# Tomoka Marsh Aquatic Preserve SEACAR Water Quality Analysis

## Last compiled on 27 January, 2025

# Contents

Indicators	<b>2</b>
Nutrients	2
Total Nitrogen - Discrete	2
Total Phosphorus - Discrete	3
Water Quality	4
Dissolved Oxygen - Discrete	4
Dissolved Oxygen - Continuous	5
Dissolved Oxygen Saturation - Discrete	6
Dissolved Oxygen Saturation - Continuous	7
Salinity - Discrete	8
Salinity - Continuous	9
Water Temperature - Discrete	10
Water Temperature - Continuous	11
pH - Discrete	12
pH - Continuous	13
Water Clarity	14
Turbidity - Discrete	14
Turbidity - Continuous	15
Total Suspended Solids - Discrete	16
Chlorophyll a, Uncorrected for Pheophytin - Discrete	١7
Chlorophyll a, Corrected for Pheophytin - Discrete	18
Secchi Depth - Discrete	19
Colored Dissolved Organic Matter - Discrete	20

# Indicators

## Nutrients

#### Total Nitrogen - Discrete

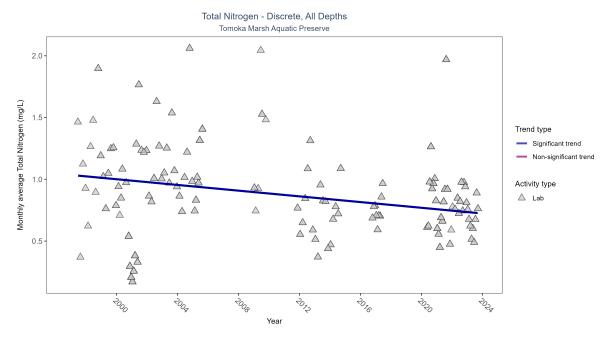


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

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	382	20	1997 - 2023	0.7927	-0.221	1.03521	-0.01156	0.0009

#### Total Phosphorus - Discrete

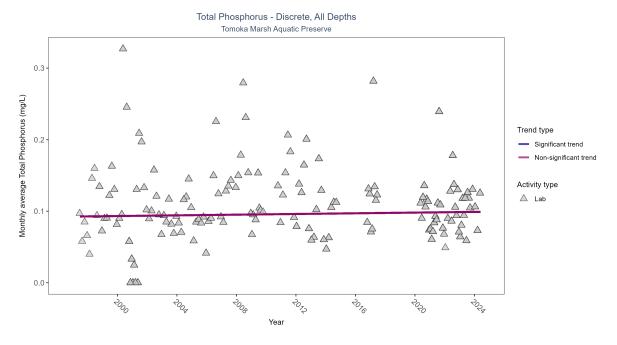


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	Р
Lab	No significant trend	661	25	1997 - 2024	0.097	0.0454	0.09252	0.00024	0.5822

# Water Quality

#### Dissolved Oxygen - Discrete

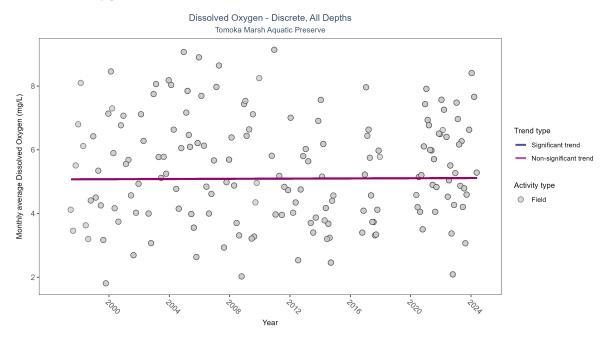


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

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	676	25	1997 - 2024	5.43	0.0475	5.07345	0.0015	0.8888

#### Dissolved Oxygen - Continuous

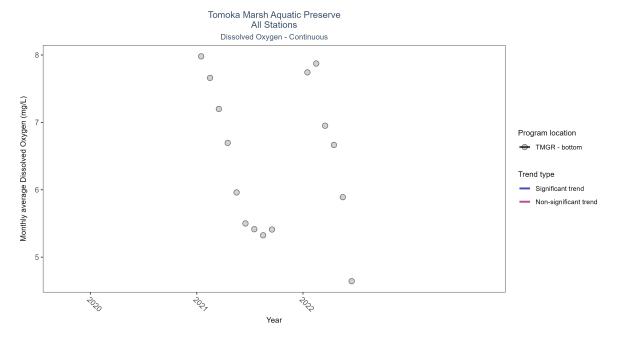


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
TMGR	Insufficient data to calculate trend	40492	2	2021 - 2022	6.5	-	-	-	NA

#### Dissolved Oxygen Saturation - Discrete

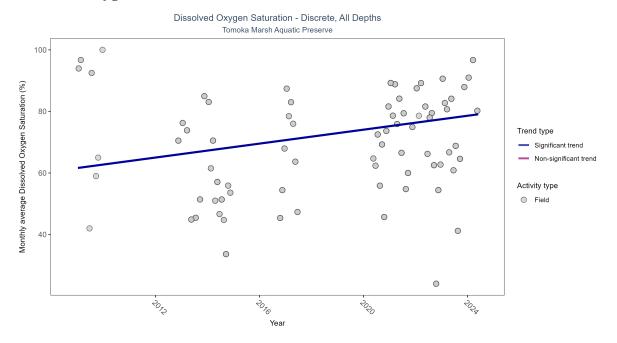


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

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	366	11	2009 - 2024	71.4	0.2288	61.62389	1.13148	0.0026

#### Dissolved Oxygen Saturation - Continuous

Monthly average Dissolved Oxygen Saturation (%)

90

80

Tomoka Marsh Aquatic Preserve
All Stations
Dissolved Oxygen Saturation - Continuous

Program location

Trend type

Significant trend

Non-significant trend

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

2022

0

Year

2027

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
TMGR	Insufficient data to calculate trend	40492	2	2021 - 2022	88.4	-	-	-	NA

#### Salinity - Discrete

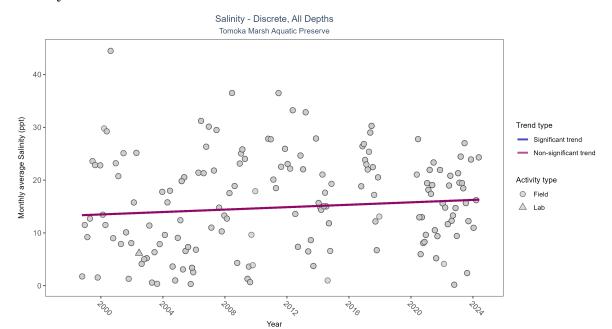


Table 7: Seasonal Kendall-Tau Results for - Salinity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
All	No significant trend	654	24	1998 - 2024	16.155	0.0461	13.267	0.11478	0.3339

## Salinity - Continuous

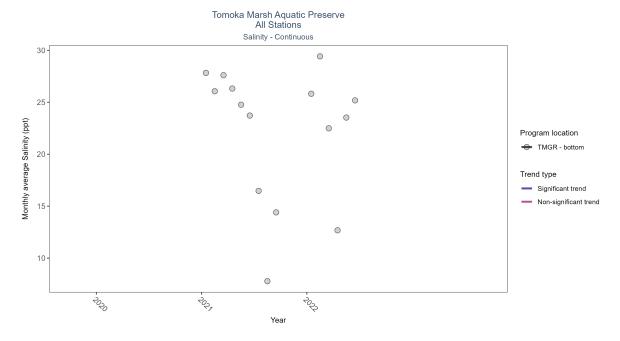


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
TMGR	Insufficient data to calculate trend	41374	2	2021 - 2022	23.3	-	-	-	NA

#### Water Temperature - Discrete

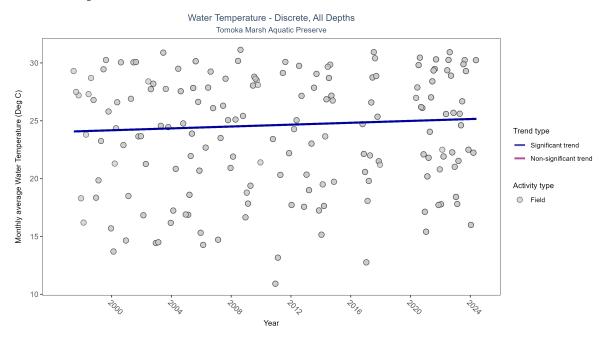


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

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	692	25	1997 - 2024	24.97	0.1577	24.05857	0.04043	0.0195

#### Water Temperature - Continuous

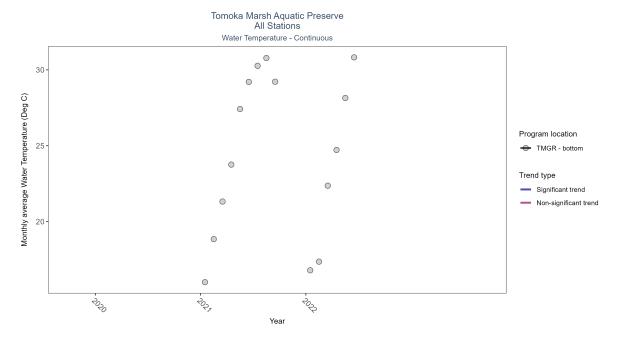


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
TMGR	Insufficient data to calculate trend	41374	2	2021 - 2022	25.5	-	-	-	NA

#### pH - Discrete

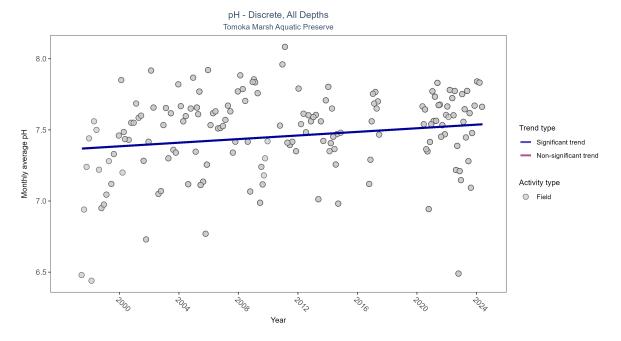


Table 11: Seasonal Kendall-Tau Results for - pH  $\,$ 

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly increasing trend	665	25	1997 - 2024	7.54	0.1709	7.36556	0.00633	0.0109

## pH - Continuous

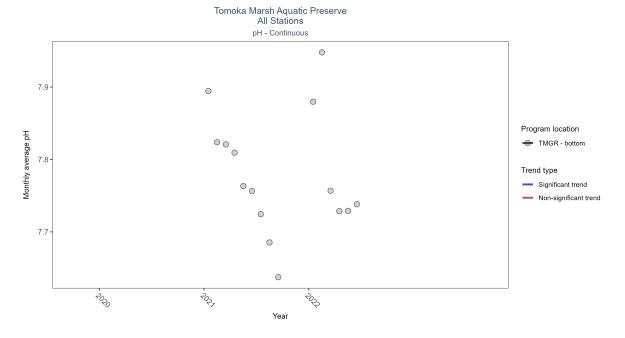


Table 12: Seasonal Kendall-Tau Results for All Stations -  $\rm pH$ 

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
TMGR	Insufficient data to calculate trend	41374	2	2021 - 2022	7.8	-	-	-	NA

# Water Clarity

## Turbidity - Discrete

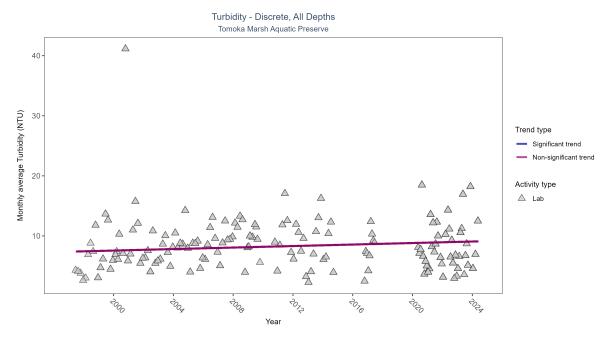


Table 13: Seasonal Kendall-Tau Results for - Turbidity

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	458	25	1997 - 2024	7.22899	0.0712	7.37283	0.06272	0.1479

## Turbidity - Continuous

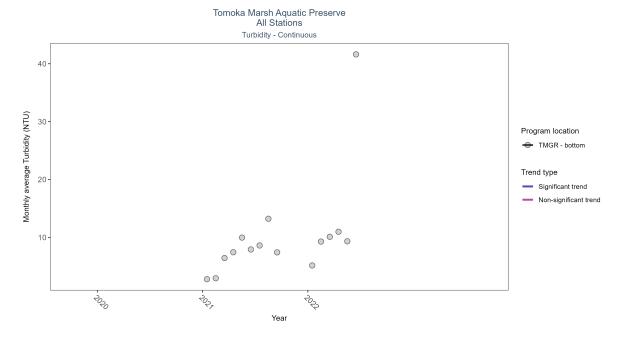


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
TMGR	Insufficient data to calculate trend	41169	2	2021 - 2022	7	-	-	-	NA

#### Total Suspended Solids - Discrete

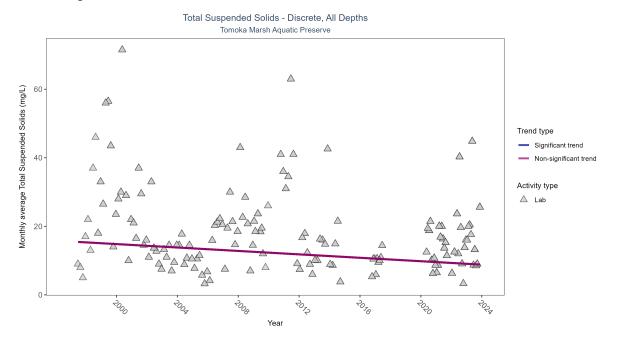


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	Р
Lab	No significant trend	411	24	1997 - 2023	14.2	-0.0792	15.56634	-0.24999	0.0683

#### Chlorophyll a, Uncorrected for Pheophytin - Discrete

Chlorophyll a, Uncorrected for Pheophytin - Discrete, All Depths

Tomoka Marsh Aquatic Preserve Δ Monthly average Chlorophyll a, Uncorrected for Pheophytin (ug/L)  $\overset{\triangle}{\vartriangle}$ Trend type Significant trend Non-significant trend  $_{\triangle}^{\triangle}$ Activity type △ Lab Δ 10  $\triangle$  $\triangle$  $\triangle$  $\triangle$  $\triangle$ +0/2 7000 2016 12020 700g 2000 202

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

Year

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	300	8	2000 - 2024	8.09702	-	-	-	NA

#### Chlorophyll a, Corrected for Pheophytin - Discrete

Chlorophyll a, Corrected for Pheophytin - Discrete, All Depths Tomoka Marsh Aquatic Preserve

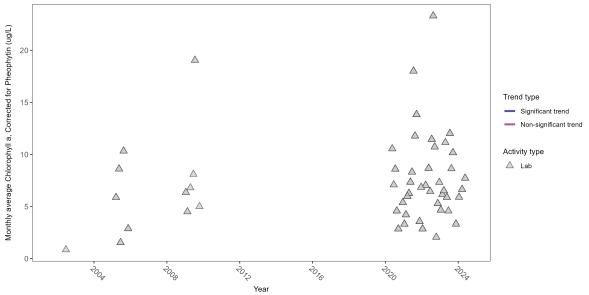


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Insufficient data to calculate trend	252	8	2002 - 2024	6.31455	-	-	-	NA

#### Secchi Depth - Discrete

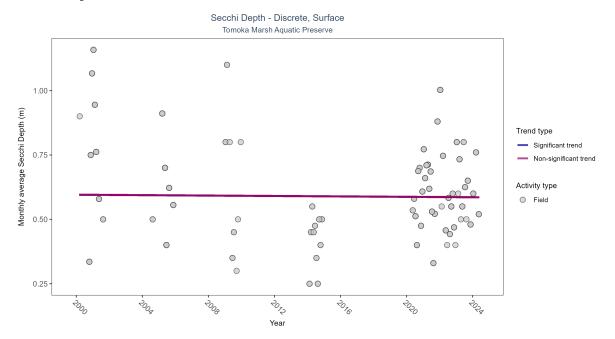


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	No significant trend	333	11	2000 - 2024	0.6	-0.0447	0.59562	-0.00041	0.7714

#### Colored Dissolved Organic Matter - Discrete

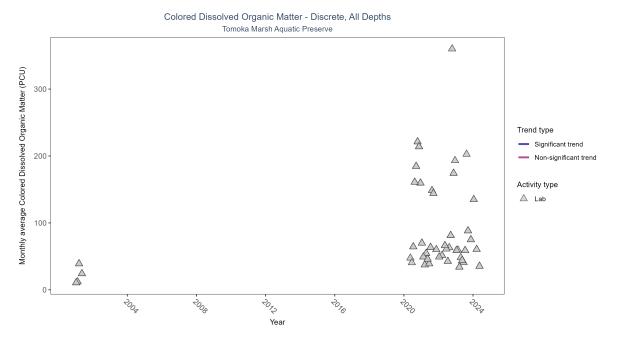


Table 19: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

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	238	6	2001 - 2024	54.5773	-	-	-	NA