

Lignumvitae Key Aquatic Preserve

SEACAR Water Quality Analysis

Last compiled on 09 January, 2025

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Indicators

Nutrients

Total Nitrogen - Discrete

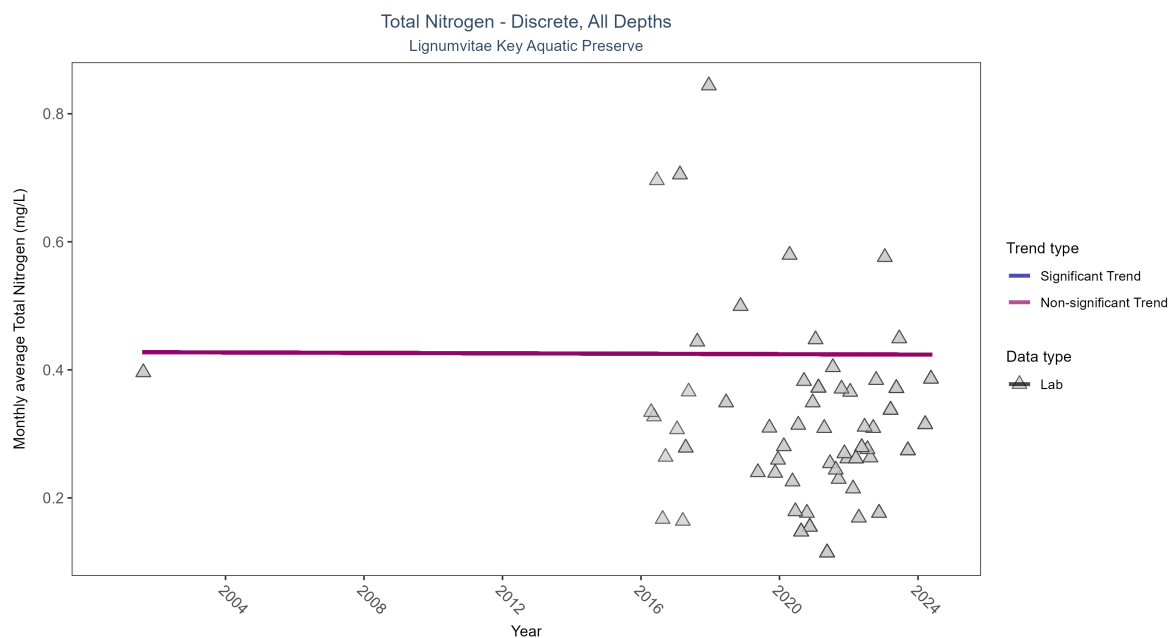


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|----------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| Lab | No significant trend | 188 | 10 | 2001 - 2024 | 0.264 | -0.0026 | 0.42769 | -0.00017 | 1.0000 |

Total Phosphorus - Discrete

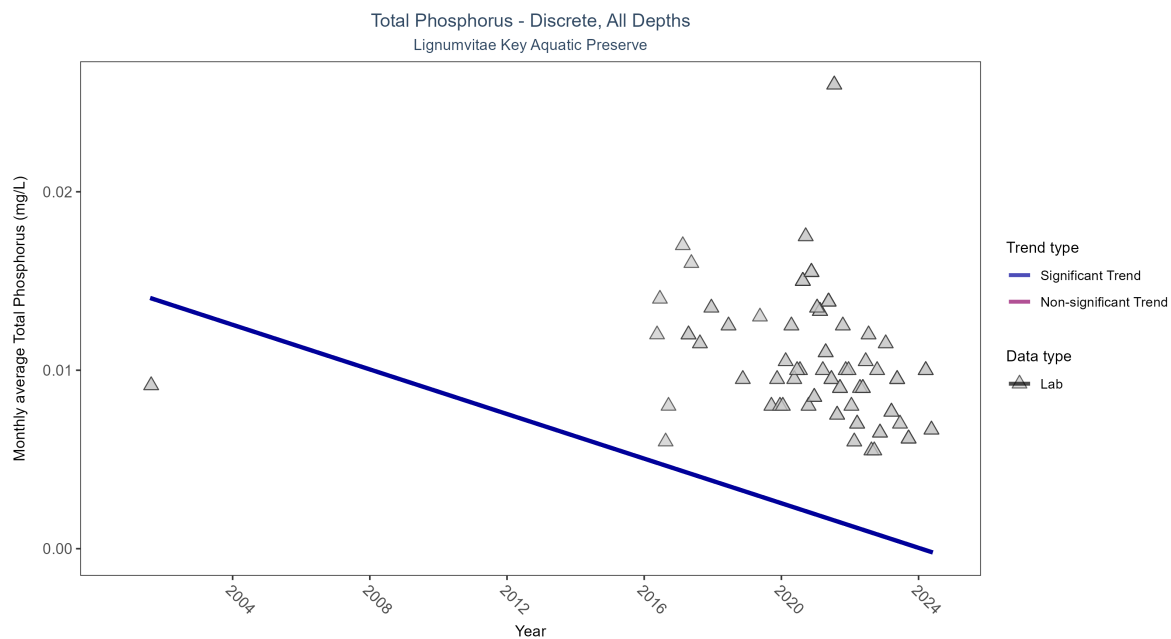


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| Lab | Significantly decreasing trend | 204 | 10 | 2001 - 2024 | 0.01 | -0.2337 | 0.01442 | -0.00063 | 0.0138 |

Water Quality

Dissolved Oxygen - Discrete

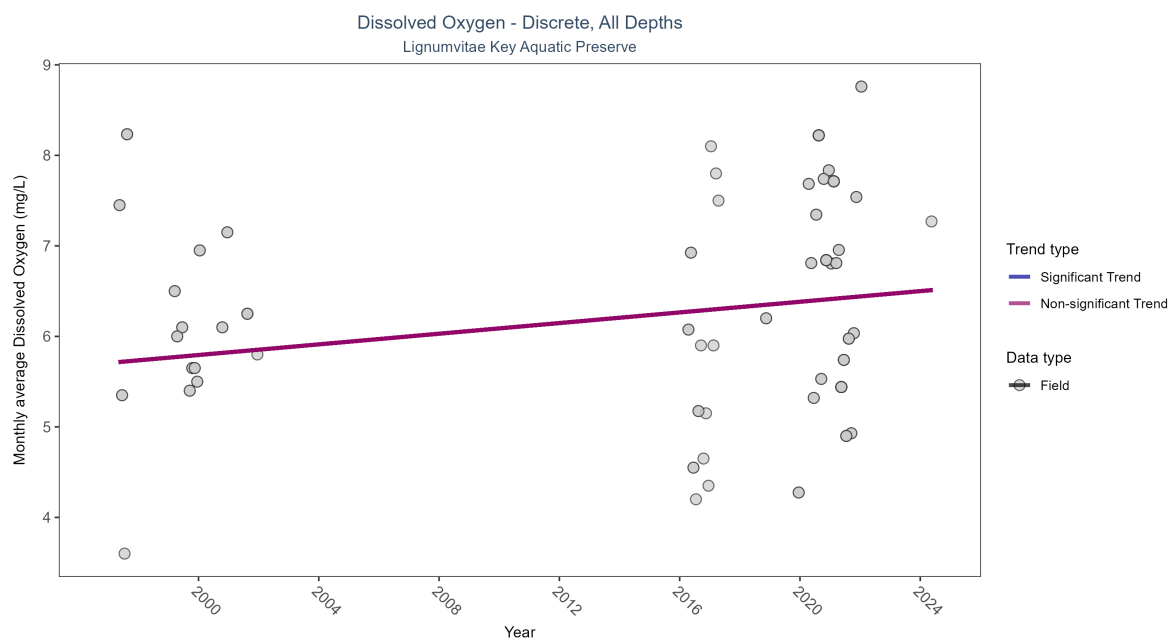


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|----------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Field | No significant trend | 216 | 12 | 1997 - 2024 | 6.795 | 0.1748 | 5.70592 | 0.02941 | 0.3413 |

Dissolved Oxygen - Continuous

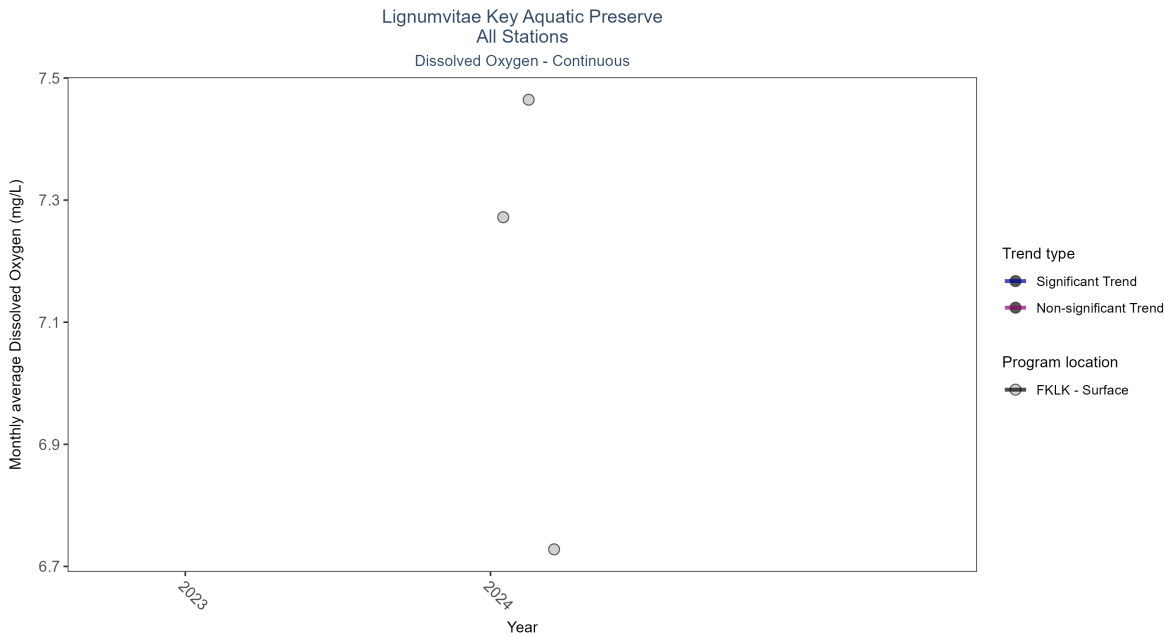


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|---|
| FKLK | Insufficient data to calculate trend | 6712 | 1 | 2024 - 2024 | 6.9 | - | - | - | - |

Dissolved Oxygen Saturation - Discrete

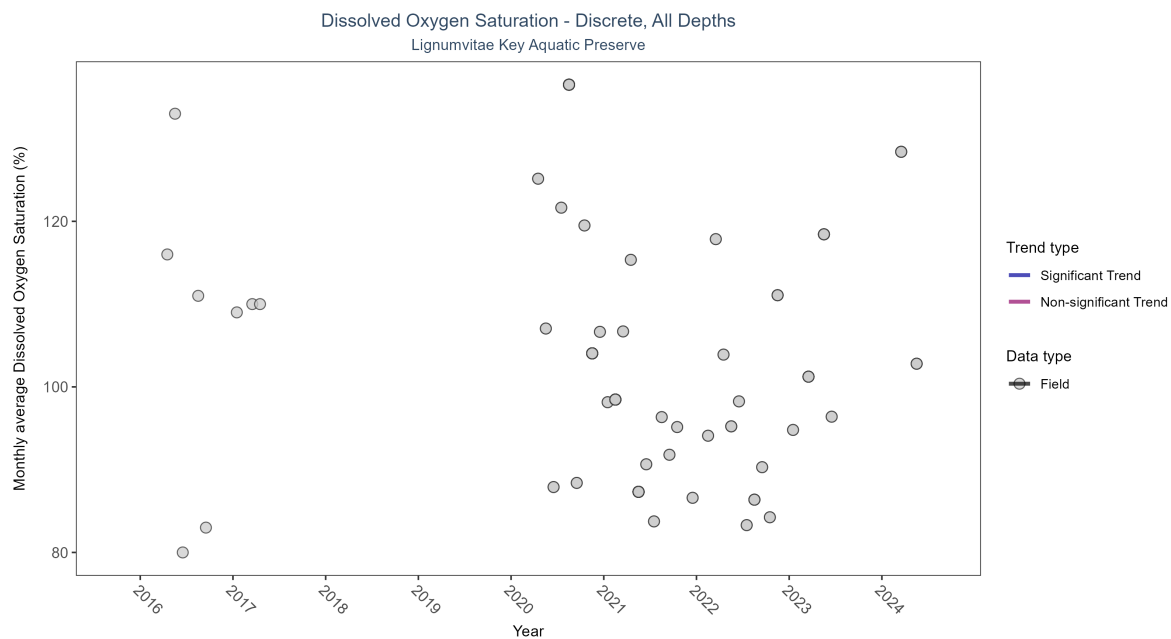


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|----|
| Field | Insufficient data to calculate trend | 207 | 7 | 2016 - 2024 | 101.3 | - | - | - | NA |

Dissolved Oxygen Saturation - Continuous

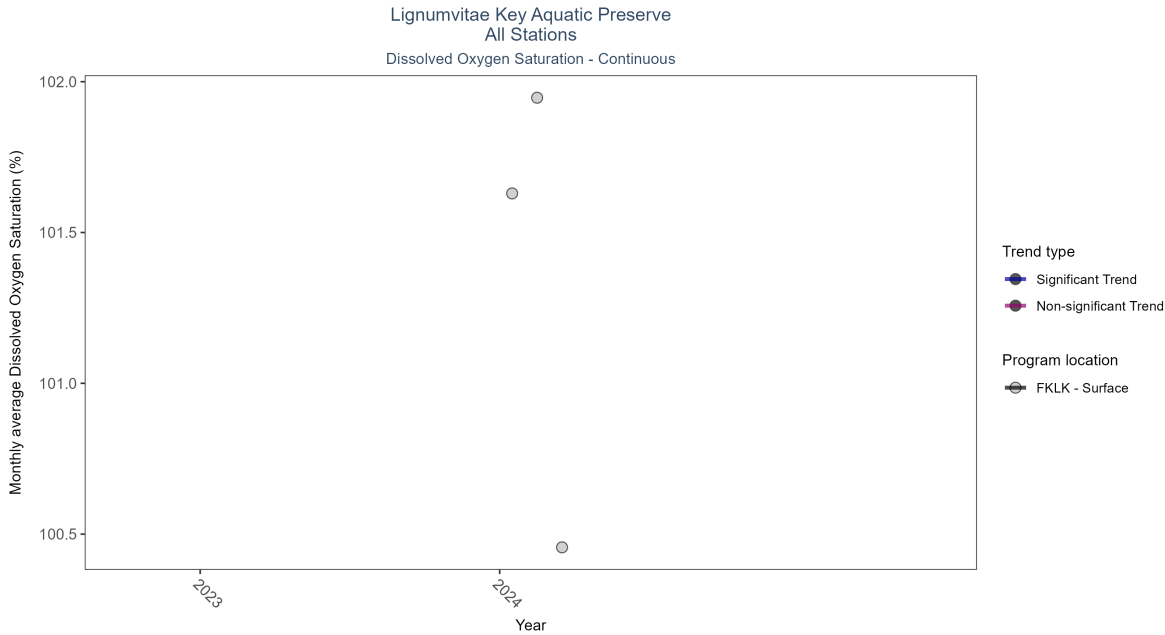


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|---|
| FKLK | Insufficient data to calculate trend | 6712 | 1 | 2024 - 2024 | 95.4 | - | - | - | - |

Salinity - Discrete

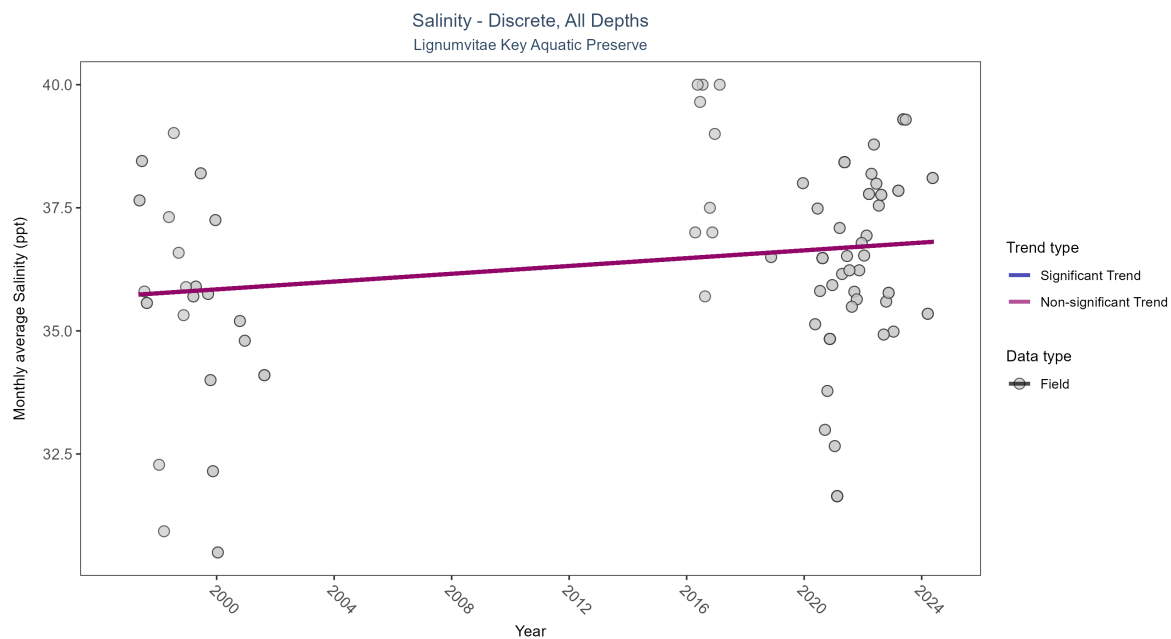


Table 7: Seasonal Kendall-Tau Results for - Salinity

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|----------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| All | No significant trend | 260 | 14 | 1997 - 2024 | 36.295 | 0.1763 | 35.72409 | 0.03961 | 0.0957 |

Salinity - Continuous

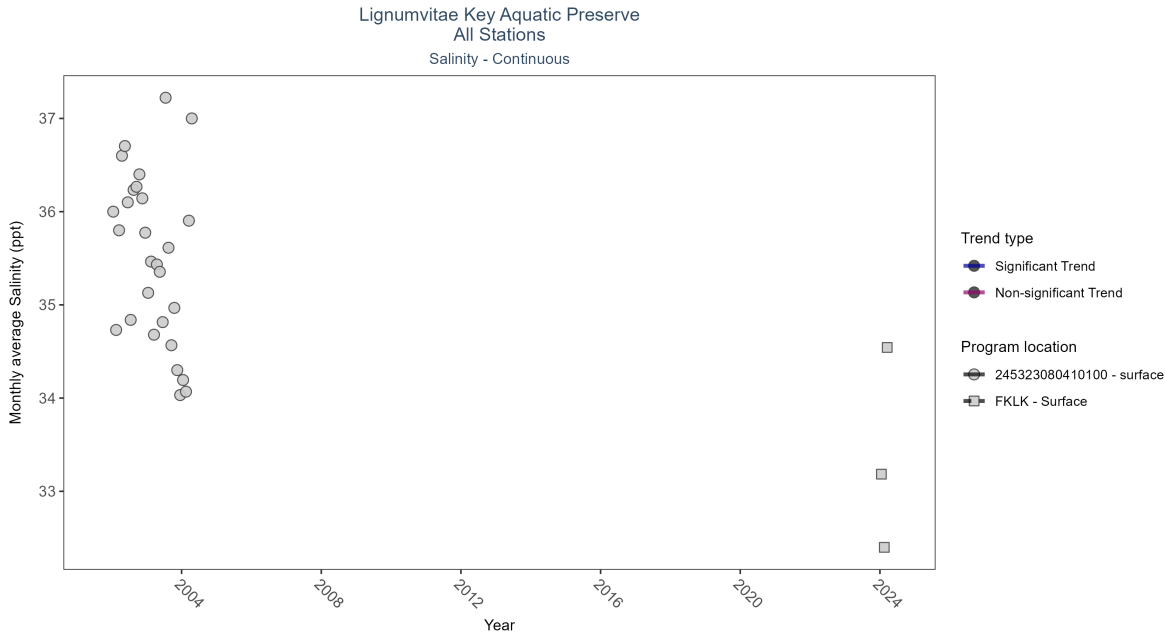


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|---|
| 245323080410100 | Insufficient data to calculate trend | 746 | 3 | 2002 - 2004 | 35.0 | - | - | - | - |
| FKLK | Insufficient data to calculate trend | 6712 | 1 | 2024 - 2024 | 33.6 | - | - | - | - |

Water Temperature - Discrete

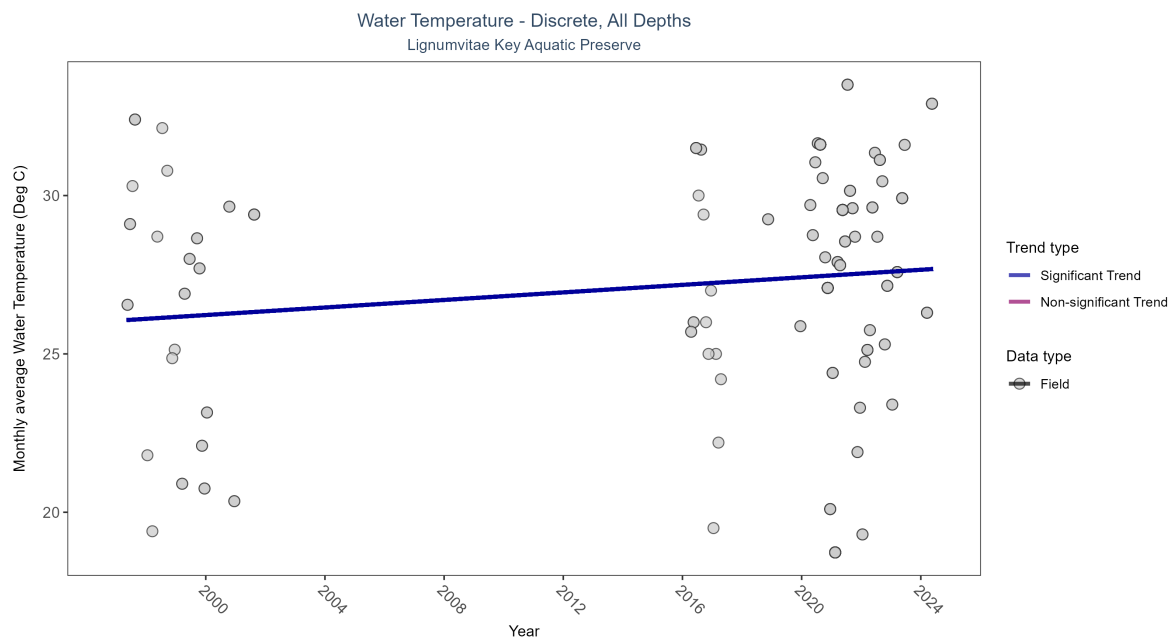


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Field | Significantly increasing trend | 291 | 14 | 1997 - 2024 | 28 | 0.1634 | 26.04792 | 0.05957 | 0.0396 |

Water Temperature - Continuous

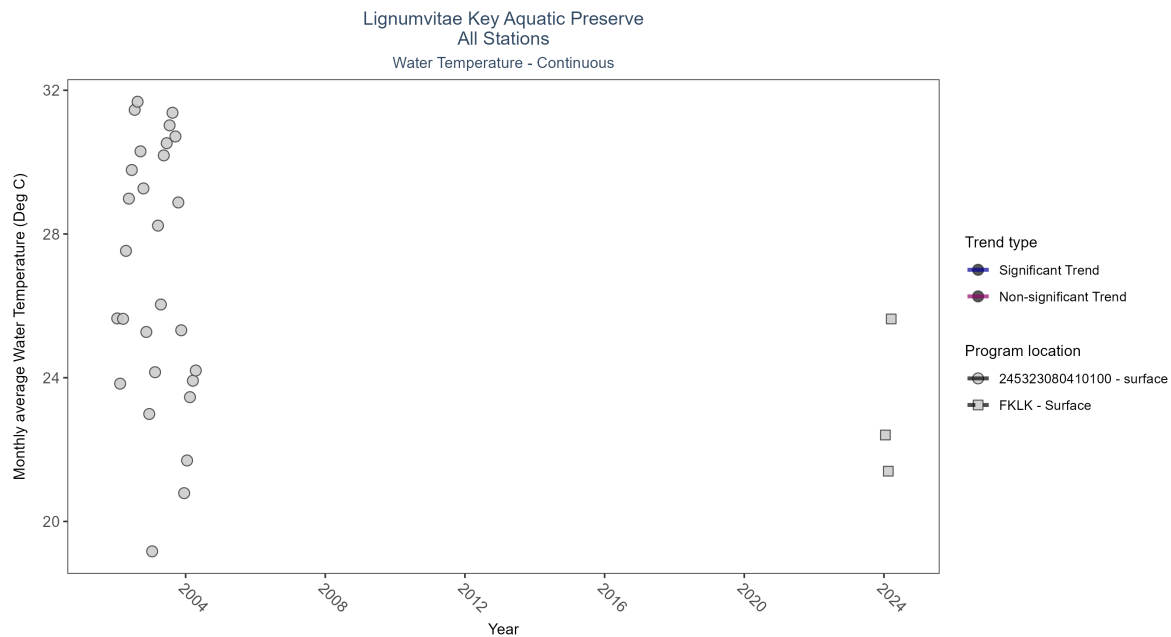


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|---|
| 245323080410100 | Insufficient data to calculate trend | 791 | 3 | 2002 - 2004 | 27.9 | - | - | - | - |
| FKLK | Insufficient data to calculate trend | 6712 | 1 | 2024 - 2024 | 23.2 | - | - | - | - |

pH - Discrete

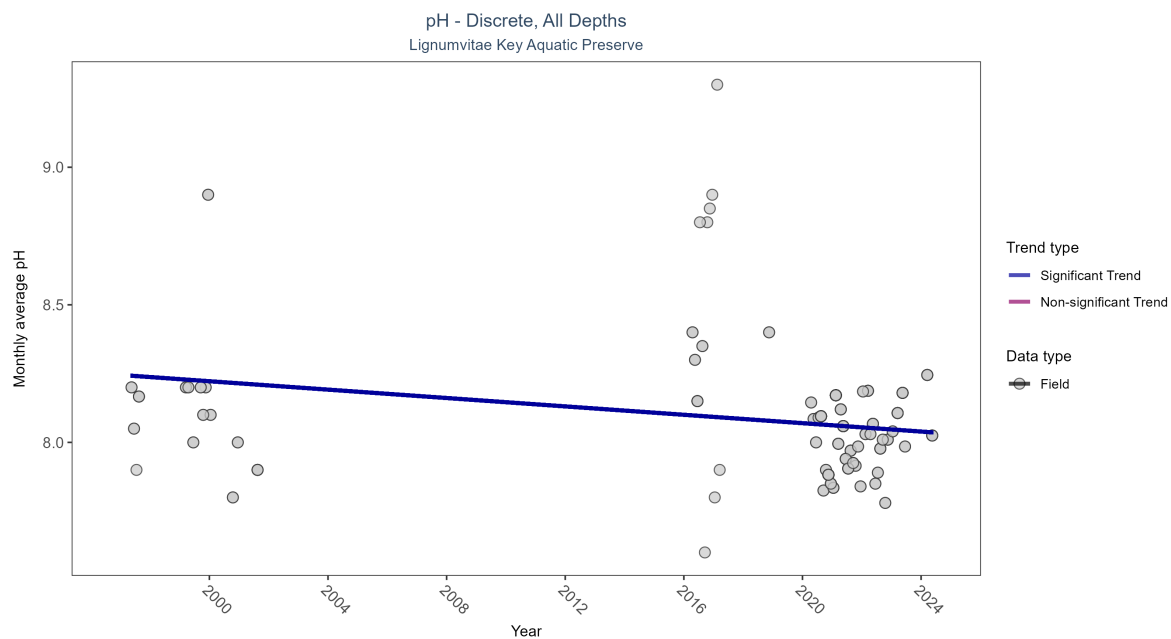


Table 11: Seasonal Kendall-Tau Results for - pH

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------|--------|---------|------------------|--------|---------|---------------|-----------|--------|
| Field | Significantly decreasing trend | 281 | 12 | 1997 - 2024 | 8.07 | -0.3237 | 8.24508 | -0.00762 | 0.0046 |

pH - Continuous

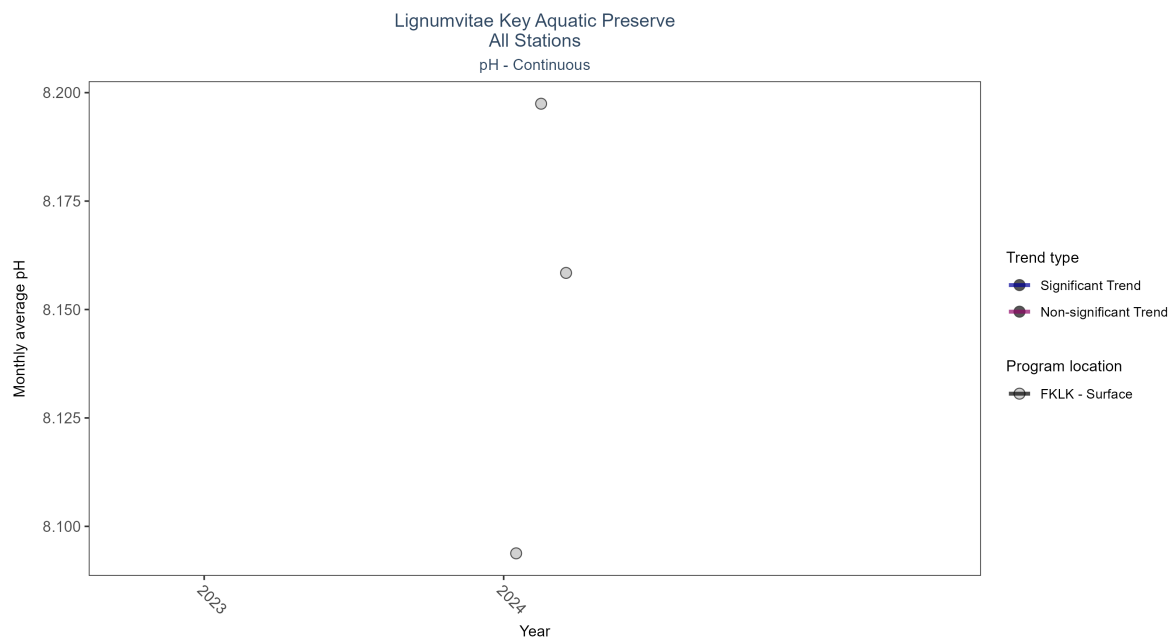


Table 12: Seasonal Kendall-Tau Results for All Stations - pH

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|---|
| FKLK | Insufficient data to calculate trend | 6712 | 1 | 2024 - 2024 | 8.1 | - | - | - | - |

Water Clarity

Turbidity - Discrete

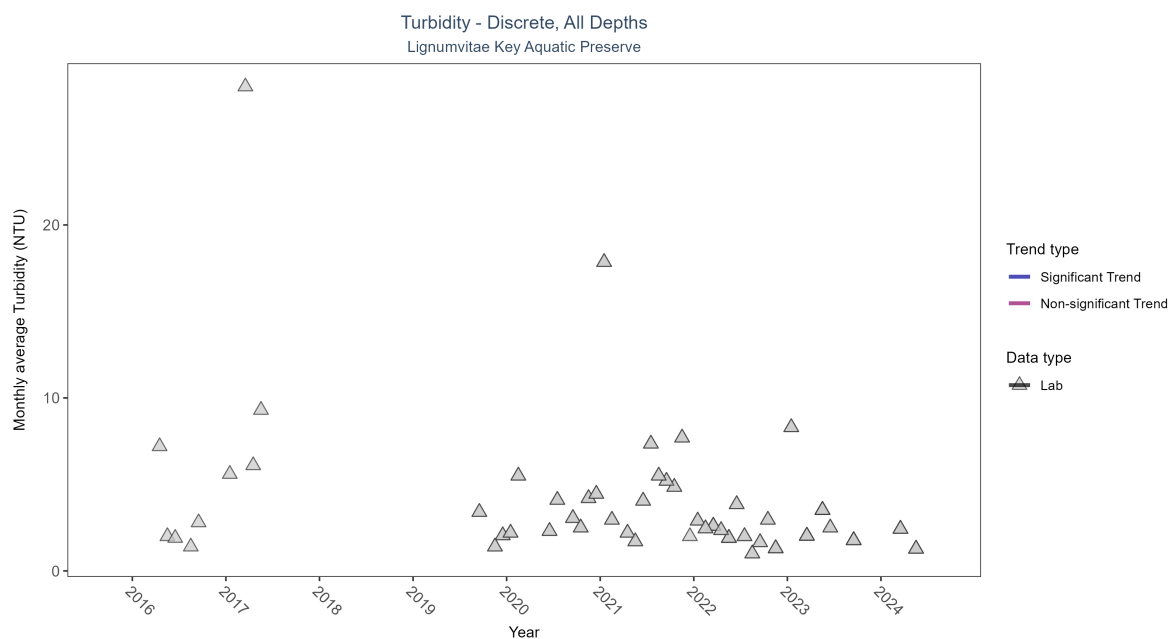


Table 13: Seasonal Kendall-Tau Results for - Turbidity

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|----|
| Lab | Insufficient data to calculate trend | 110 | 8 | 2016 - 2024 | 2.25 | - | - | - | NA |

Turbidity - Continuous

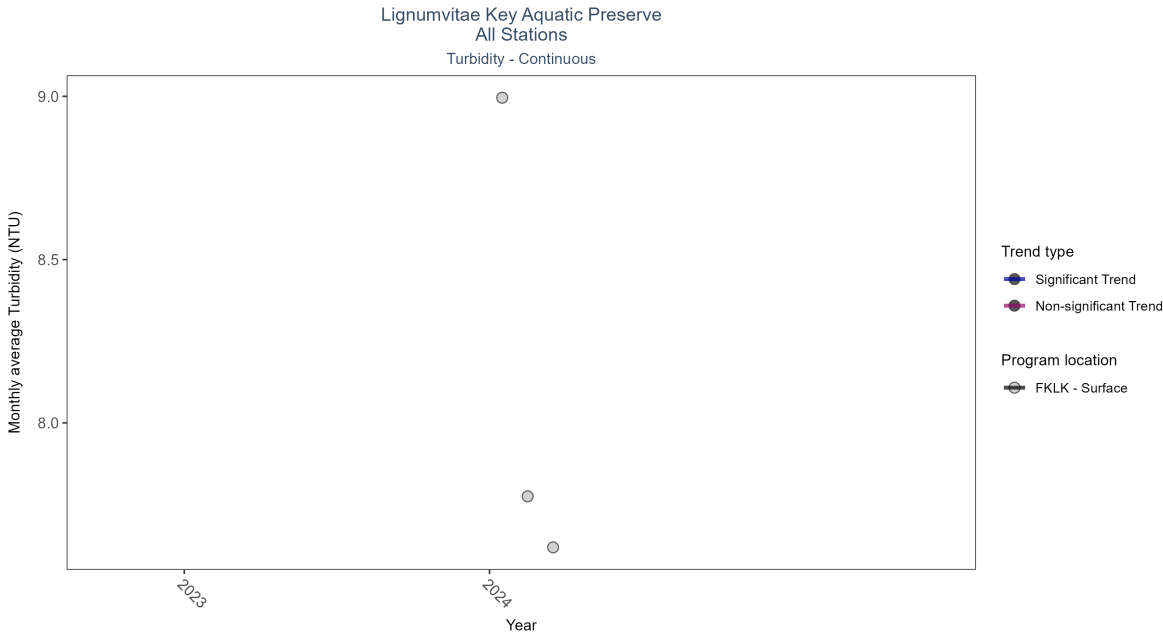


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

| ProgramLocationID | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|-------------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|---|
| FKLK | Insufficient data to calculate trend | 6712 | 1 | 2024 - 2024 | 6 | - | - | - | - |

Total Suspended Solids - Discrete

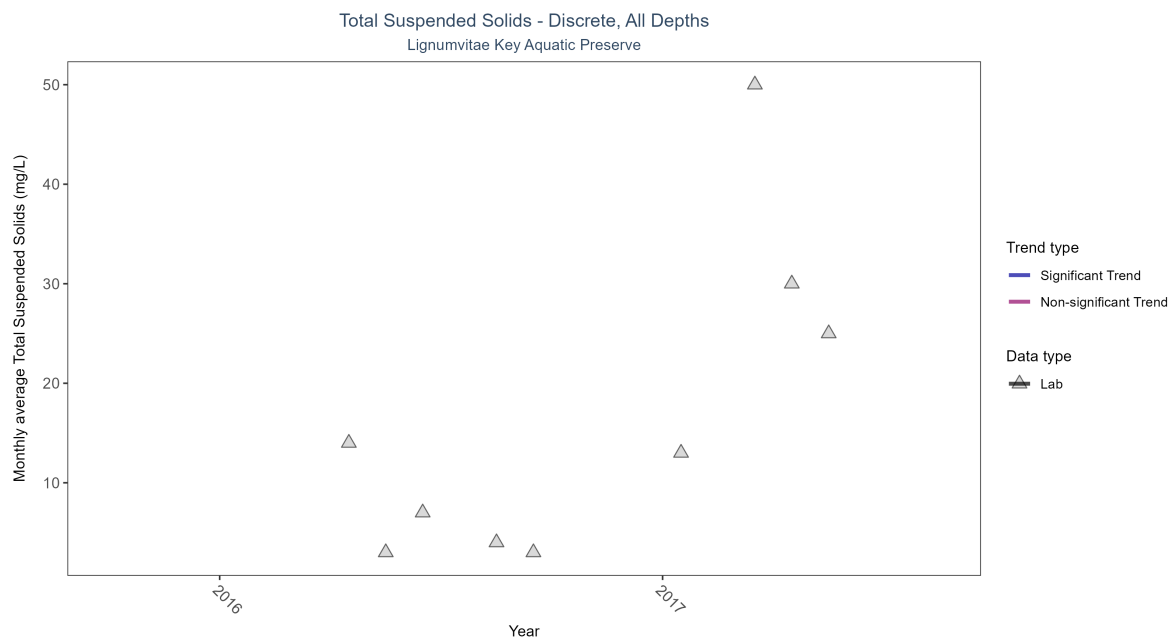


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|----|
| Lab | Insufficient data to calculate trend | 9 | 2 | 2016 - 2017 | 13 | - | - | - | NA |

Chlorophyll a, Uncorrected for Pheophytin - Discrete

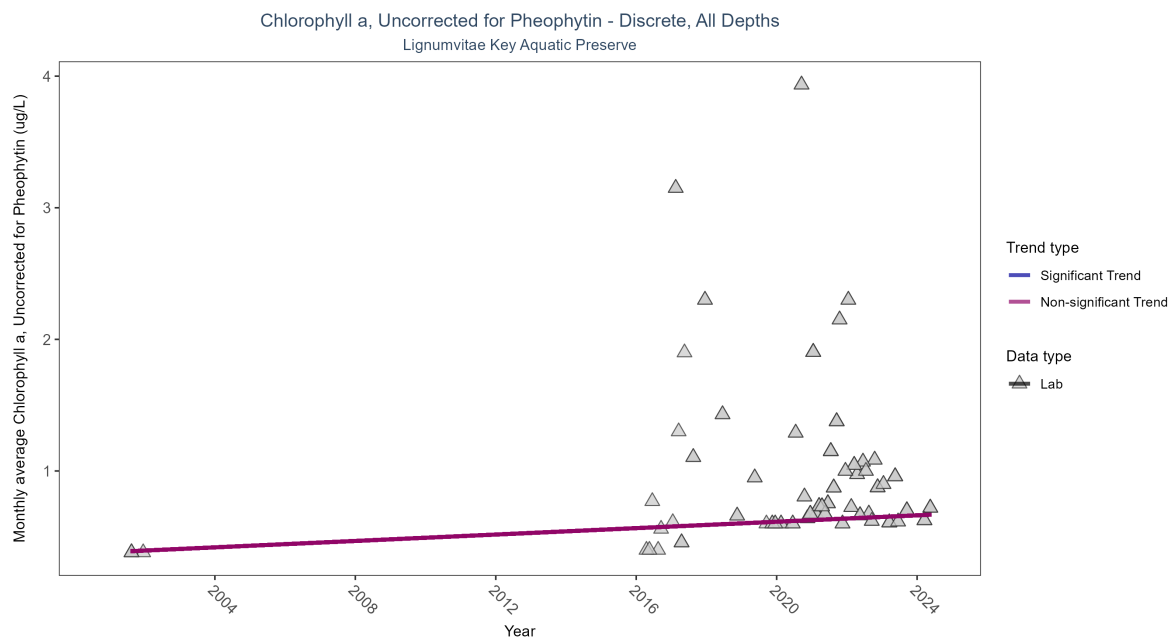


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|----------------------|--------|---------|------------------|--------|--------|---------------|-----------|--------|
| Lab | No significant trend | 166 | 10 | 2001 - 2024 | 0.7 | 0.1047 | 0.3831 | 0.01217 | 0.4367 |

Chlorophyll a, Corrected for Pheophytin - Discrete

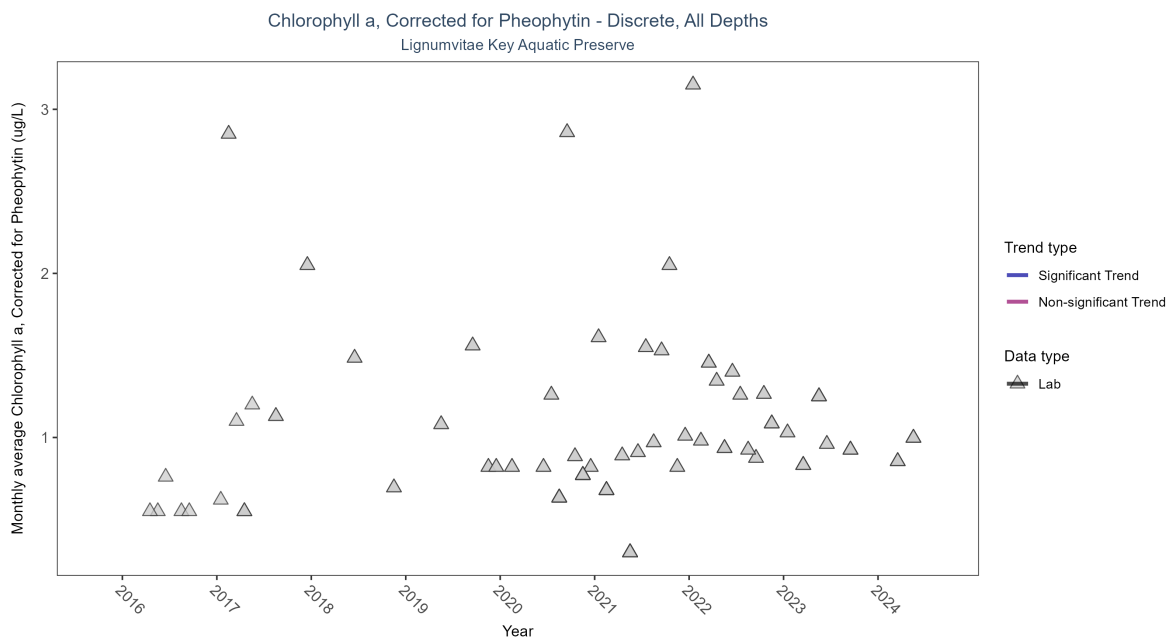


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|----|
| Lab | Insufficient data to calculate trend | 183 | 9 | 2016 - 2024 | 0.82 | - | - | - | NA |

Secchi Depth - Discrete

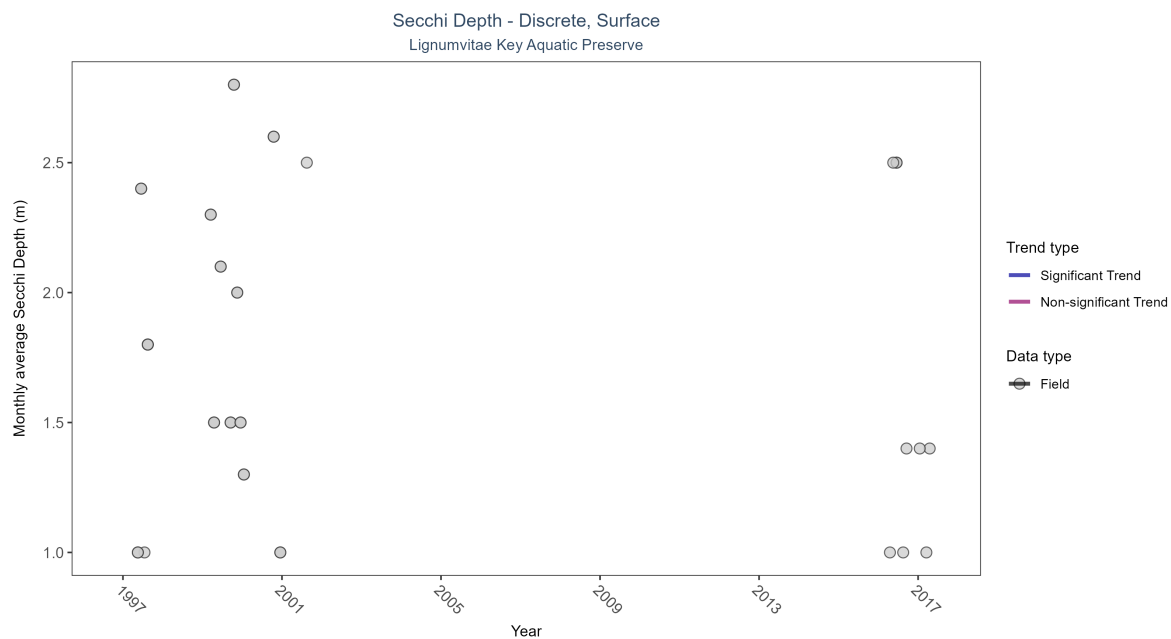


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth

| ActivityType | Statistical Trend | N-Data | N-Years | Period of Record | Median | tau | SennIntercept | SennSlope | p |
|--------------|--------------------------------------|--------|---------|------------------|--------|-----|---------------|-----------|----|
| Field | Insufficient data to calculate trend | 38 | 6 | 1997 - 2017 | 1.5 | - | - | - | NA |