

North Fork St. Lucie Aquatic Preserve

SEACAR Water Quality Analysis

Last compiled on 06 March, 2025

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Indicators

Nutrients

Total Nitrogen - Discrete

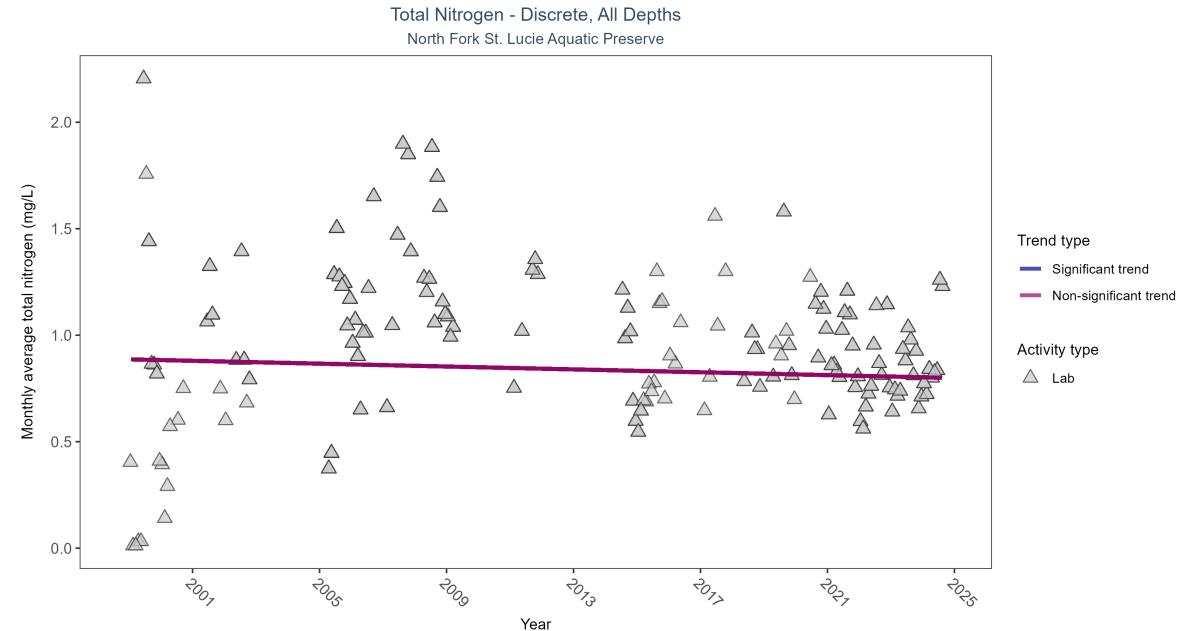
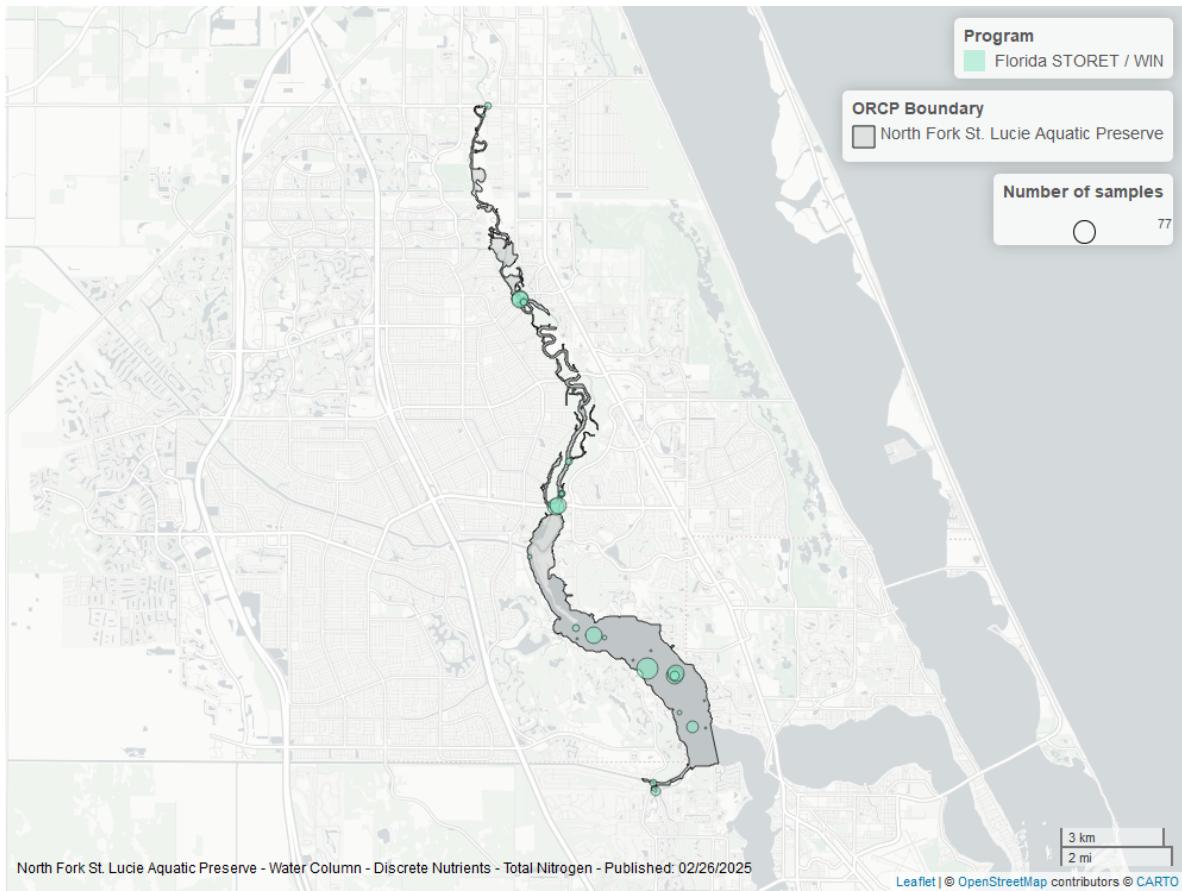


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|----------------------|--------------|-----------------|------------------|---------------------|---------|---------------|-----------|--------|
| Lab | No significant trend | 579 | 21 | 1999 - 2024 | 0.984 | -0.0553 | 0.8865 | -0.00336 | 0.2620 |



Total Phosphorus - Discrete

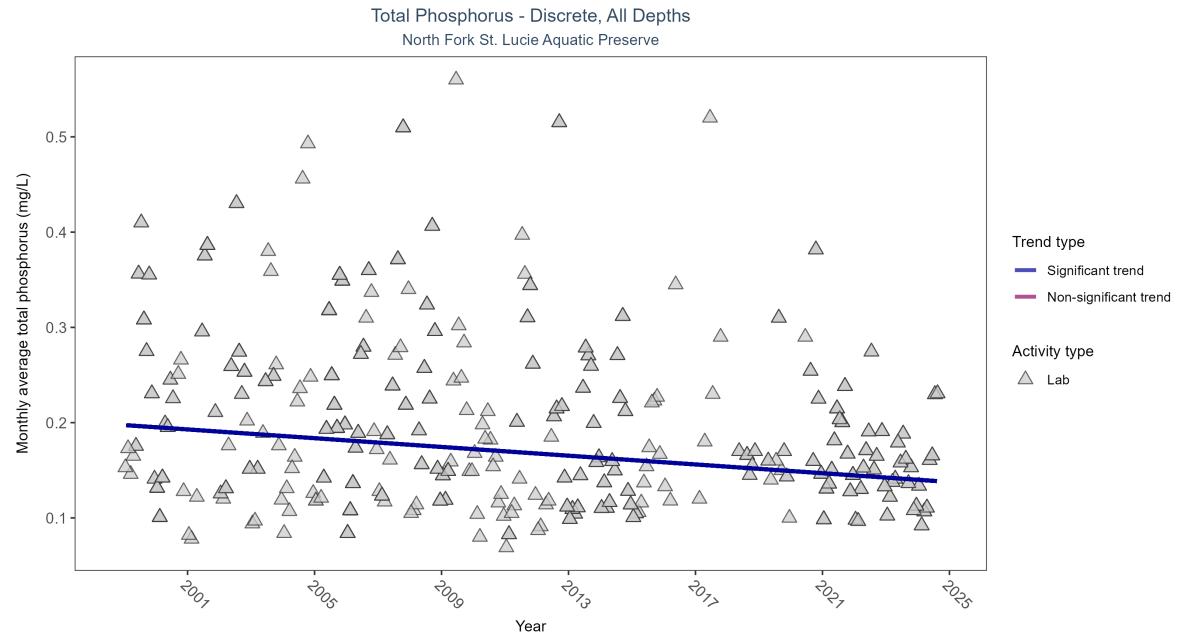
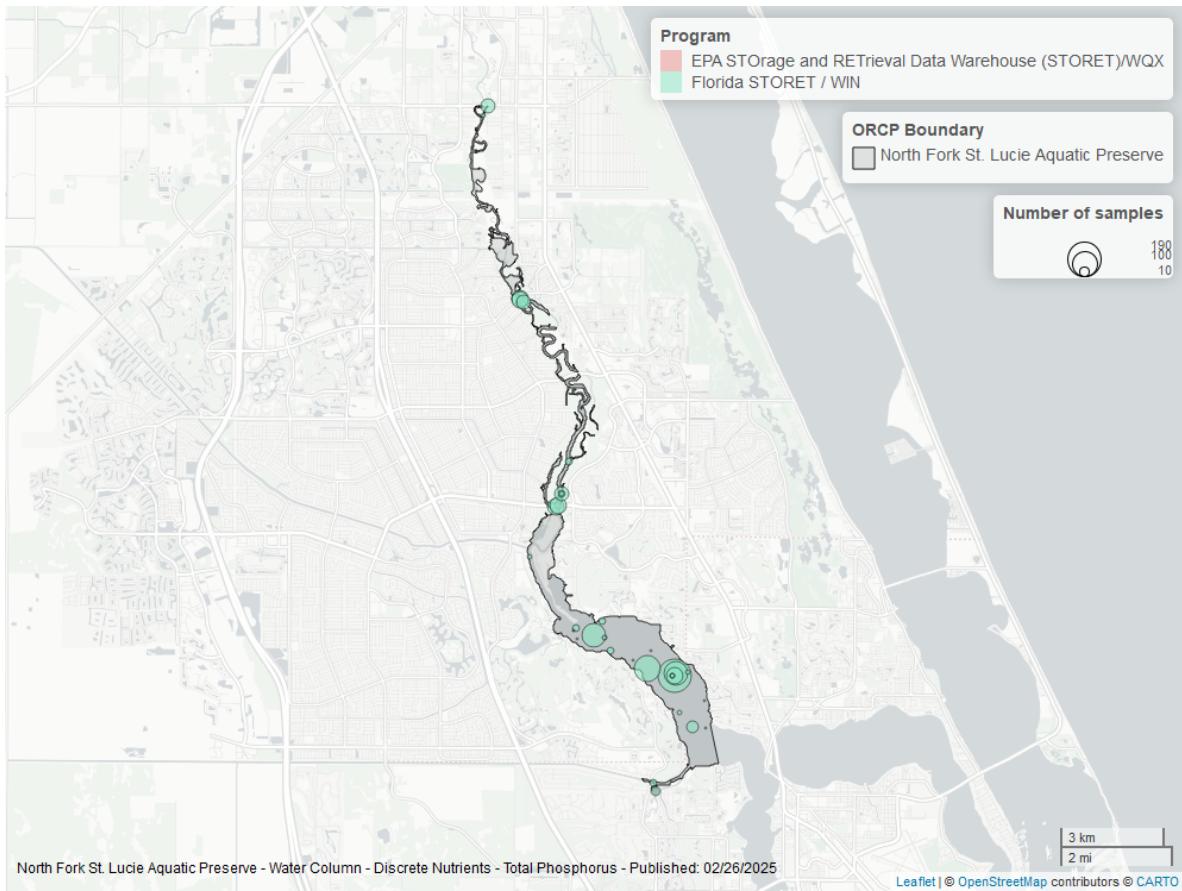


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

| 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 | 1046 | 26 | 1999 - 2024 | 0.177 | -0.2703 | 0.19748 | -0.0023 | 0.0000 |



Water Quality

Dissolved Oxygen - Discrete

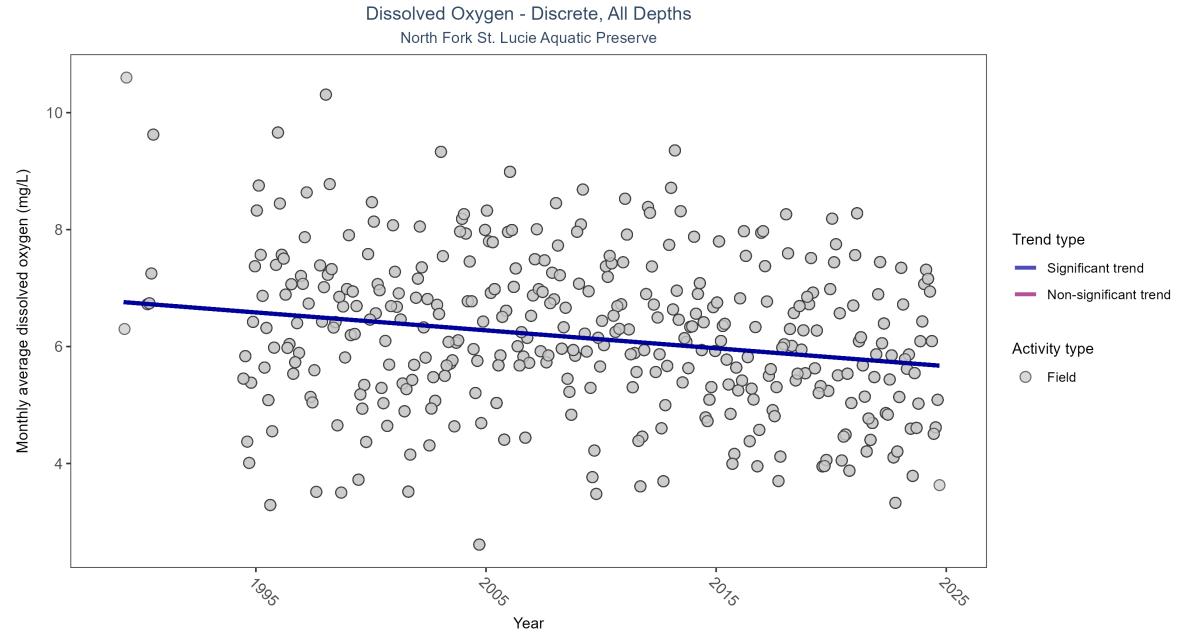
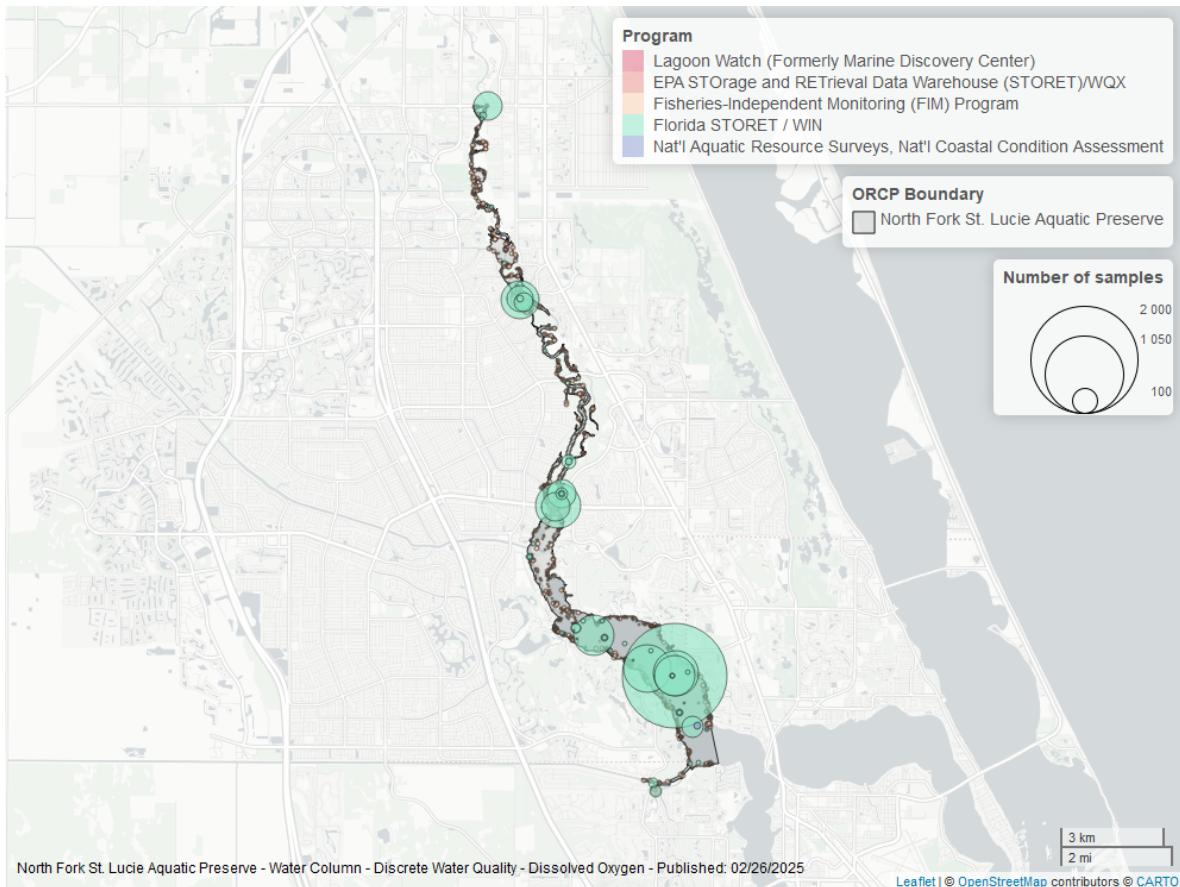


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|--------------------------------|--------------|-----------------|------------------|---------------------|---------|---------------|-----------|--------|
| Field | Significantly decreasing trend | 7094 | 33 | 1989 - 2024 | 6.19 | -0.2221 | 6.76729 | -0.03064 | 0.0000 |



Dissolved Oxygen Saturation - Discrete

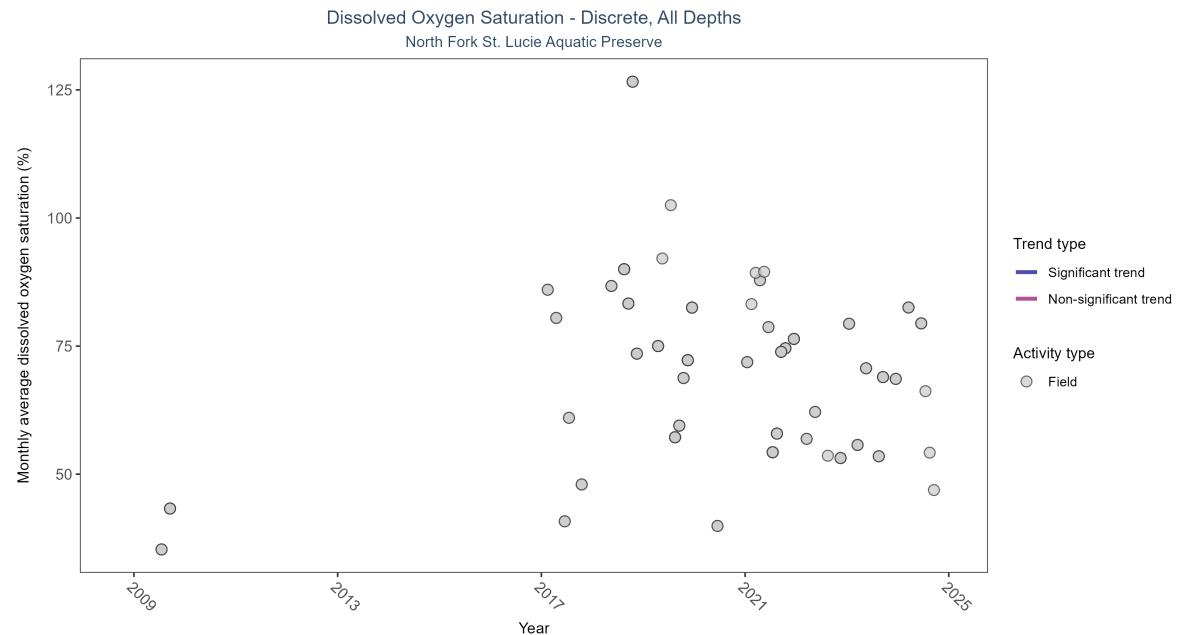
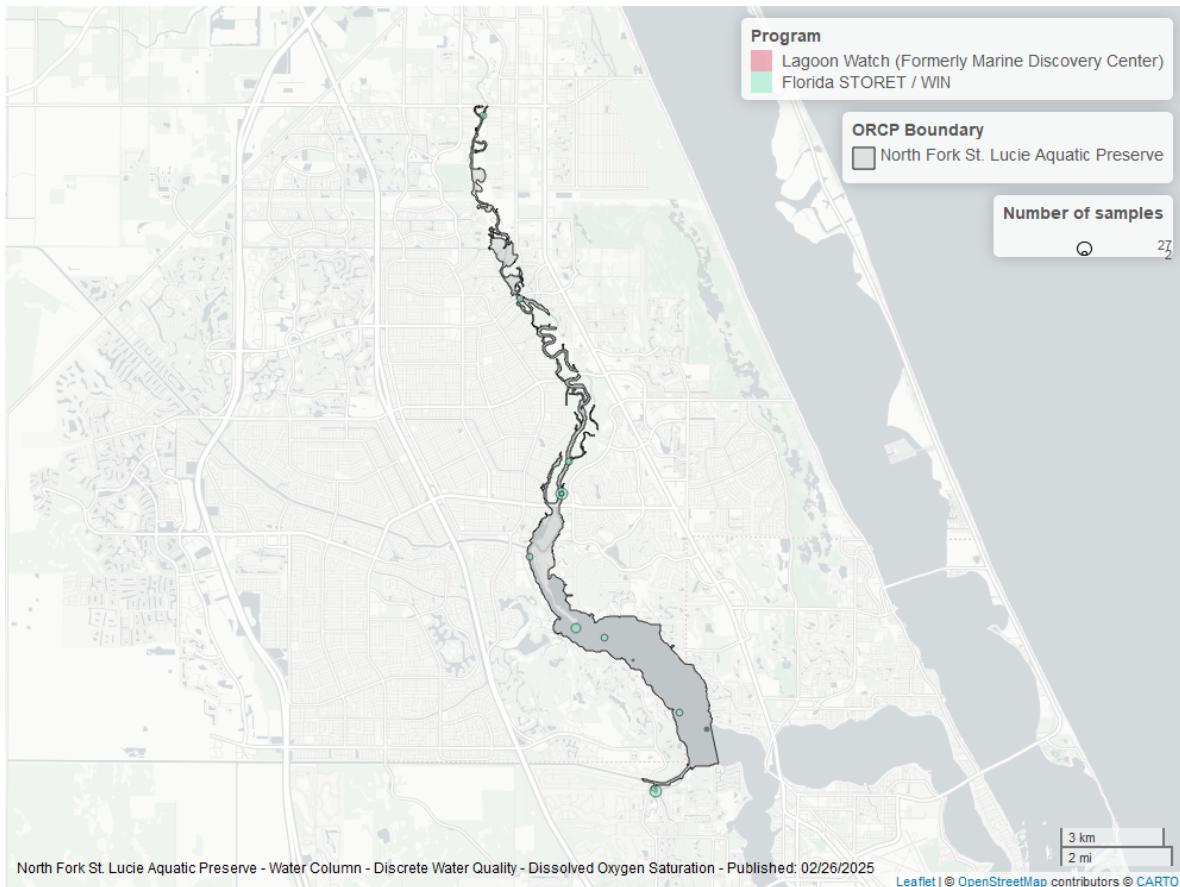


Table 4: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|--------------------------------------|--------------|-----------------|------------------|---------------------|-----|---------------|-----------|----|
| Field | Insufficient data to calculate trend | 148 | 9 | 2009 - 2024 | 70.8 | - | - | - | NA |



Salinity - Discrete

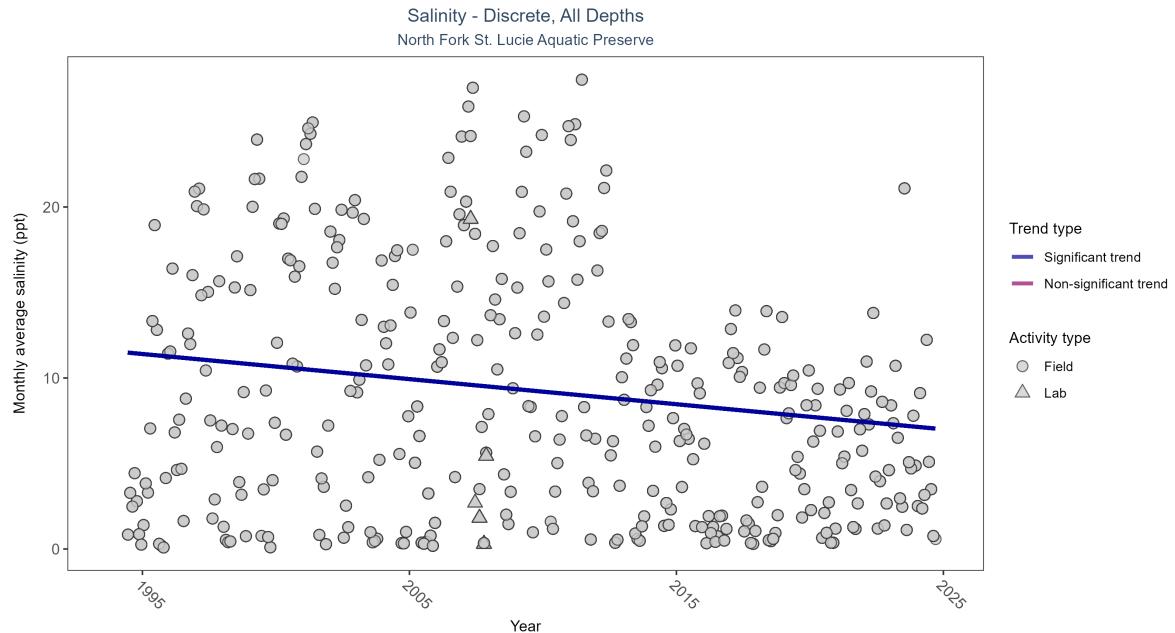
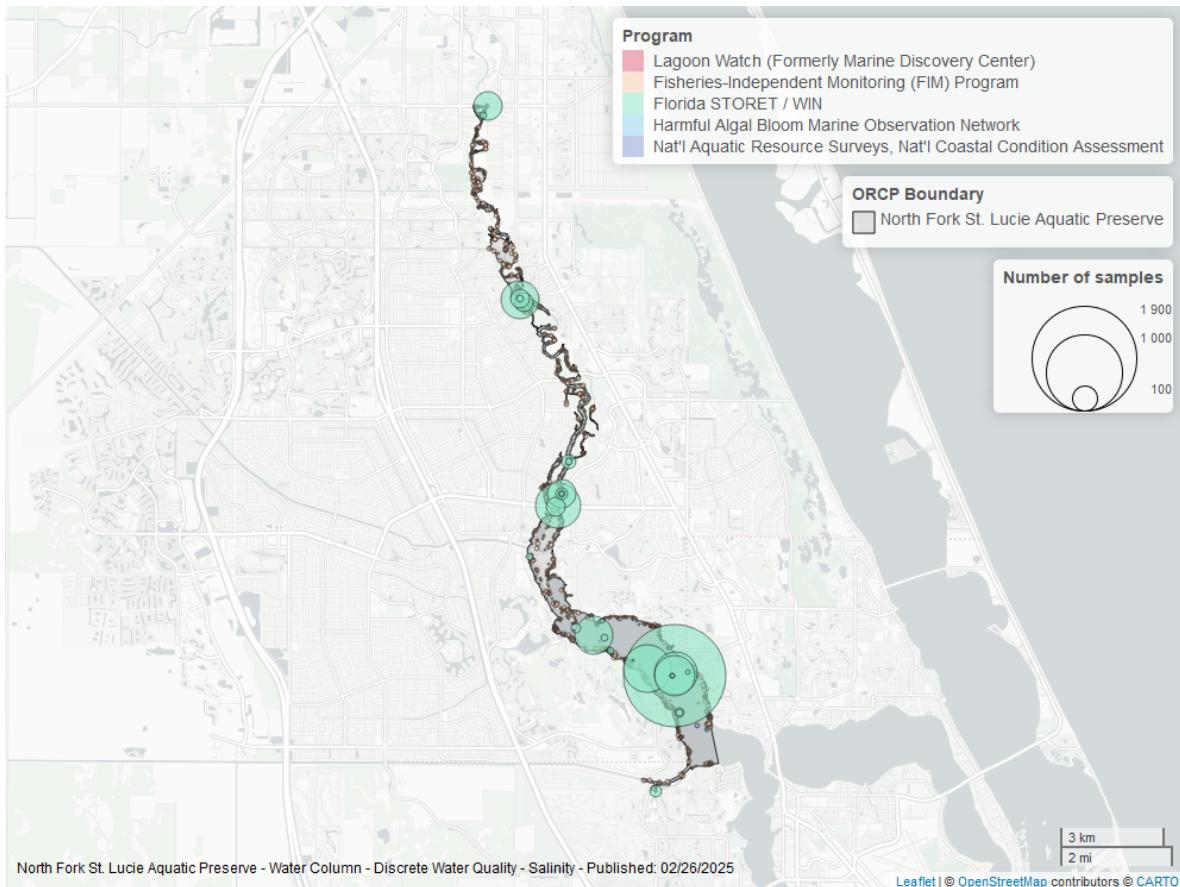


Table 5: Seasonal Kendall-Tau Results for - Salinity

| 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 | 6603 | 31 | 1994 - 2024 | 4.5 | -0.1711 | 11.54996 | -0.14684 | 0.0000 |



Salinity - Continuous

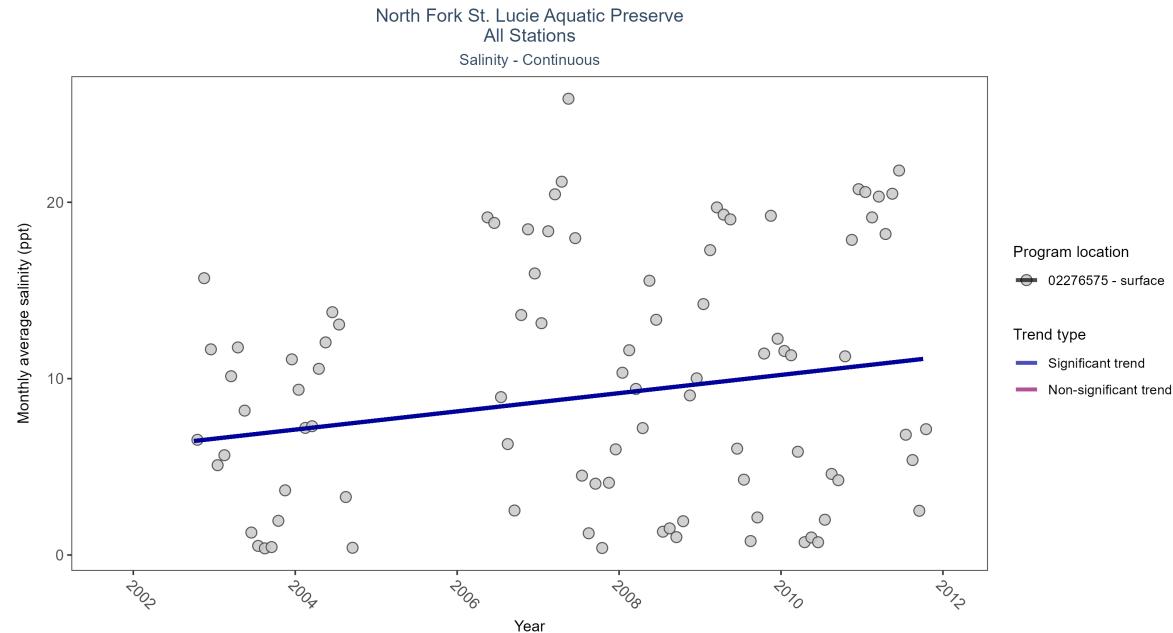
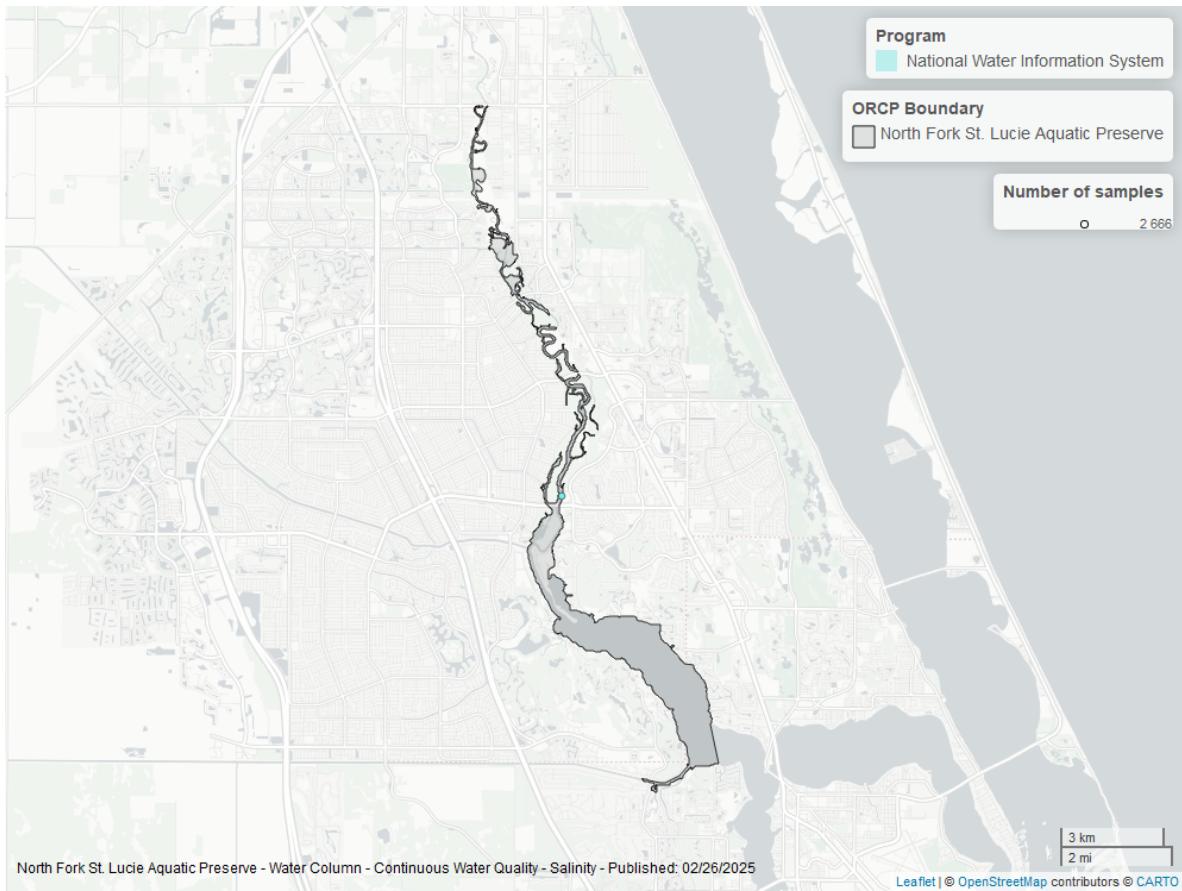


Table 6: Seasonal Kendall-Tau Results for All Stations - Salinity

| Program Location | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|------------------|--------------------------------|--------------|-----------------|------------------|---------------------|------|---------------|-----------|--------|
| 02276575 | Significantly increasing trend | 2666 | 9 | 2002 - 2011 | 9.1 | 0.22 | 6.08 | 0.52 | 0.0174 |



Water Temperature - Discrete

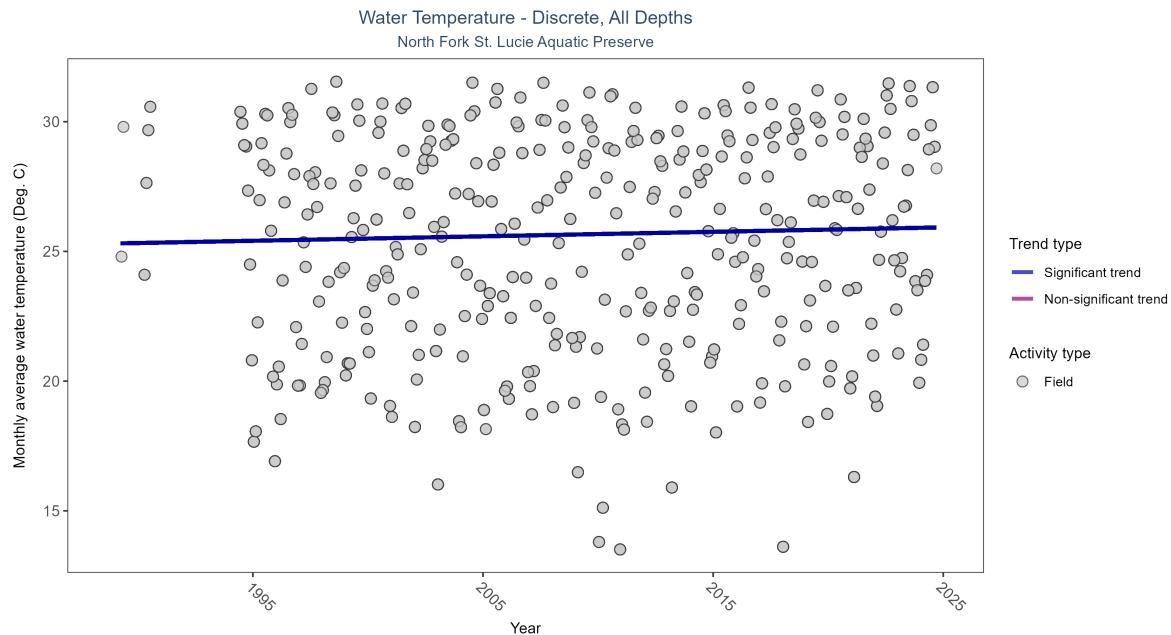
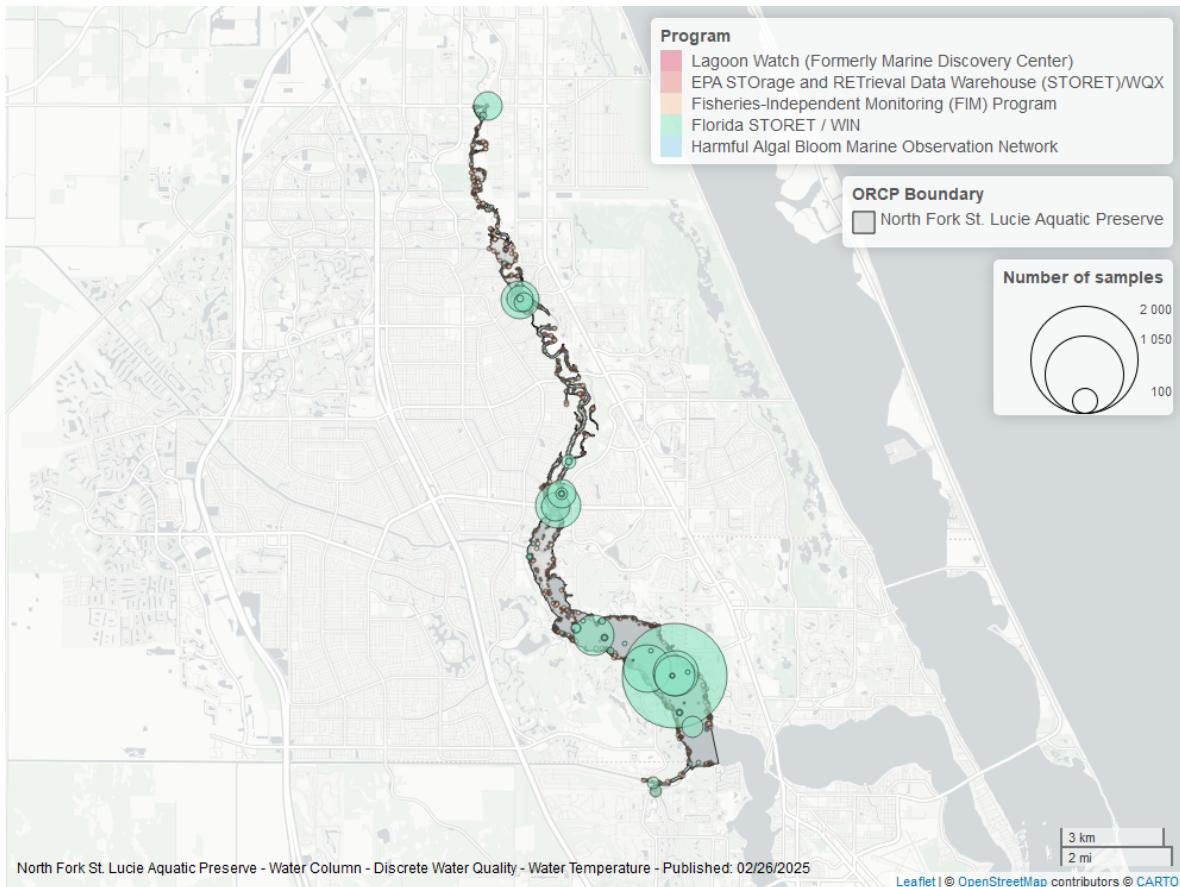


Table 7: Seasonal Kendall-Tau Results for - Water Temperature

| 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 | 7250 | 33 | 1989 - 2024 | 26 | 0.0841 | 25.30595 | 0.01727 | 0.0228 |



Water Temperature - Continuous

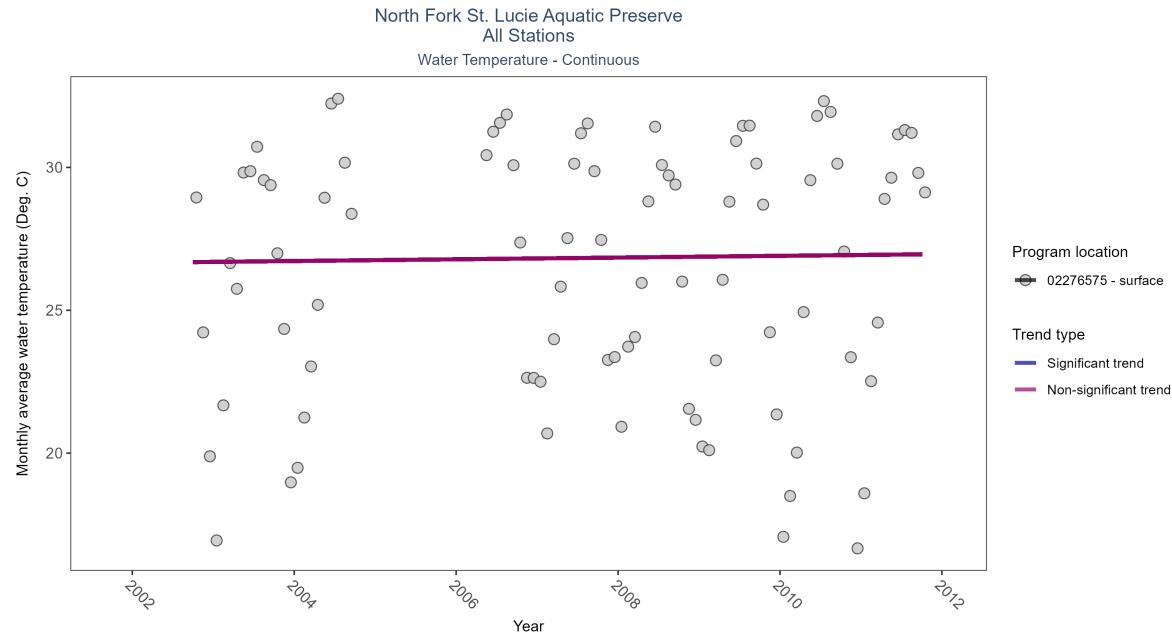
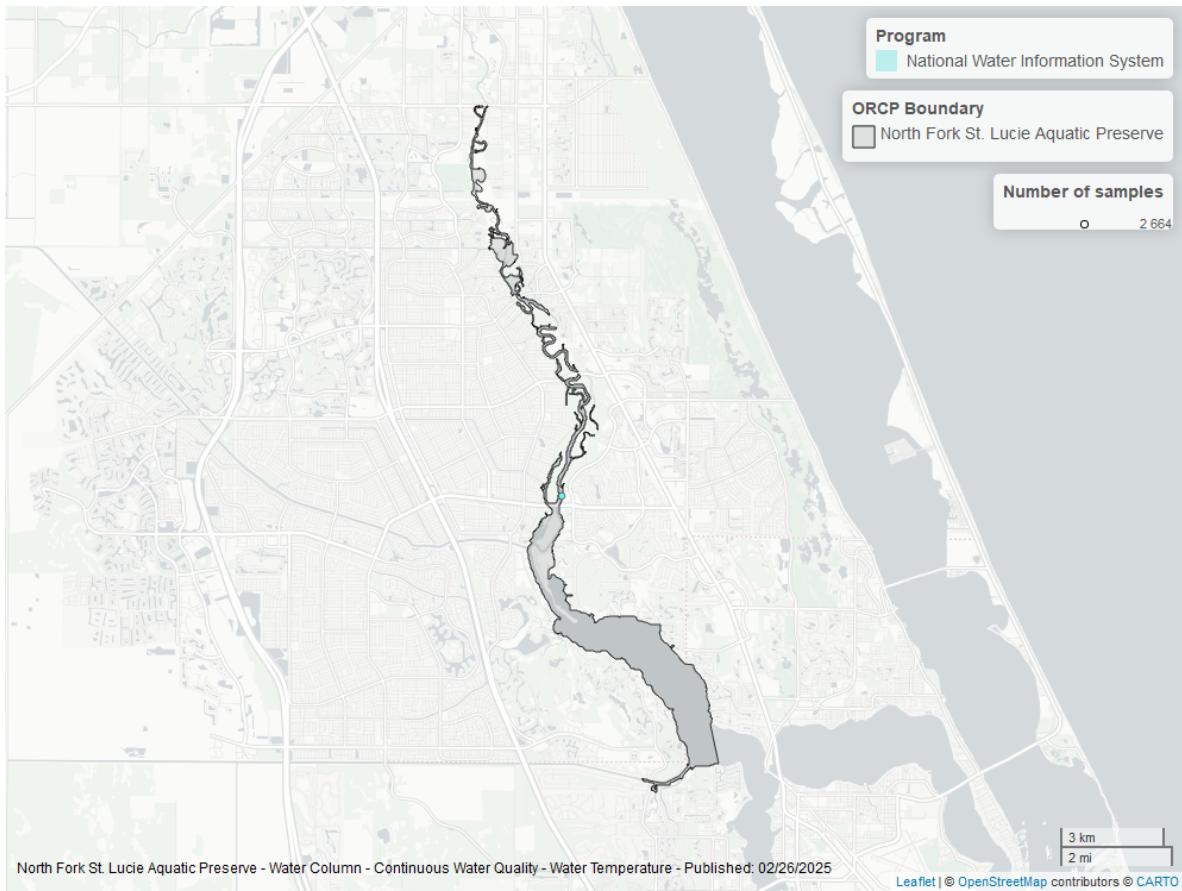


Table 8: Seasonal Kendall-Tau Results for All Stations - Water Temperature

| Program Location | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|------------------|----------------------|--------------|-----------------|------------------|---------------------|------|---------------|-----------|--------|
| 02276575 | No significant trend | 2664 | 9 | 2002 - 2011 | 27.3 | 0.06 | 26.66 | 0.03 | 0.4589 |



pH - Discrete

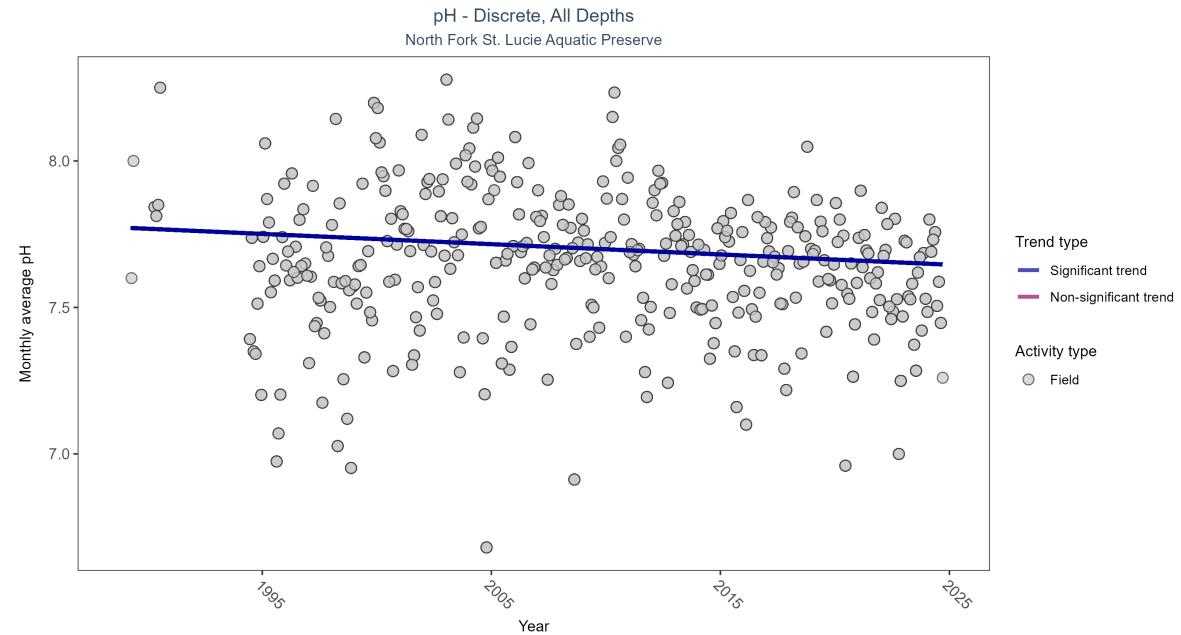
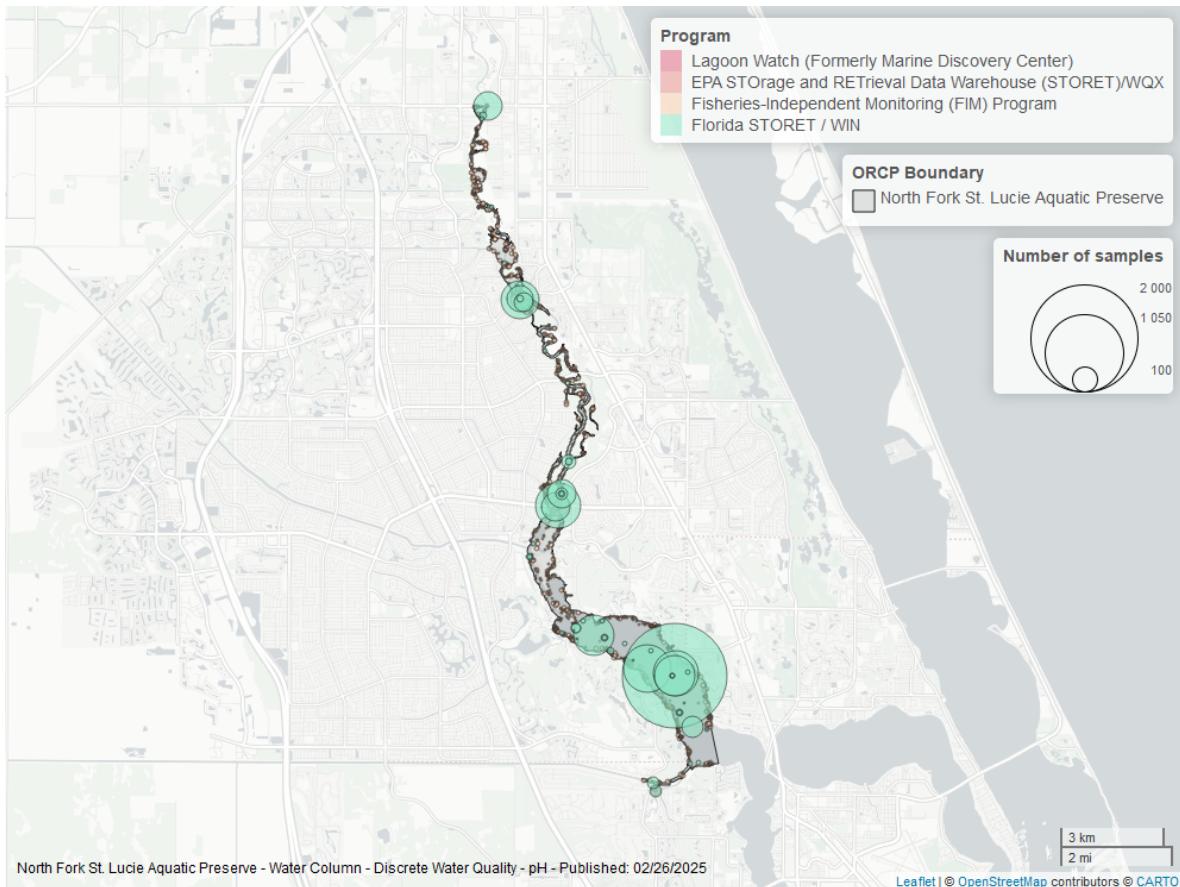


Table 9: Seasonal Kendall-Tau Results for - pH

| 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 | 7149 | 33 | 1989 - 2024 | 7.64 | -0.1134 | 7.77206 | -0.00351 | 0.0021 |



Water Clarity

Turbidity - Discrete

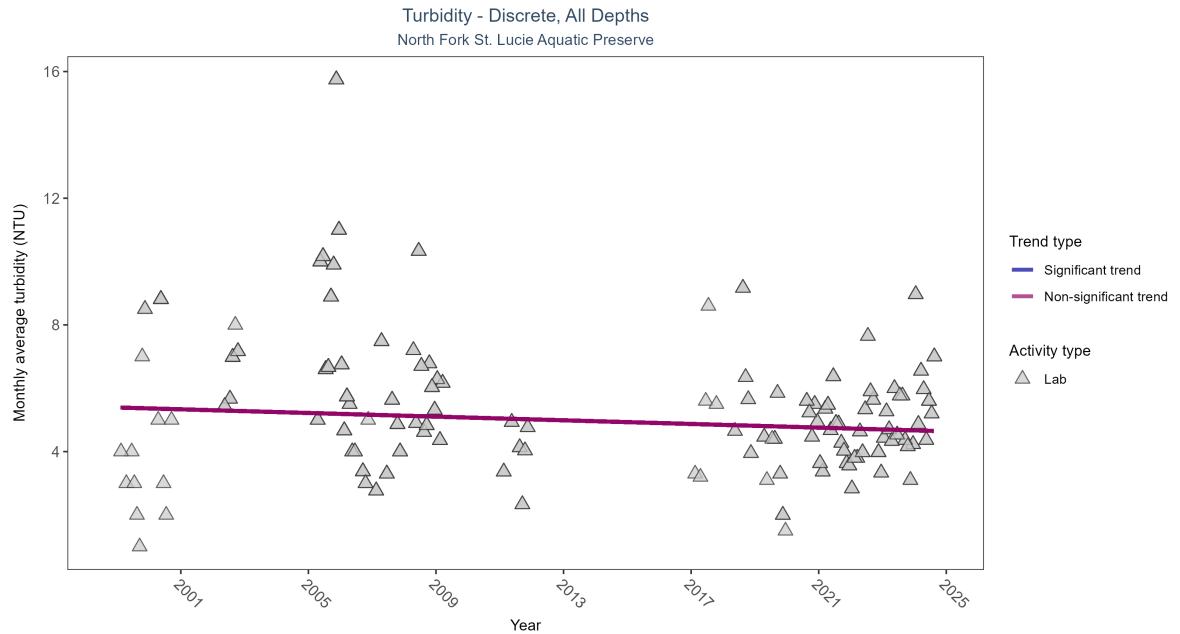
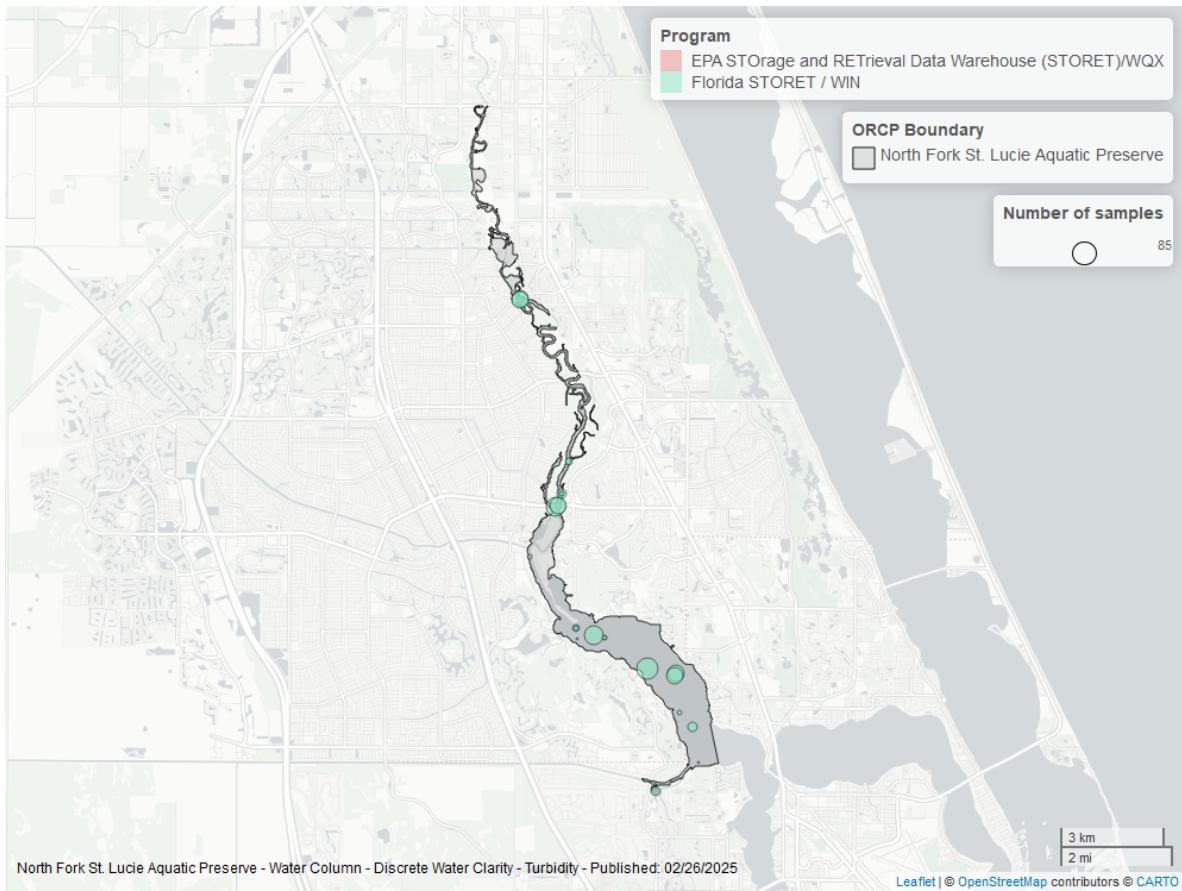


Table 10: Seasonal Kendall-Tau Results for - Turbidity

| 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 | 543 | 17 | 1999 - 2024 | 5 | -0.0747 | 5.39255 | -0.02889 | 0.2928 |



Total Suspended Solids - Discrete

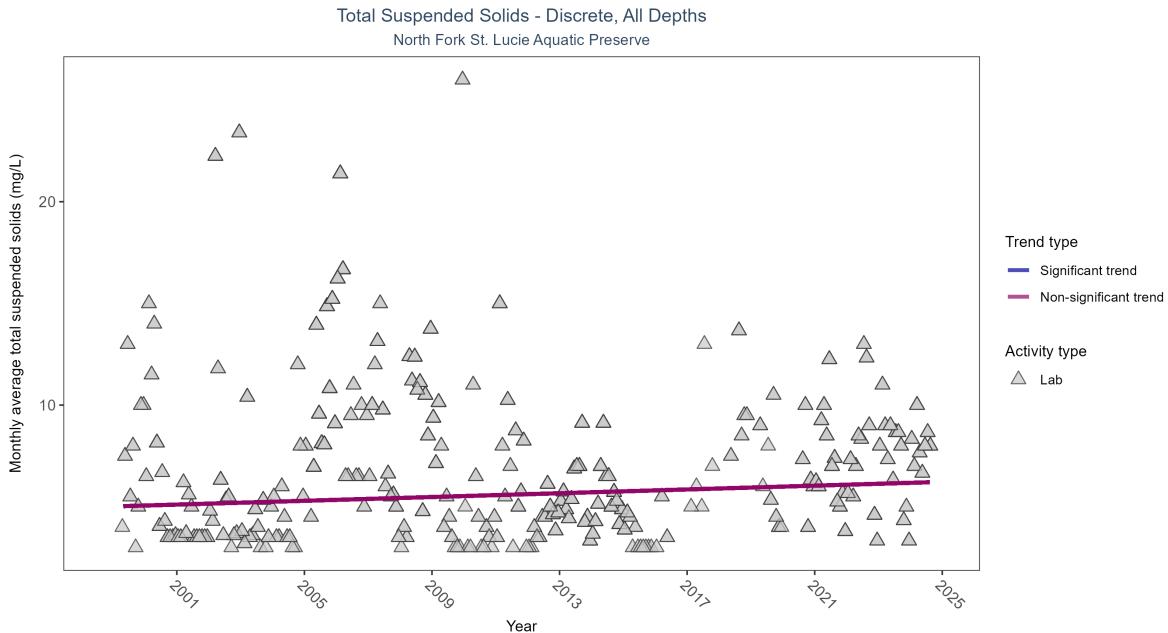
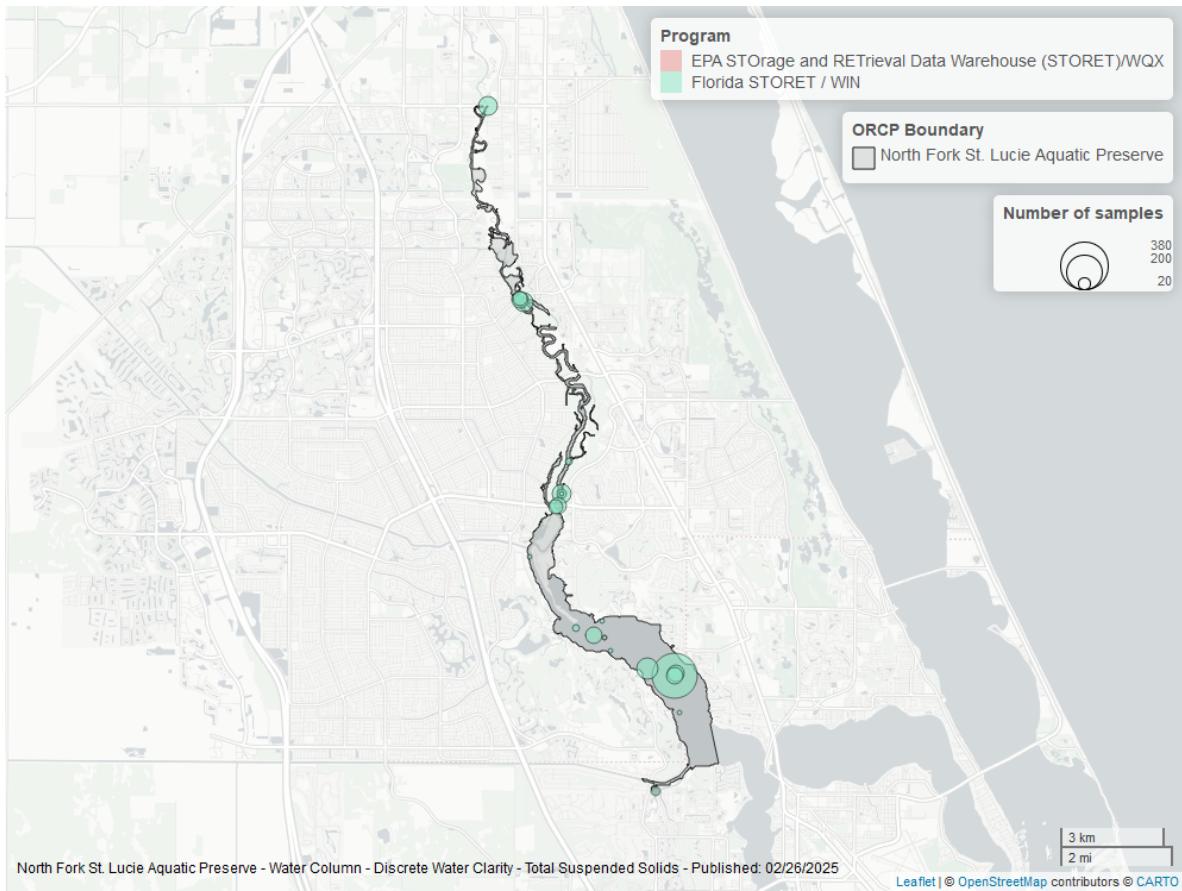


Table 11: Seasonal Kendall-Tau Results for - Total Suspended Solids

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P | |
|---------------|----------------------|--------------|-----------------|------------------|---------------------|-----|---------------|-----------|---------|--------|
| Lab | No significant trend | 1033 | 26 | 1999 - 2024 | | 6 | 0.0798 | 5.01404 | 0.04652 | 0.0575 |



Chlorophyll a, Uncorrected for Pheophytin - Discrete

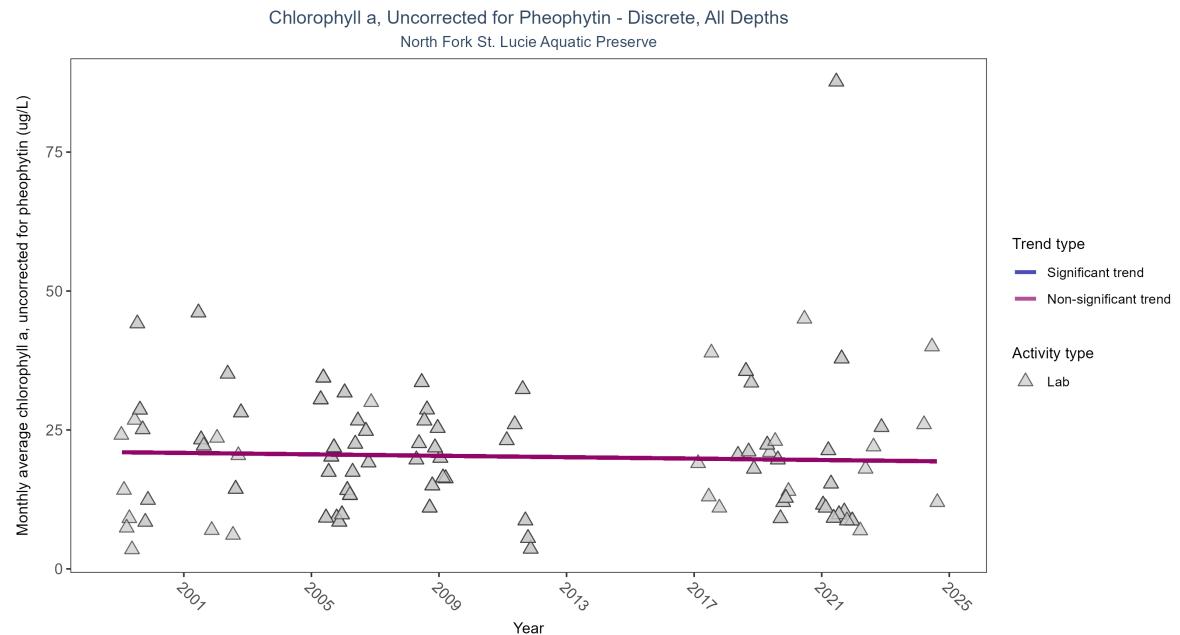
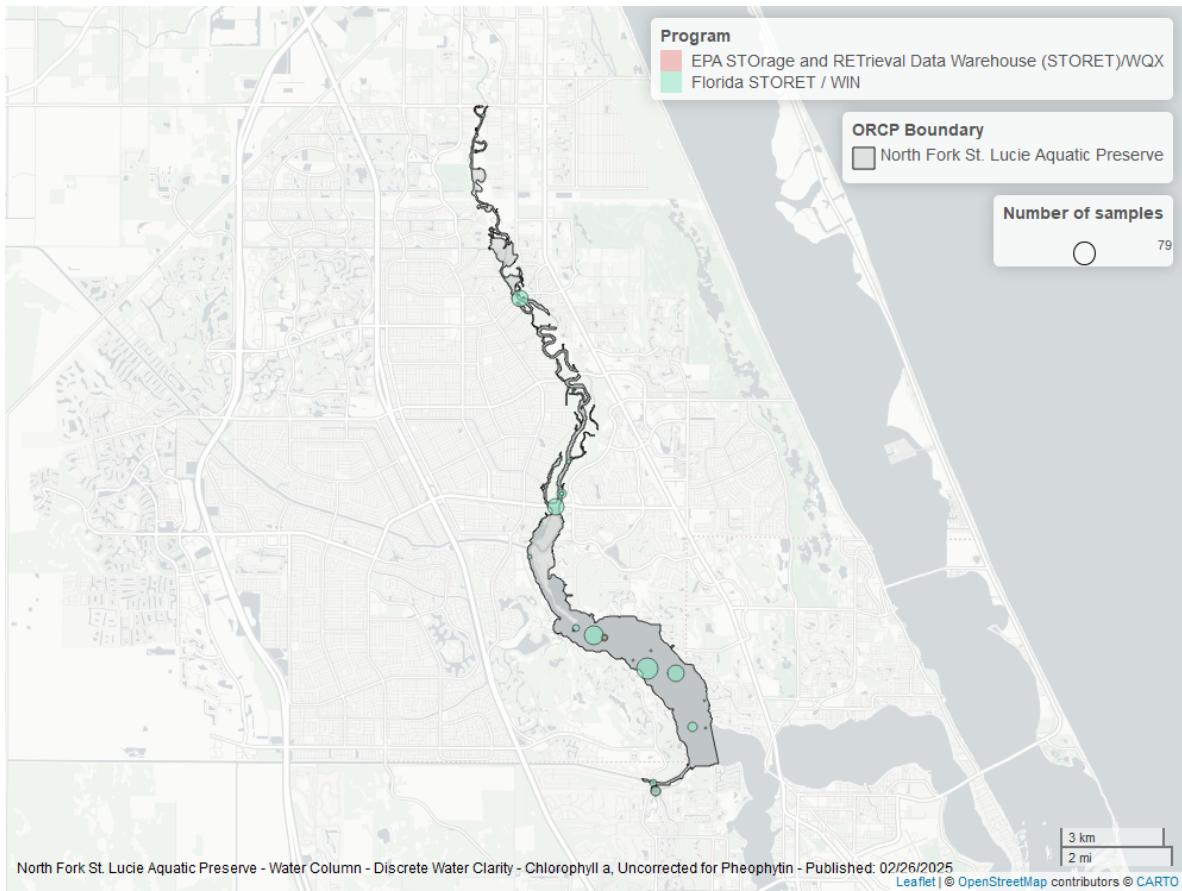


Table 12: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P | |
|---------------|----------------------|--------------|-----------------|------------------|---------------------|-----|---------------|-----------|----------|--------|
| Lab | No significant trend | 405 | 15 | 1999 - 2024 | | 15 | -0.0672 | 20.99218 | -0.06376 | 0.4756 |



Chlorophyll a, Corrected for Pheophytin - Discrete

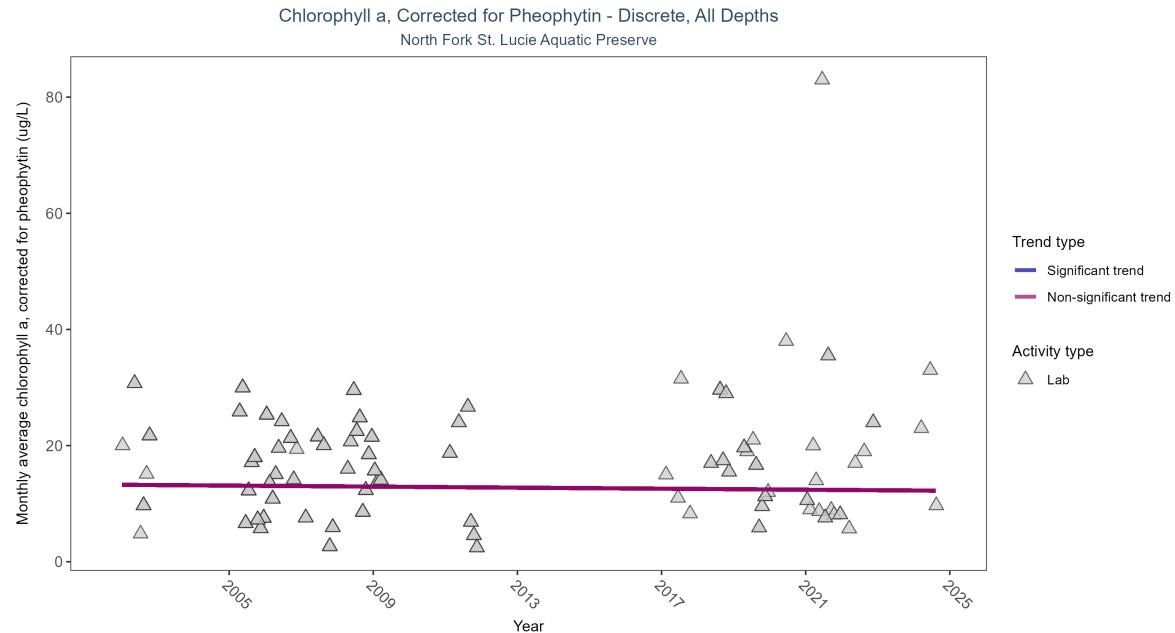
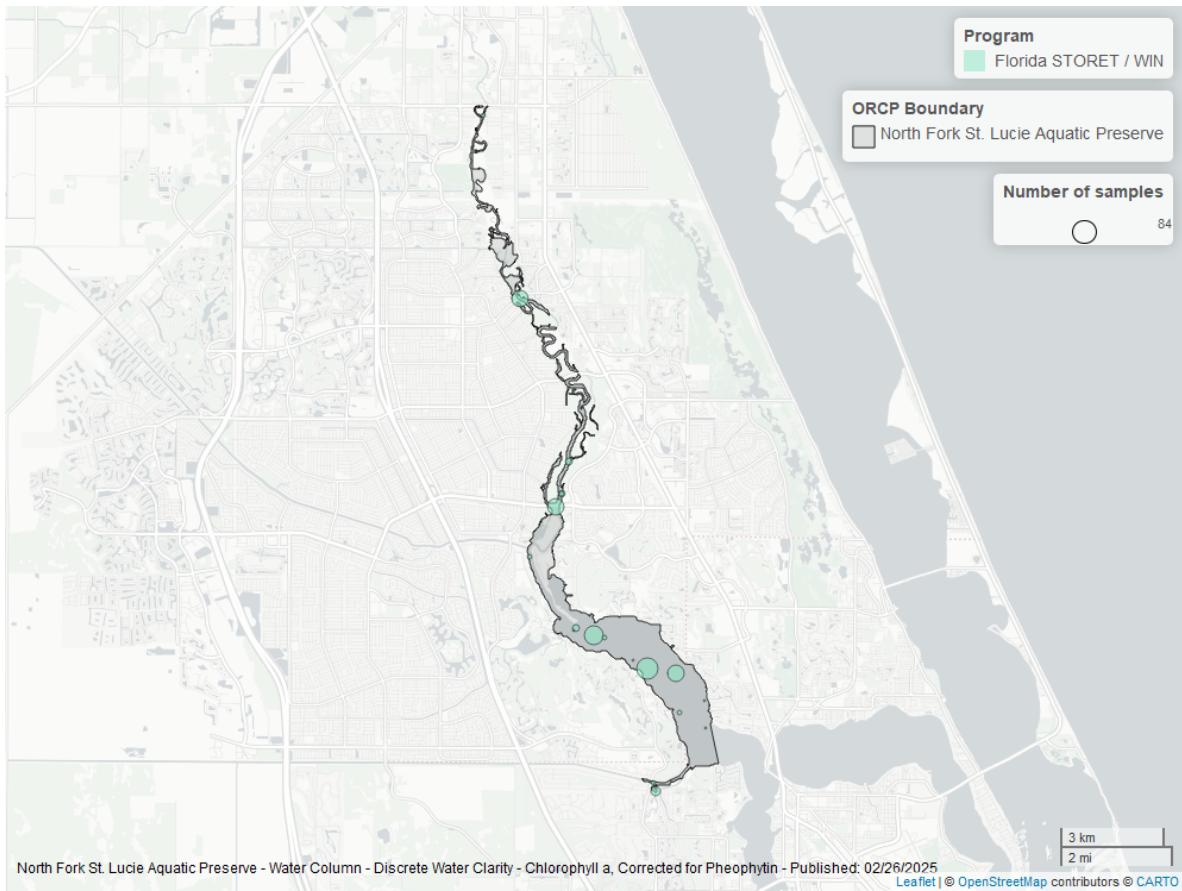


Table 13: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

| 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 | 371 | 14 | 2002 - 2024 | | 12 | -0.0265 | 13.24892 | -0.04444 | 0.8131 |



Secchi Depth - Discrete

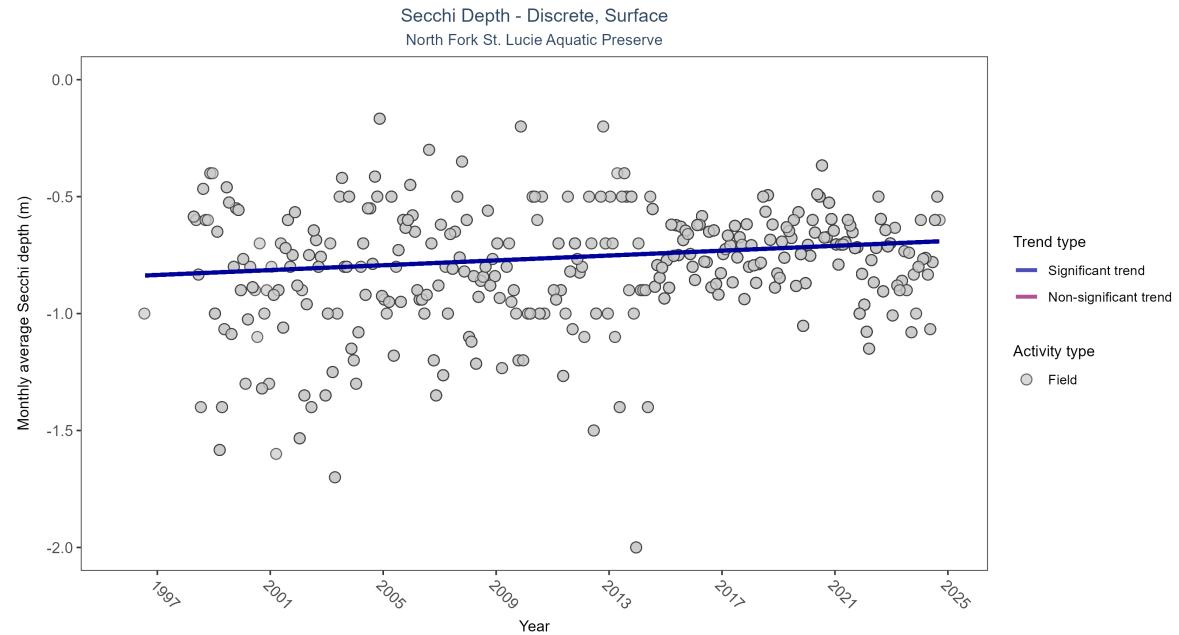
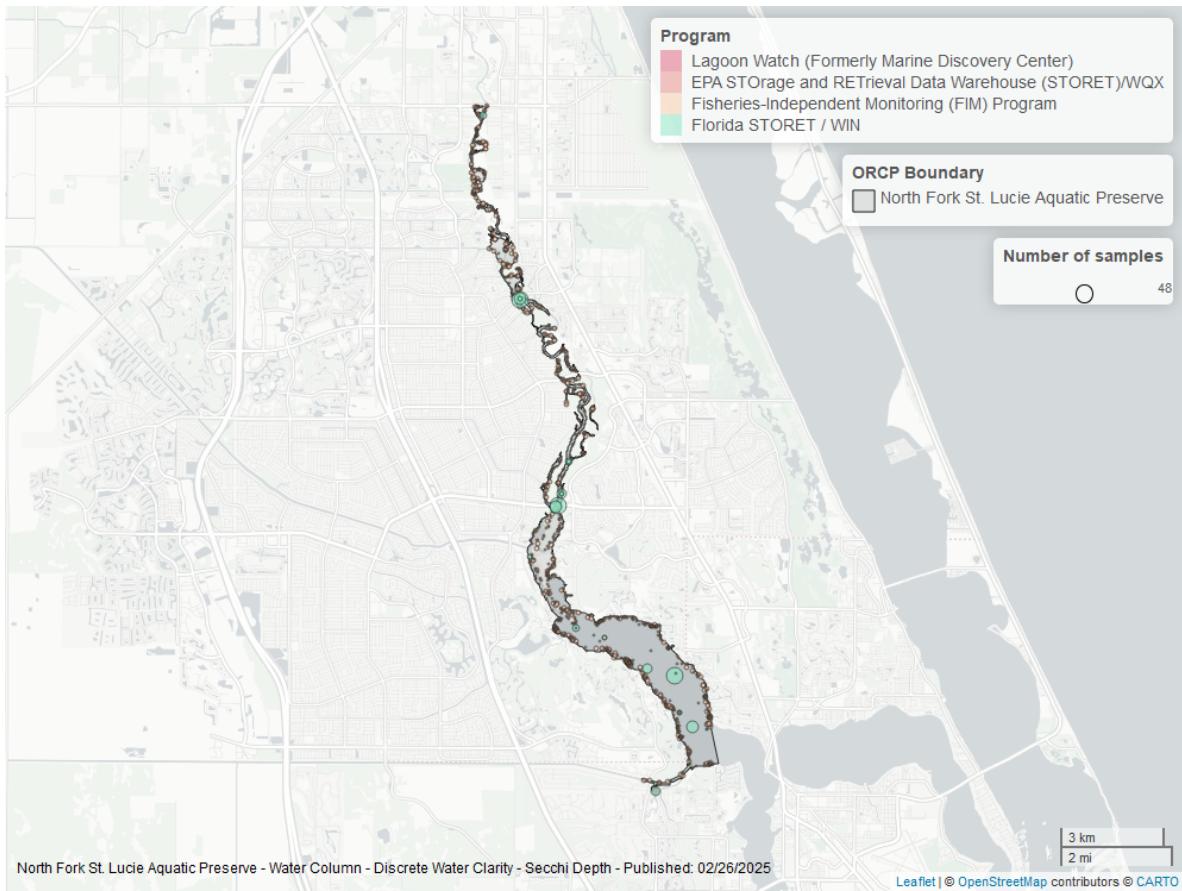


Table 14: Seasonal Kendall-Tau Results for - Secchi Depth

| 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 | 2547 | 28 | 1996 - 2024 | -0.7 | 0.1311 | -0.84017 | 0.00519 | 0.0010 |



Colored Dissolved Organic Matter - Discrete

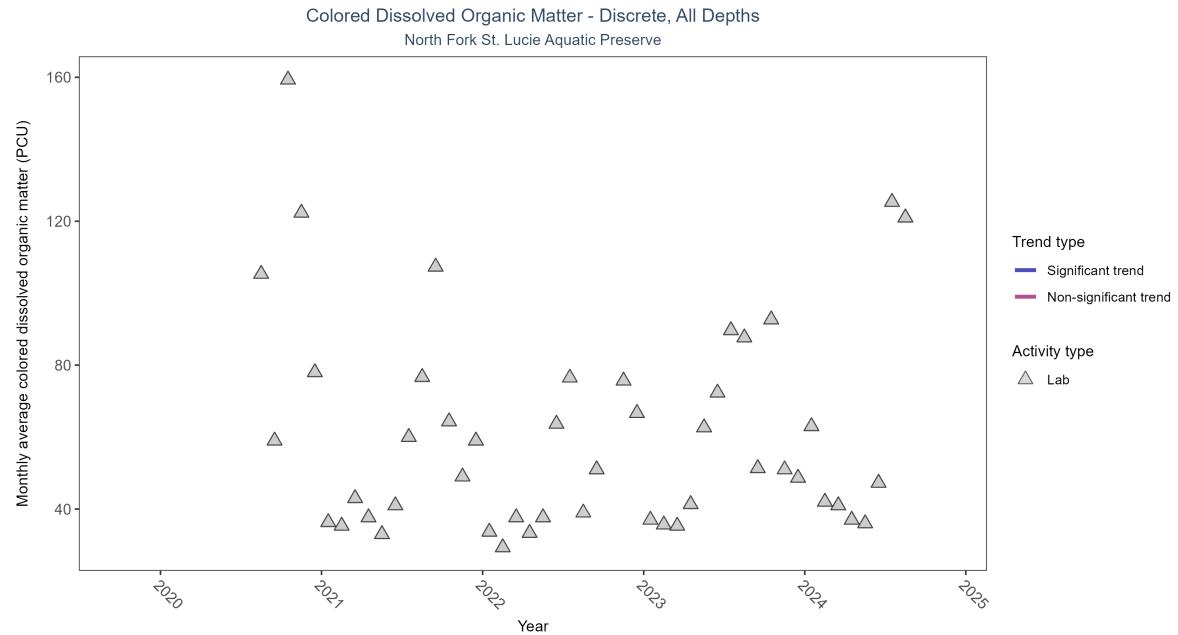


Table 15: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|--------------------------------------|--------------|-----------------|------------------|---------------------|-----|---------------|-----------|----|
| Lab | Insufficient data to calculate trend | 144 | 5 | 2020 - 2024 | 49.5 | - | - | - | NA |

