000 |

## Total Phosphorus - Discrete

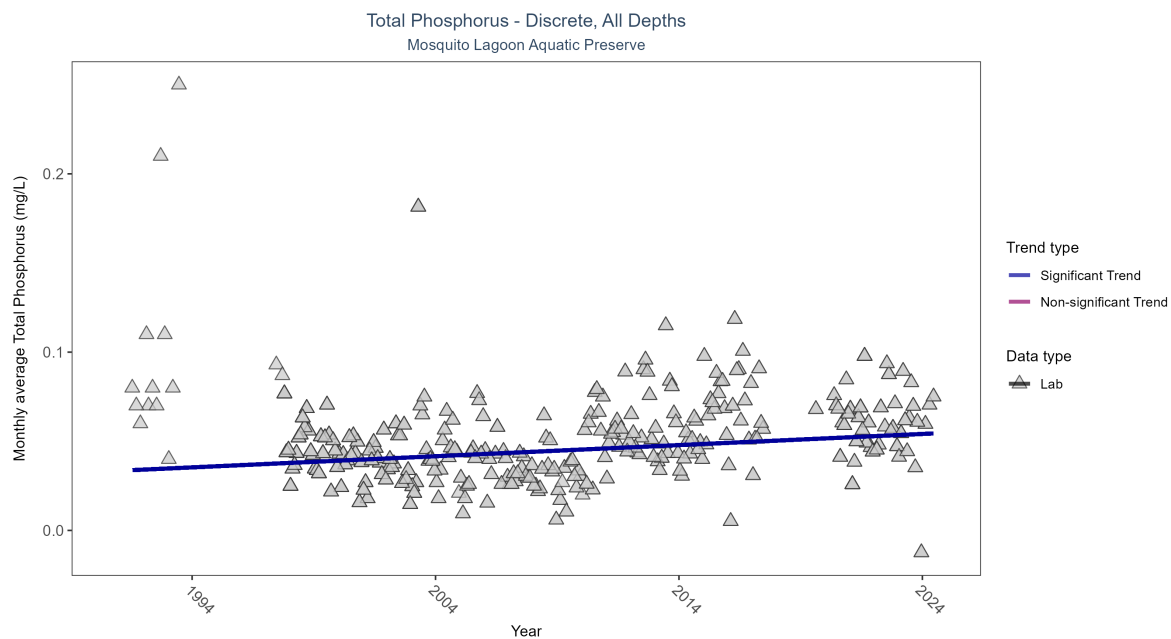


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

| ActivityType | Statistical Trend              | N-Data | N-Years | Period of Record | Median | tau    | SennIntercept | SennSlope | p      |
|--------------|--------------------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Lab          | Significantly increasing trend | 840    | 30      | 1991 - 2024      | 0.042  | 0.1818 | 0.03348       | 0.00062   | 0.0000 |

## Water Quality

### Dissolved Oxygen - Discrete

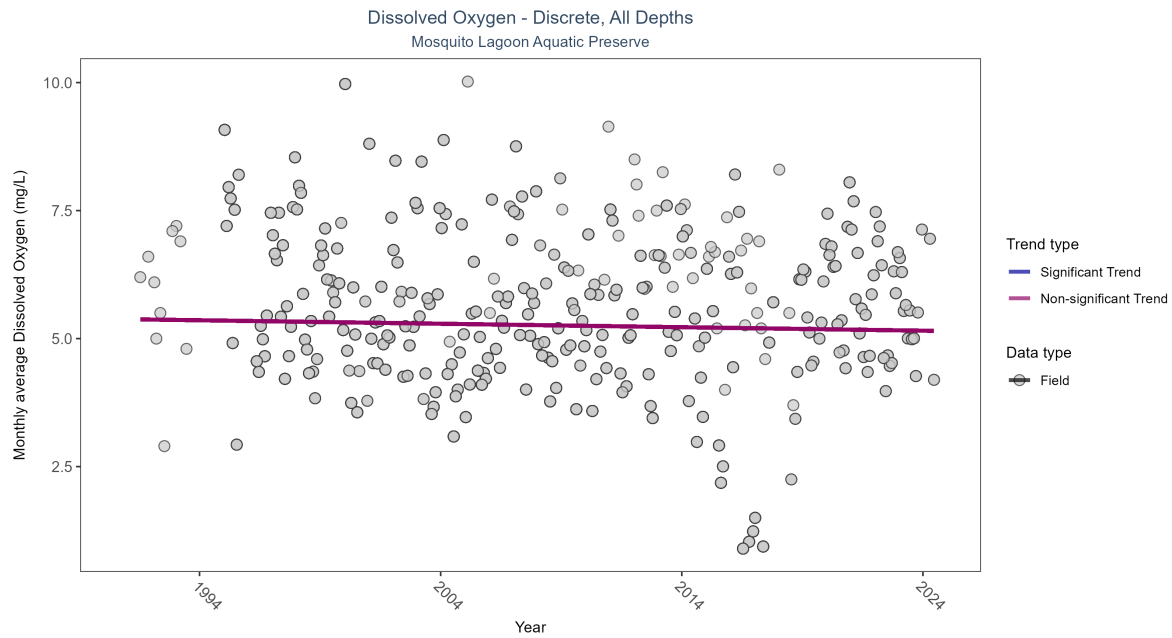


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

| ActivityType | Statistical Trend    | N-Data | N-Years | Period of Record | Median | tau     | SennIntercept | SennSlope | p      |
|--------------|----------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| Field        | No significant trend | 4798   | 33      | 1991 - 2024      | 5.4    | -0.0398 | 5.37853       | -0.00678  | 0.3030 |

## Dissolved Oxygen Saturation - Discrete

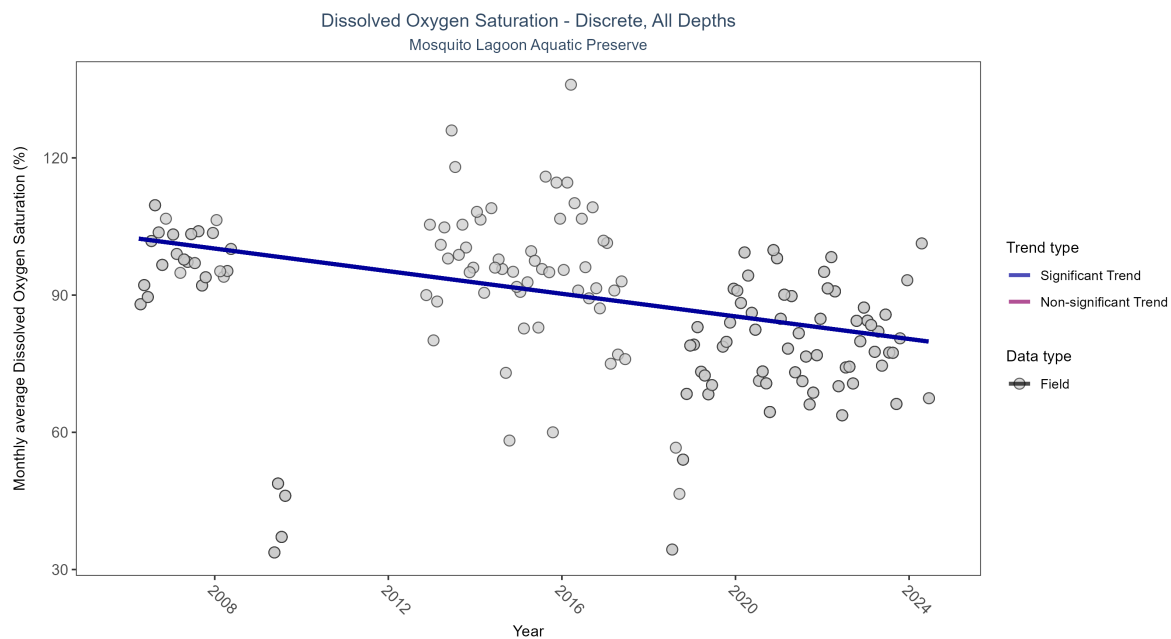


Table 4: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

| ActivityType | Statistical Trend              | N-Data | N-Years | Period of Record | Median | tau     | SennIntercept | SennSlope | p      |
|--------------|--------------------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| Field        | Significantly decreasing trend | 467    | 17      | 2006 - 2024      | 84.9   | -0.3103 | 102.6463      | -1.23571  | 0.0000 |

## Salinity - Discrete

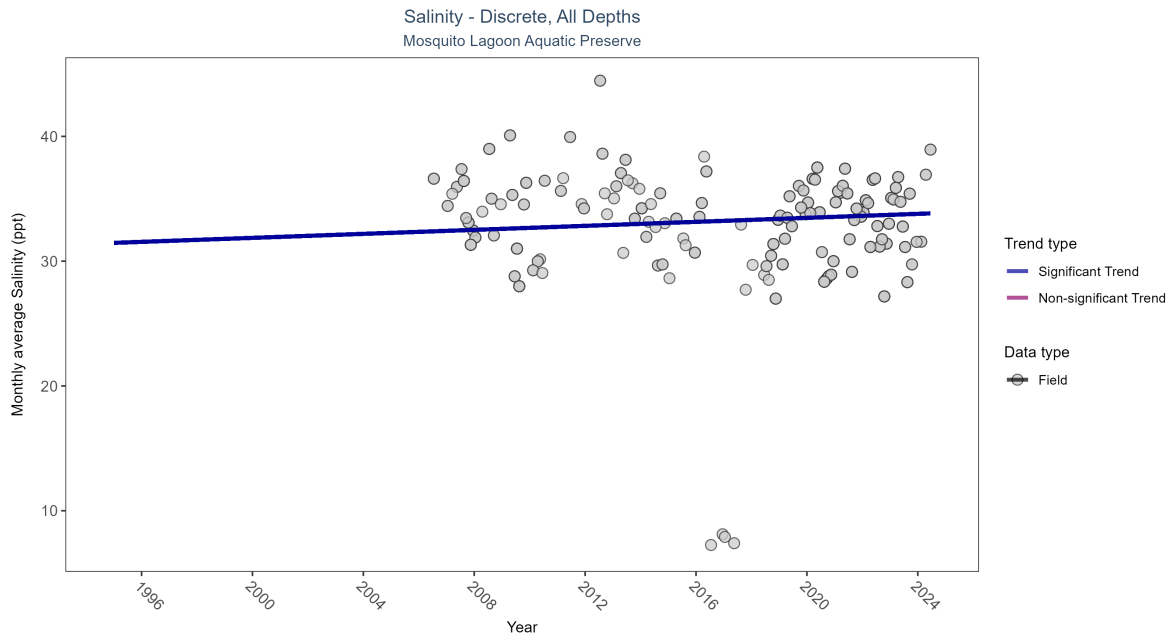


Table 5: Seasonal Kendall-Tau Results for - Salinity

| ActivityType | Statistical Trend              | N-Data | N-Years | Period of Record | Median | tau    | SennIntercept | SennSlope | p      |
|--------------|--------------------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| All          | Significantly increasing trend | 5230   | 30      | 1995 - 2024      | 32.5   | 0.1428 | 31.46696      | 0.08019   | 0.0002 |

## Water Temperature - Discrete

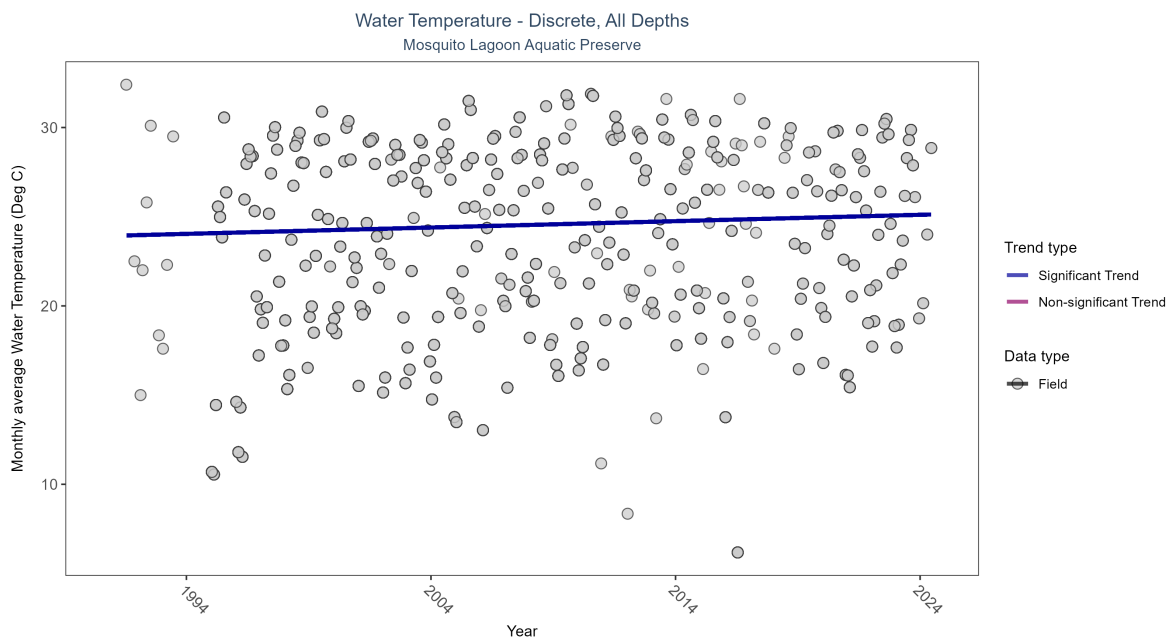


Table 6: Seasonal Kendall-Tau Results for - Water Temperature

| ActivityType | Statistical Trend              | N-Data | N-Years | Period of Record | Median | tau    | SennIntercept | SennSlope | p      |
|--------------|--------------------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Field        | Significantly increasing trend | 5343   | 33      | 1991 - 2024      | 25     | 0.1323 | 23.93047      | 0.03566   | 0.0005 |

## pH - Discrete

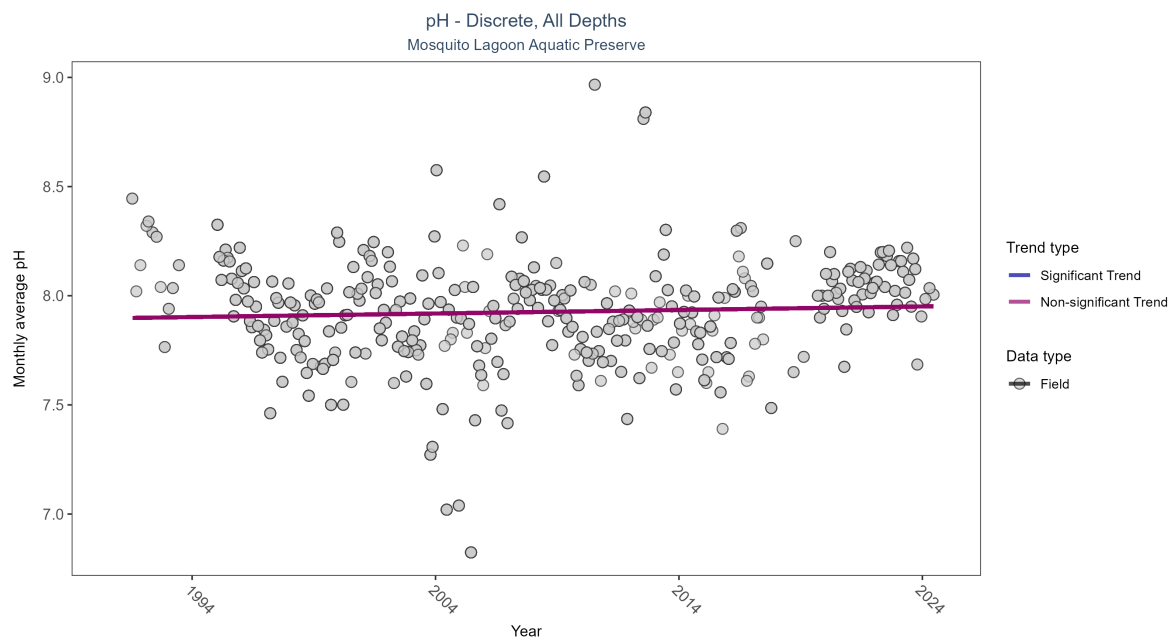


Table 7: Seasonal Kendall-Tau Results for - pH

| ActivityType | Statistical Trend    | N-Data | N-Years | Period of Record | Median | tau    | SennIntercept | SennSlope | p      |
|--------------|----------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Field        | No significant trend | 3723   | 33      | 1991 - 2024      | 7.9    | 0.0482 | 7.89749       | 0.00162   | 0.2166 |



## Water Clarity

### Turbidity - Discrete

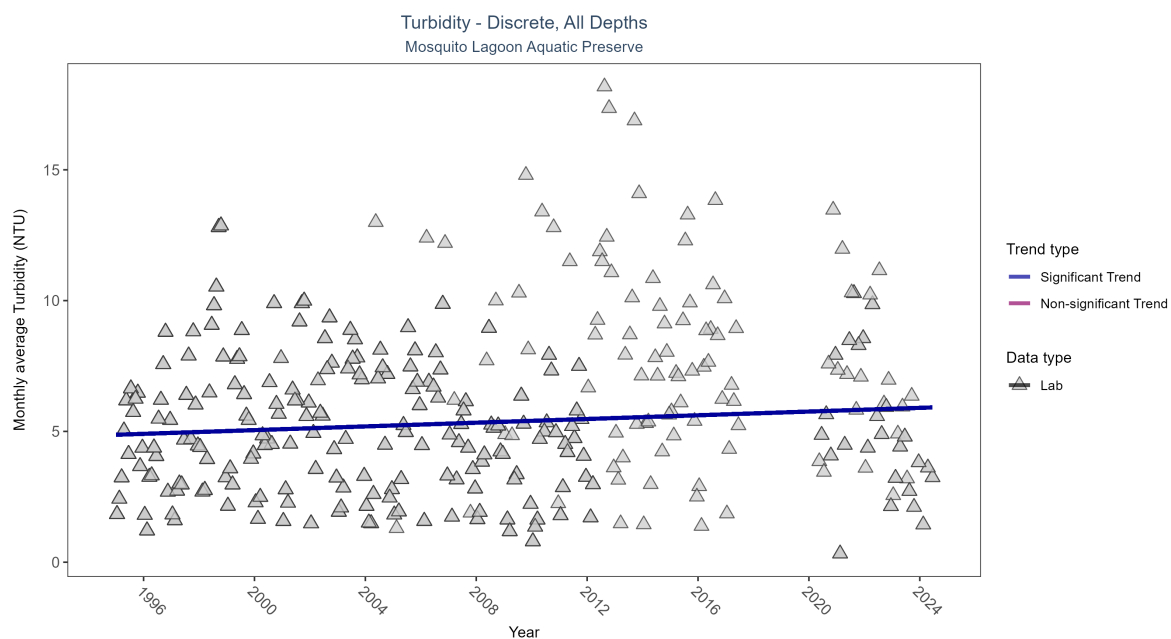


Table 8: Seasonal Kendall-Tau Results for - Turbidity

| ActivityType | Statistical Trend              | N-Data | N-Years | Period of Record | Median | tau   | SennIntercept | SennSlope | p      |
|--------------|--------------------------------|--------|---------|------------------|--------|-------|---------------|-----------|--------|
| Lab          | Significantly increasing trend | 3480   | 28      | 1995 - 2024      | 4.6    | 0.104 | 4.87131       | 0.03549   | 0.0102 |

## Total Suspended Solids - Discrete

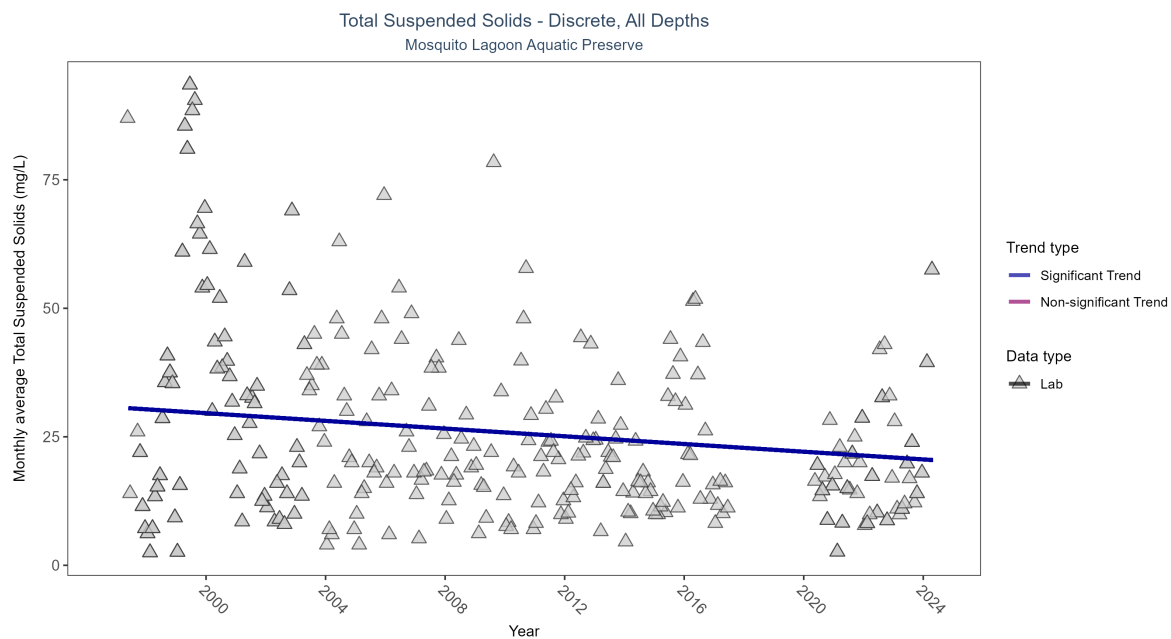


Table 9: Seasonal Kendall-Tau Results for - Total Suspended Solids

| ActivityType | Statistical Trend              | N-Data | N-Years | Period of Record | Median | tau     | SennIntercept | SennSlope | p      |
|--------------|--------------------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| Lab          | Significantly decreasing trend | 414    | 26      | 1997 - 2024      | 20     | -0.1707 | 30.72054      | -0.375    | 0.0002 |

## Chlorophyll a, Uncorrected for Pheophytin - Discrete

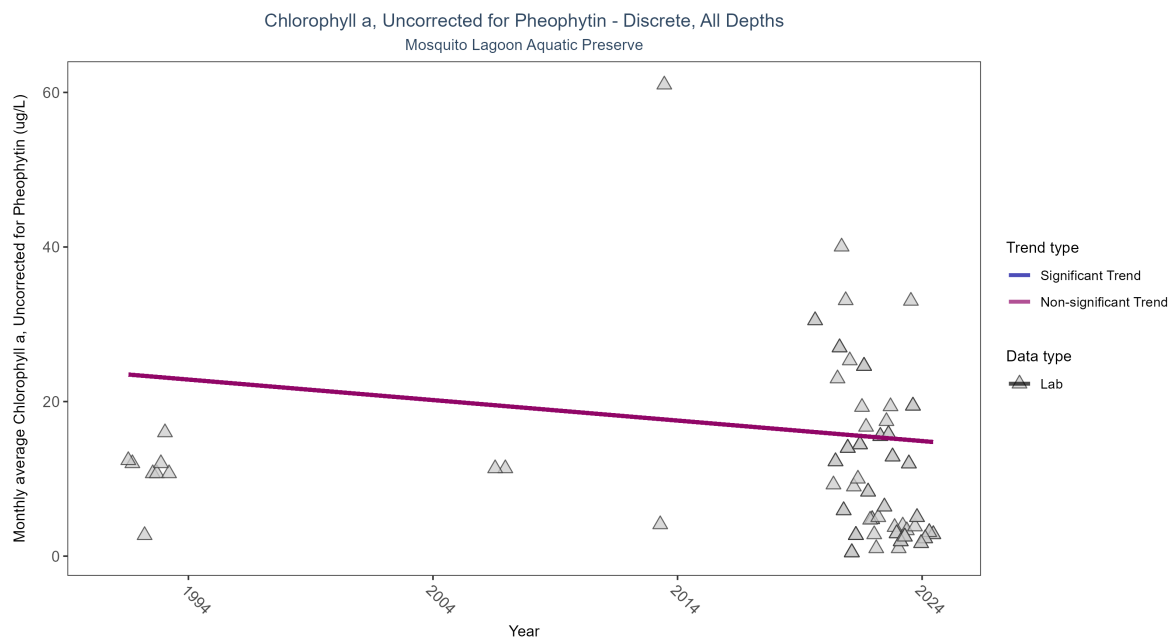


Table 10: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

| ActivityType | Statistical Trend    | N-Data | N-Years | Period of Record | Median | tau     | SennIntercept | SennSlope | p      |
|--------------|----------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| Lab          | No significant trend | 120    | 11      | 1991 - 2024      | 9.975  | -0.2322 | 23.6417       | -0.26522  | 0.1090 |

## Chlorophyll a, Corrected for Pheophytin - Discrete

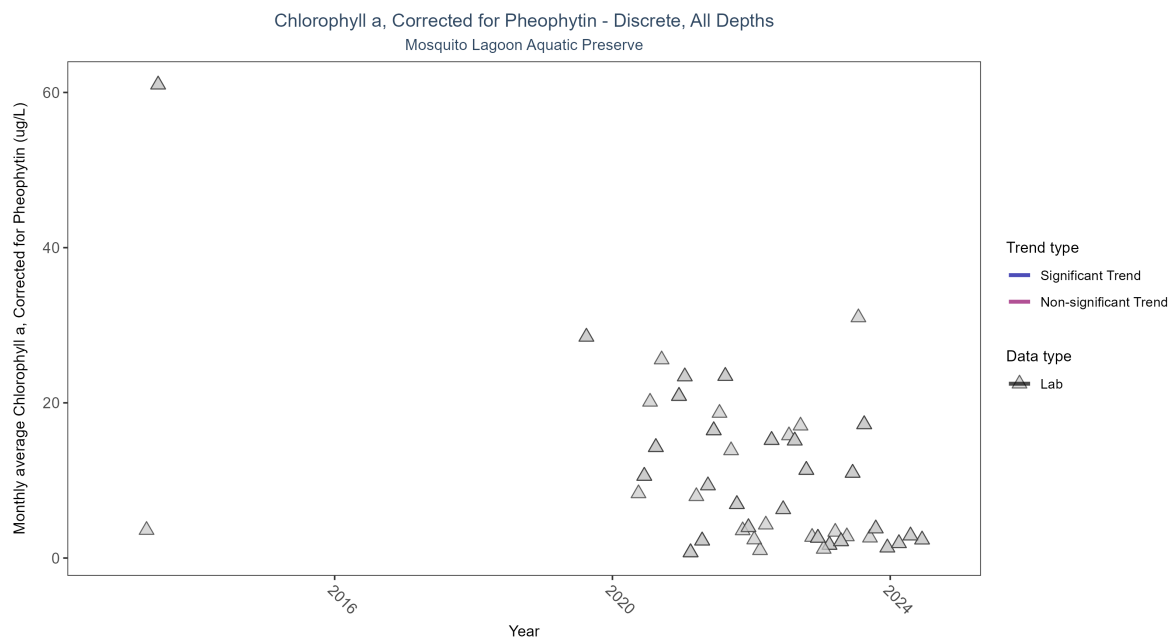


Table 11: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

| ActivityType | Statistical Trend                    | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p  |
|--------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|----|
| Lab          | Insufficient data to calculate trend | 93     | 7       | 2013 - 2024      | 8.277  | -   | -             | -         | NA |

## Secchi Depth - Discrete

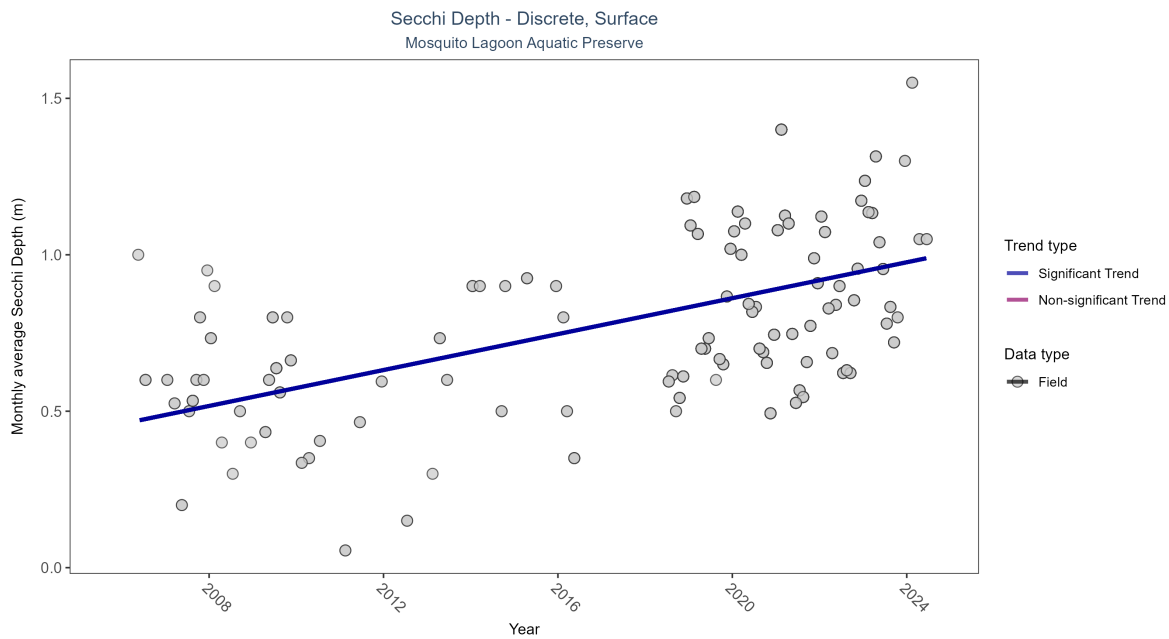


Table 12: Seasonal Kendall-Tau Results for - Secchi Depth

| ActivityType | Statistical Trend              | N-Data | N-Years | Period of Record | Median | tau    | SennIntercept | SennSlope | p      |
|--------------|--------------------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Field        | Significantly increasing trend | 694    | 18      | 2006 - 2024      | 0.8    | 0.4763 | 0.45939       | 0.0287    | 0.0000 |

## Colored Dissolved Organic Matter - Discrete

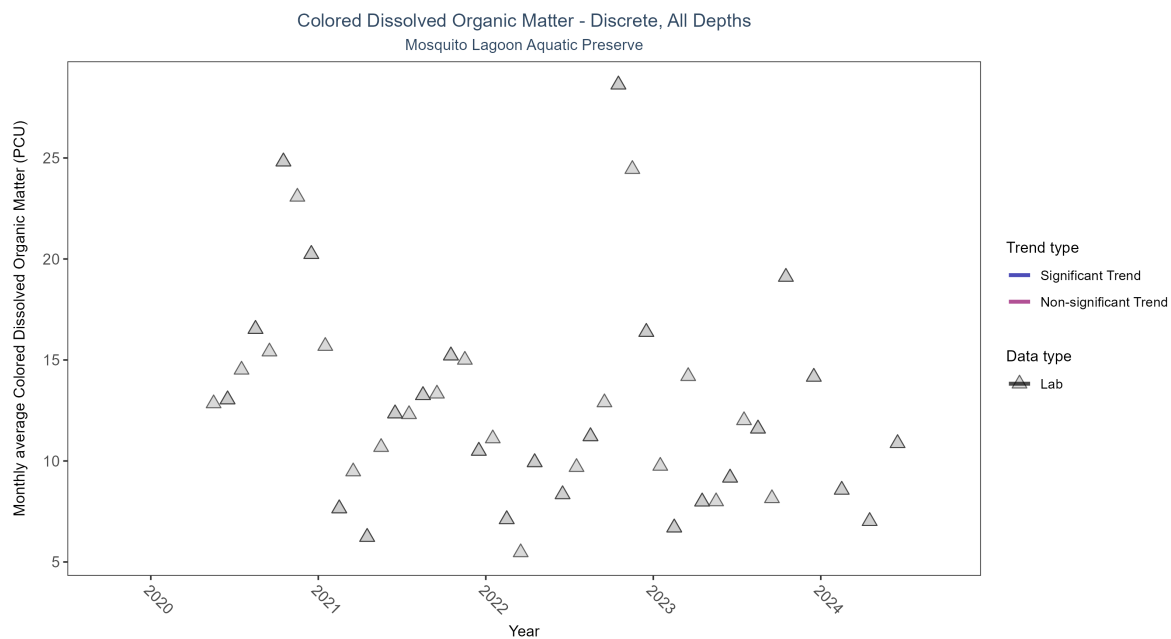


Table 13: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

| ActivityType | Statistical Trend                    | N-Data | N-Years | Period of Record | Median   | tau | SennIntercept | SennSlope | p  |
|--------------|--------------------------------------|--------|---------|------------------|----------|-----|---------------|-----------|----|
| Lab          | Insufficient data to calculate trend | 89     | 5       | 2020 - 2024      | 11.57139 | -   | -             | -         | NA |