

Managing milfoil in the Adirondacks and water quality

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The Nature Conservancy - APIPP

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Invasive milfoils

- In 130 waterbodies in the Adirondacks
- Negative impacts on:
 - Native wetland plants
 - Water quality
 - Use of lakes



Management

- Management refers to activities designed to reduce AIS populations
- There are multiple types of management practices that fall into the categories:
 - Biological
 - Chemical
 - Mechanical
- All management practices have positive and negative impacts.



Photo from Upper Saranac Foundation

Invasive milfoil management

- Lots of research on plants



Invasive milfoil management

- Lots of research on plants
- Less research on water quality



Potential water quality impacts

- Nutrients
 - Disturbing the substrate
 - Plants dying back
- Algae and organic matter
 - Increased nutrients
 - Competition dynamics

What does the water quality data show for lakes that manage milfoils?

Where could we get water quality data from?!?



Adirondack Lake Assessment Program (ALAP)

A joint project between Protect the Adirondacks and the Paul Smith's College Adirondack Watershed
Institute

Water quality measurements



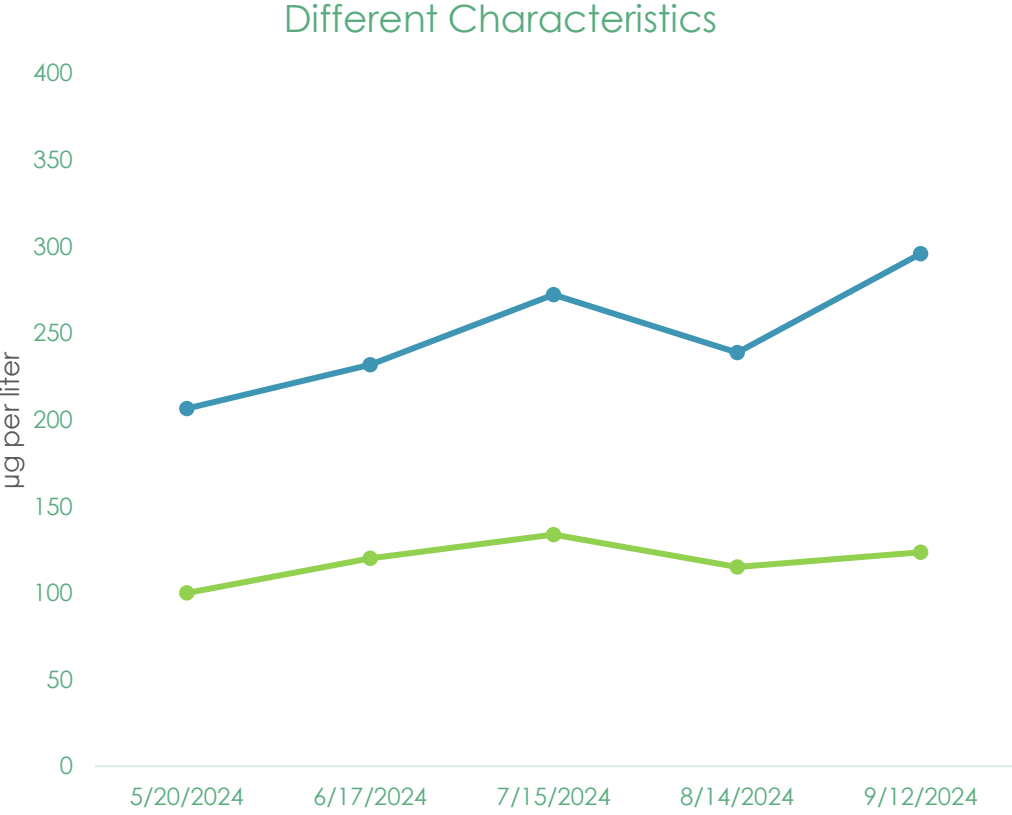
Photo from AWI Report



Sampling design

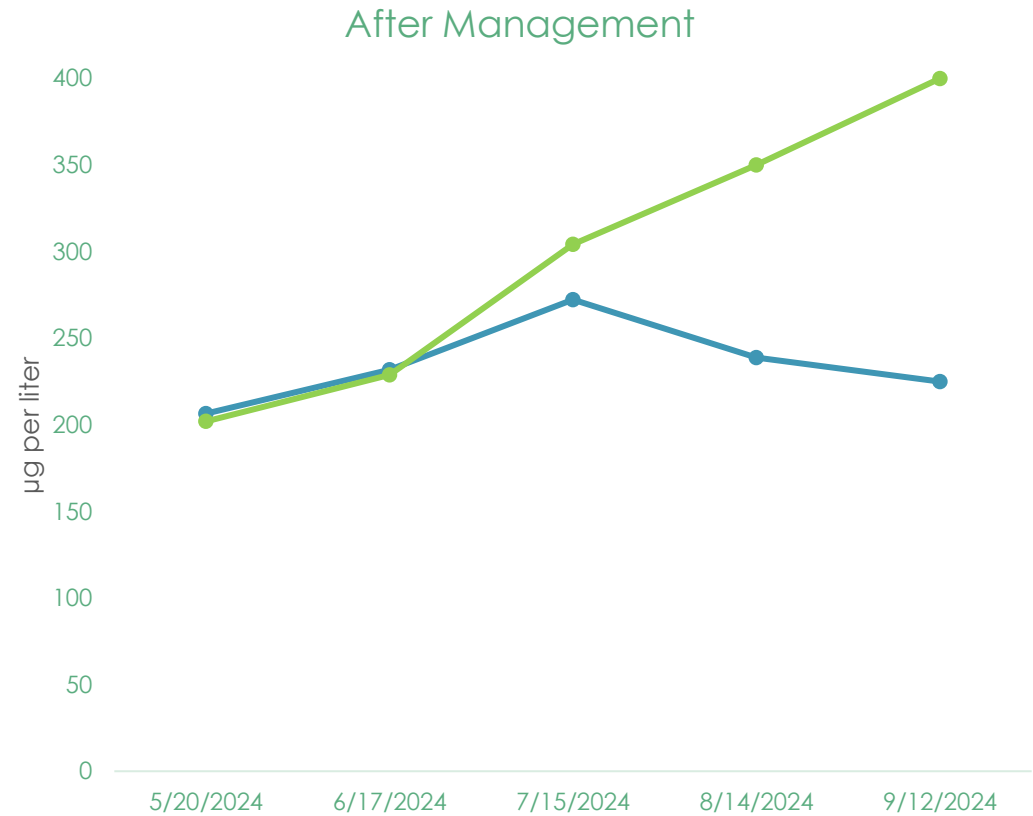
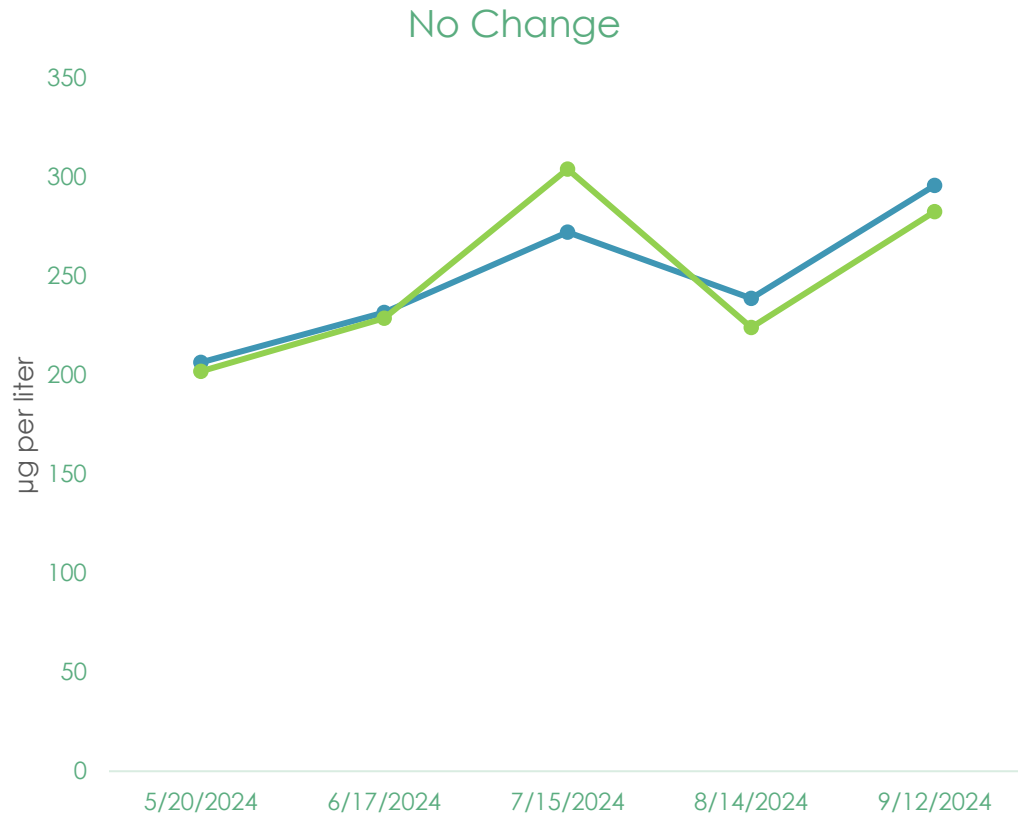


Will we see change?



—●— Open Water —●— Treatment

Will we see change?



Lakes Monitored

Lake & Association	Invasive milfoil	Management
Chazy Lake – Chazy Watershed Institute	Eurasian	DASH
East Caroga – East Caroga Lake Association	Eurasian	Chemical (2024) & DASH
Paradox Lake – Paradox Lake Association	Eurasian	Chemical (2024) & Hand
Raquette Lake – Raquette Lake Preservation Foundation	Variable	Hand
Upper Chateaugay Lake– Chateaugay Lake Association & Chateaugay Foundation	Eurasian	Chemical (2024) & Hand
Middle Saranac Lake – APIPP	Eurasian	None - Control
Follensby Pond – APIPP	NONE	None - Reference

Examples from a few lakes

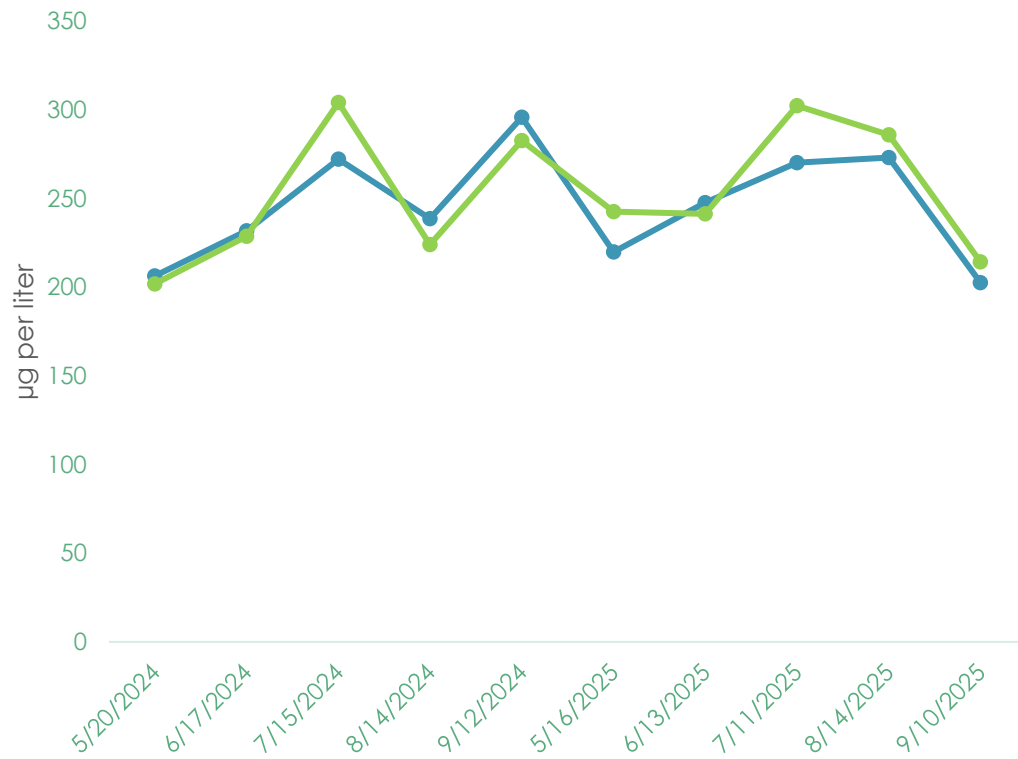
Middle Saranac Lake

- Shallow large lake
- Abundant EWM
- No management –
“control lake”

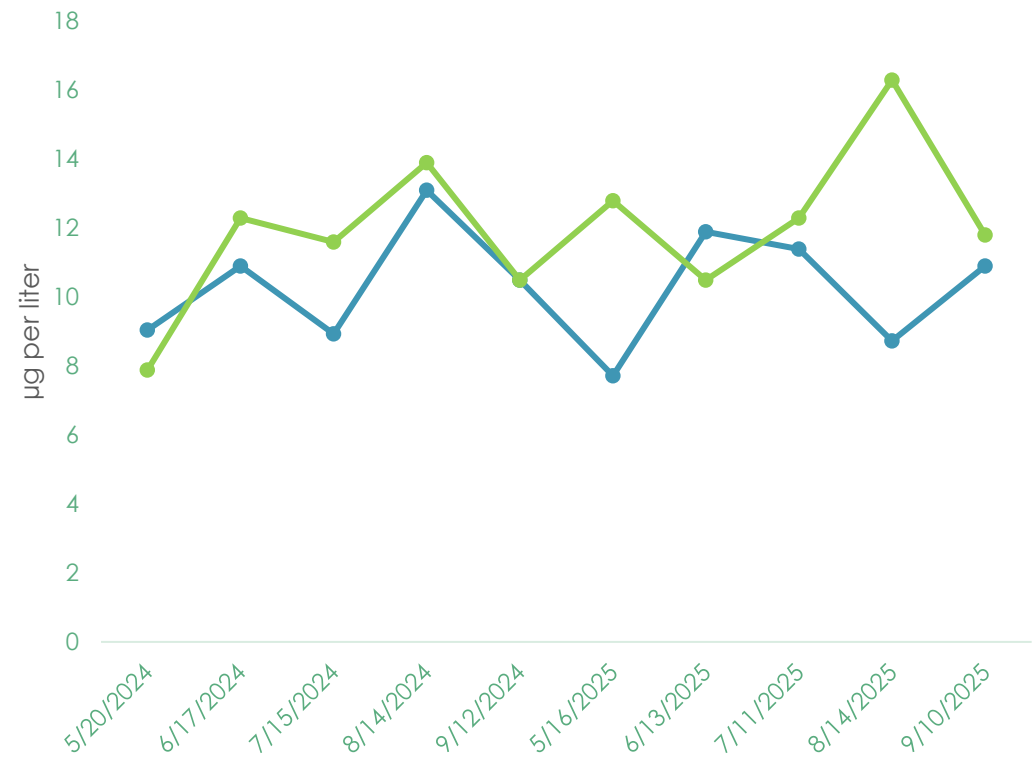


Middle Saranac - Nutrients

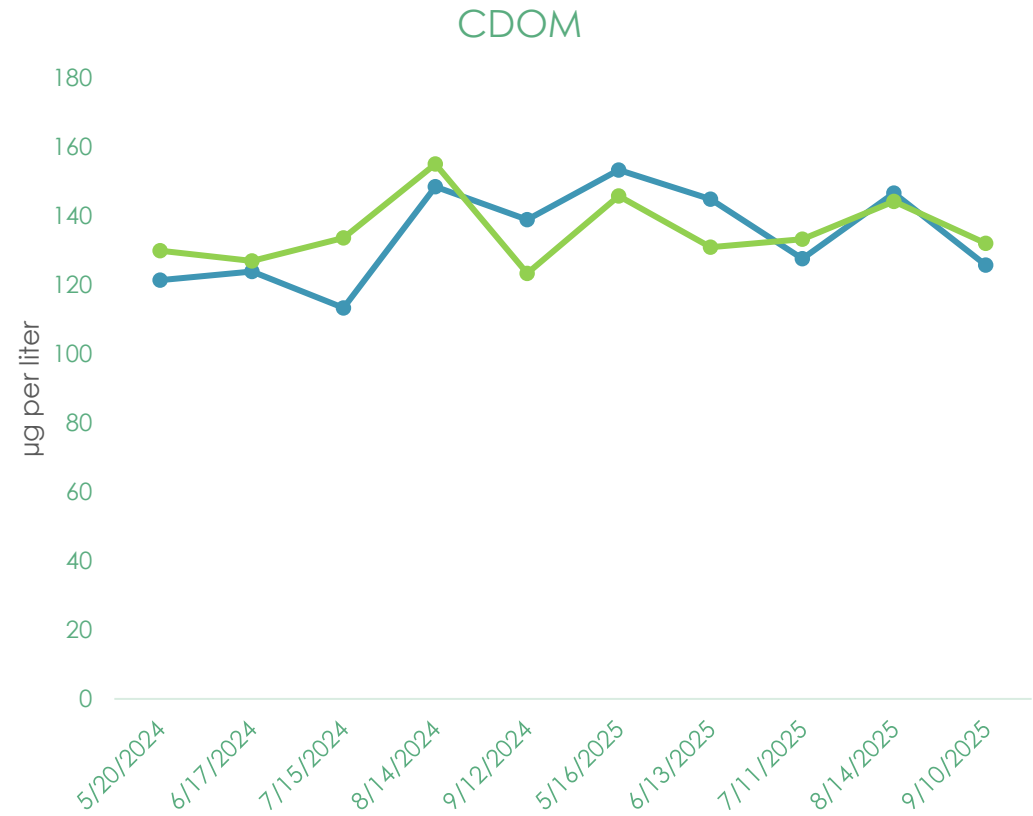
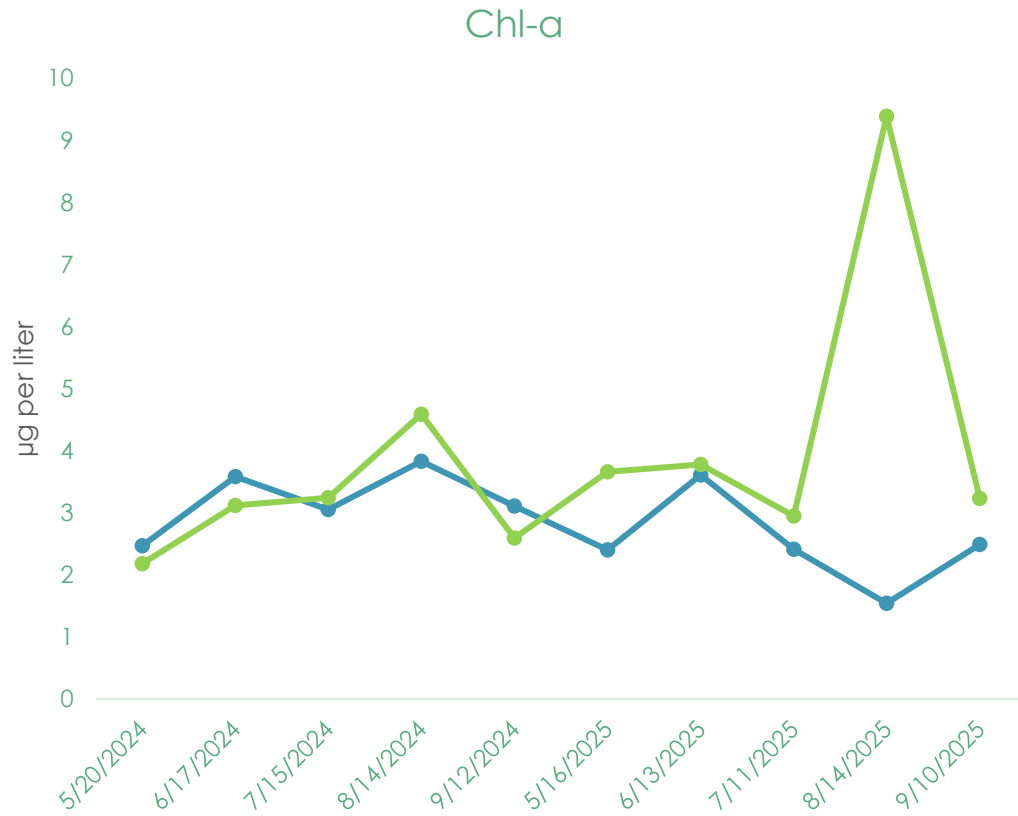
Total N



Total P



Middle Saranac – Algae and Organic Matter



Chazy Lake

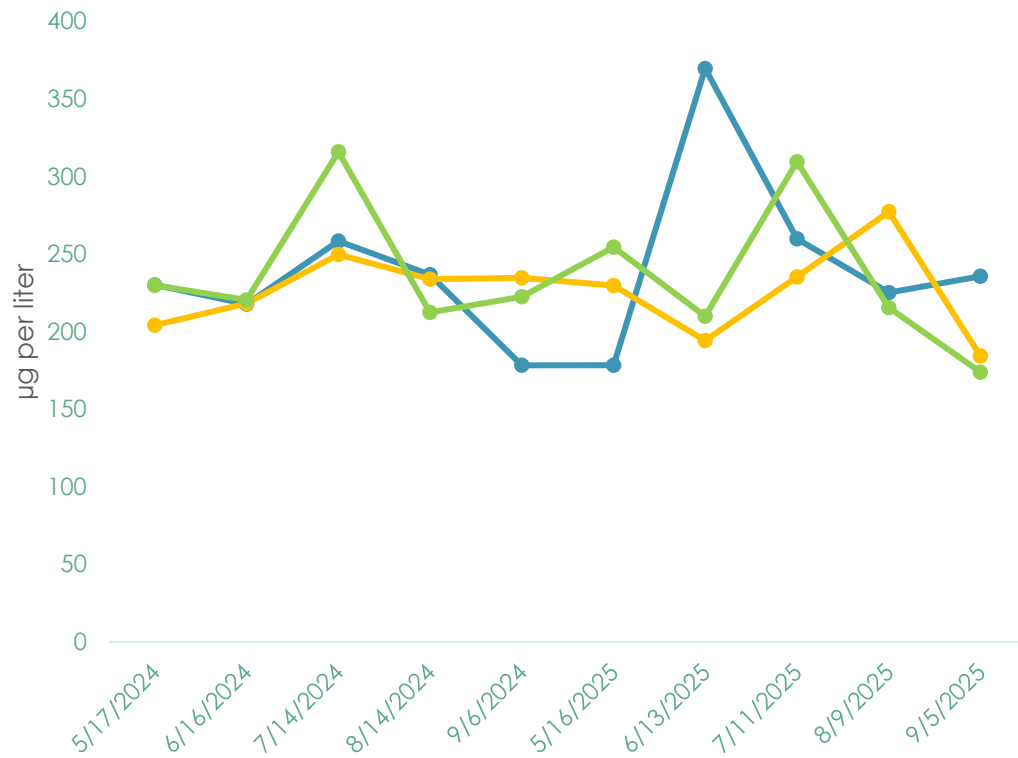
- Large lake
- EWM in several bays and inlets
- Using DASH for years



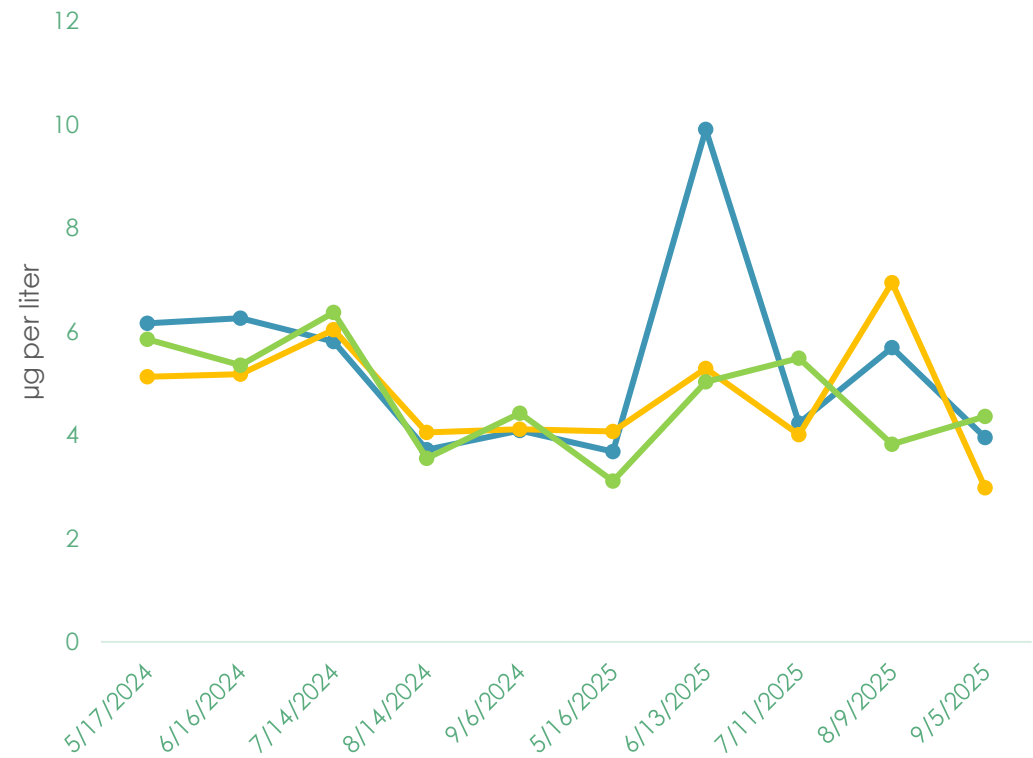
Photo from the Town of Dannemora

Chazy Lake – Nutrients

Total N



Total P



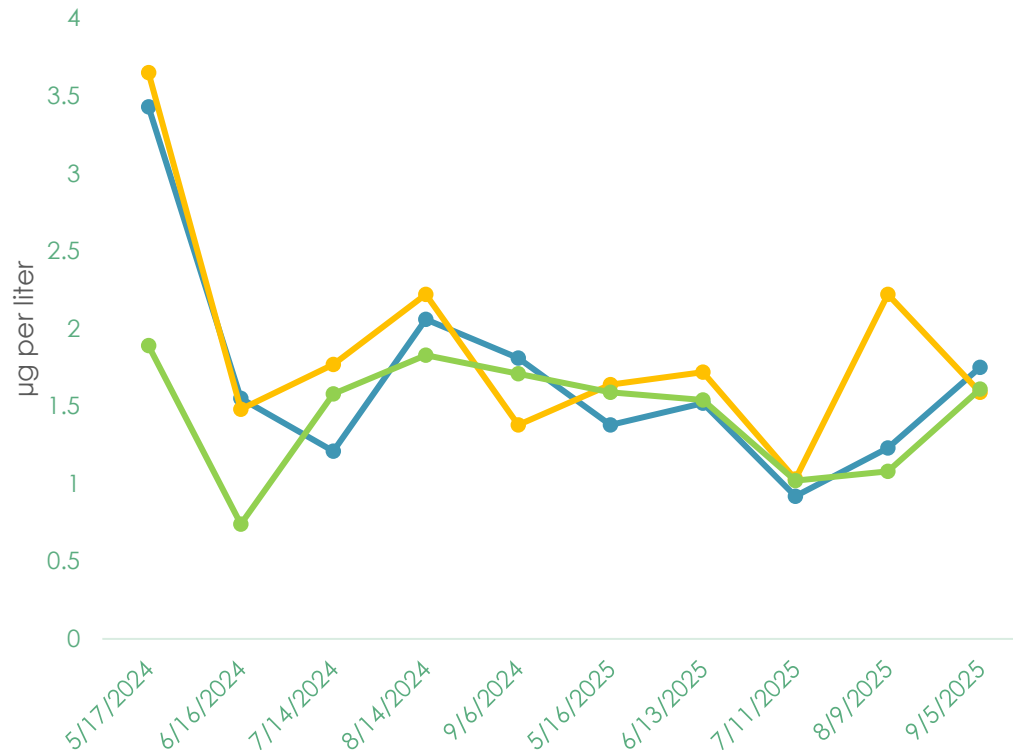
The Nature Conservancy
Adirondacks

Open Water Treatment Shallow Water

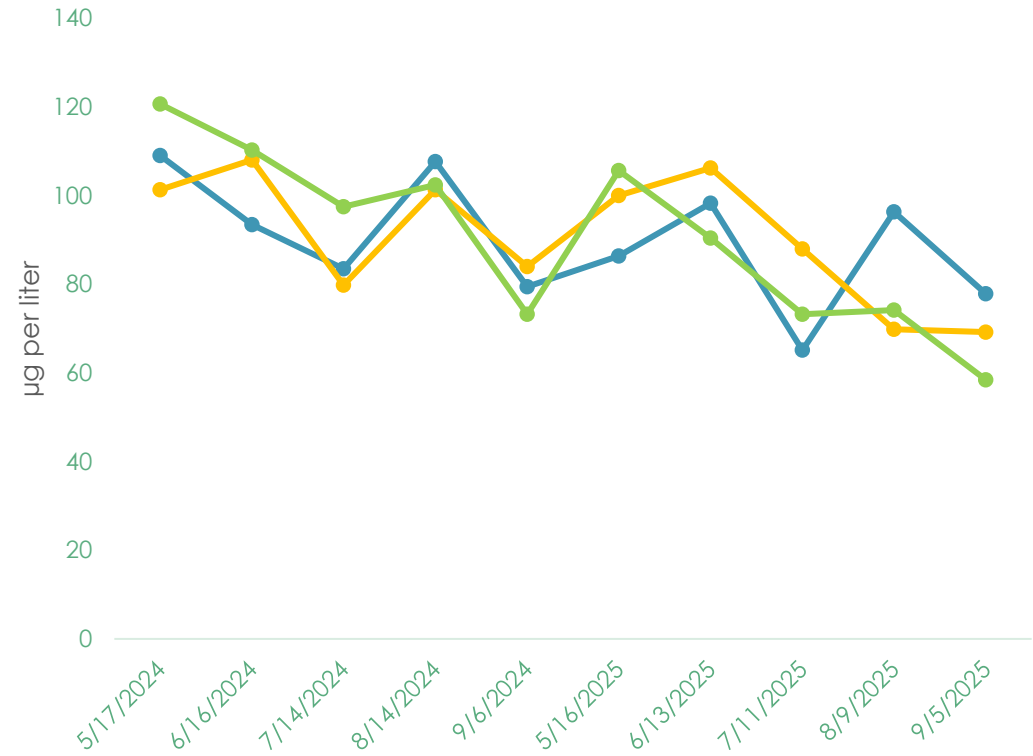
Open Water Treatment Shallow Water

Chazy Lake- Algae and Organic Matter

Chlorophyll a



CDOM



The Nature Conservancy
Adirondacks

Open Water Treatment Shallow Water

Open Water Treatment Shallow Water

East Caroga Lake

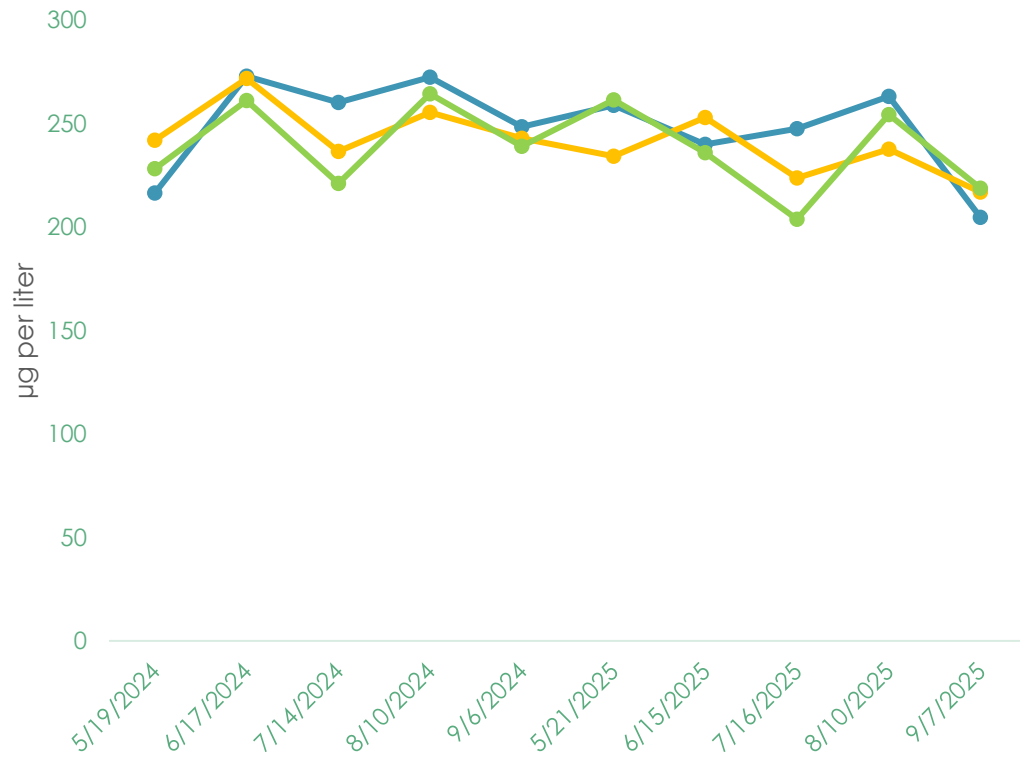
- Medium lake
- EWM along areas of developed shorelines
- Using hand harvesting for years; ProcellaCor in 2024



Photo from the seeswim.com

East Caroga Lake - Nutrients

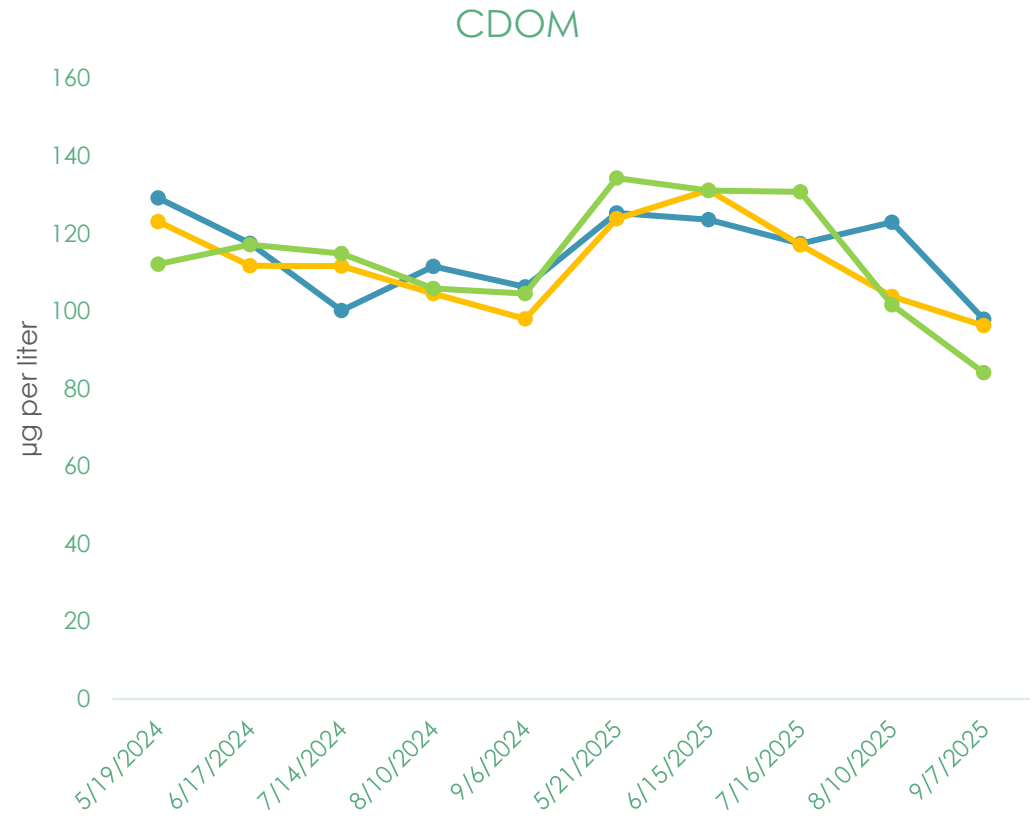
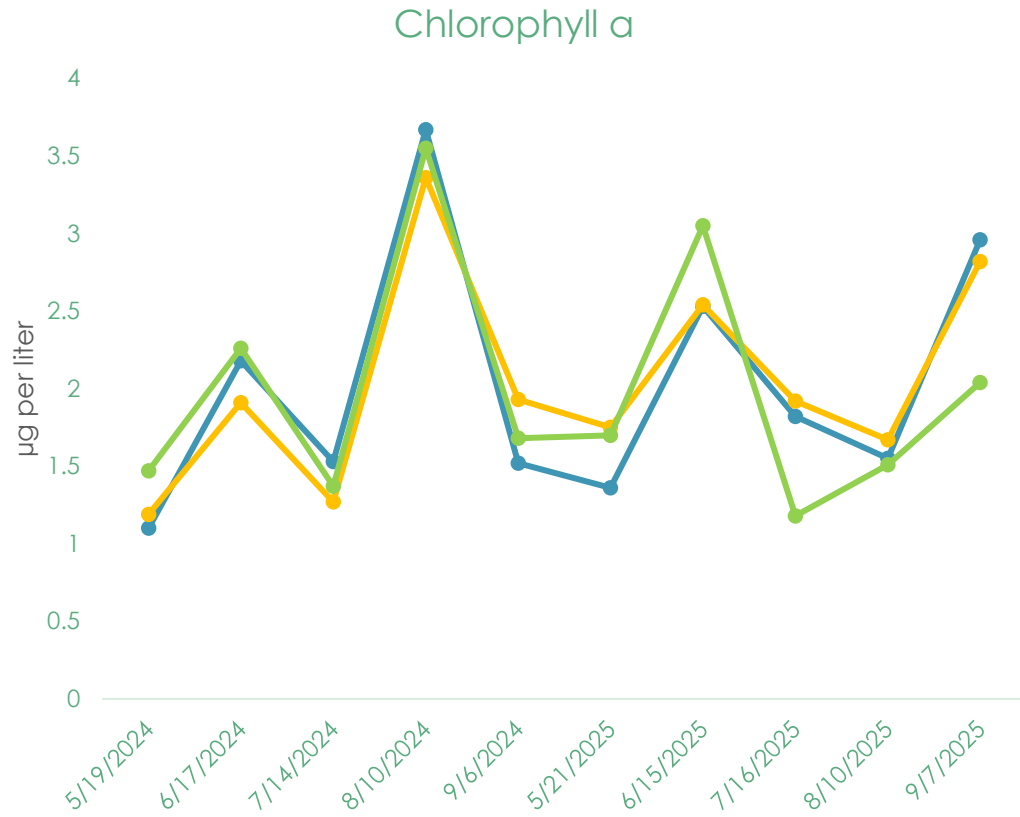
Total N



Total P



East Caroga Lake- Algae and Organic Matter



The Nature Conservancy
Adirondacks

Open Water Treatment Shallow Water

Open Water Treatment Shallow Water

Paradox Lake

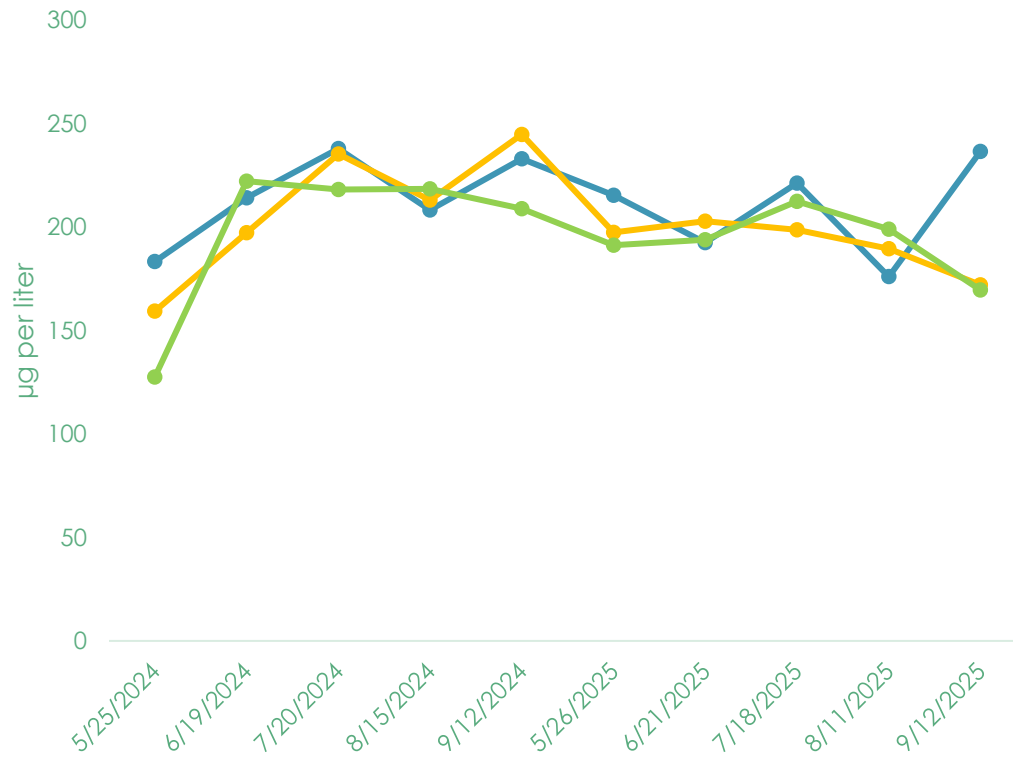
- Increasing amounts of EWM
- Historic hand harvesting 2018-2023
- Chemical management in 2024



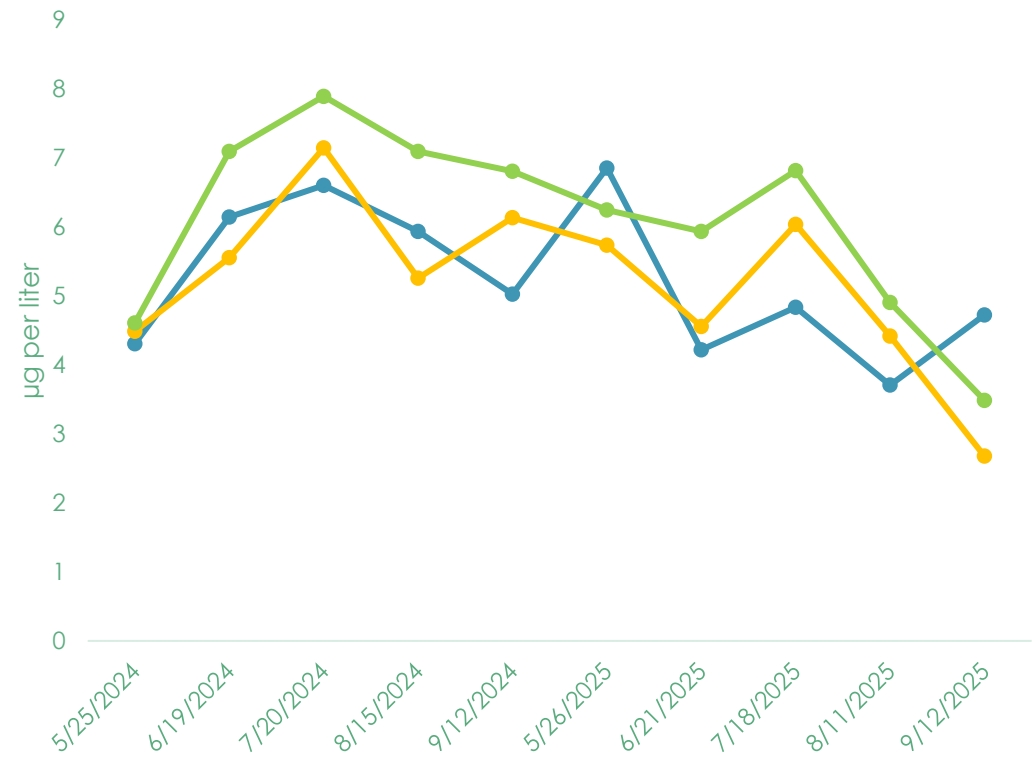
Photo from Paradox Lake Association

Paradox Lake - Nutrients

Total N



Total P

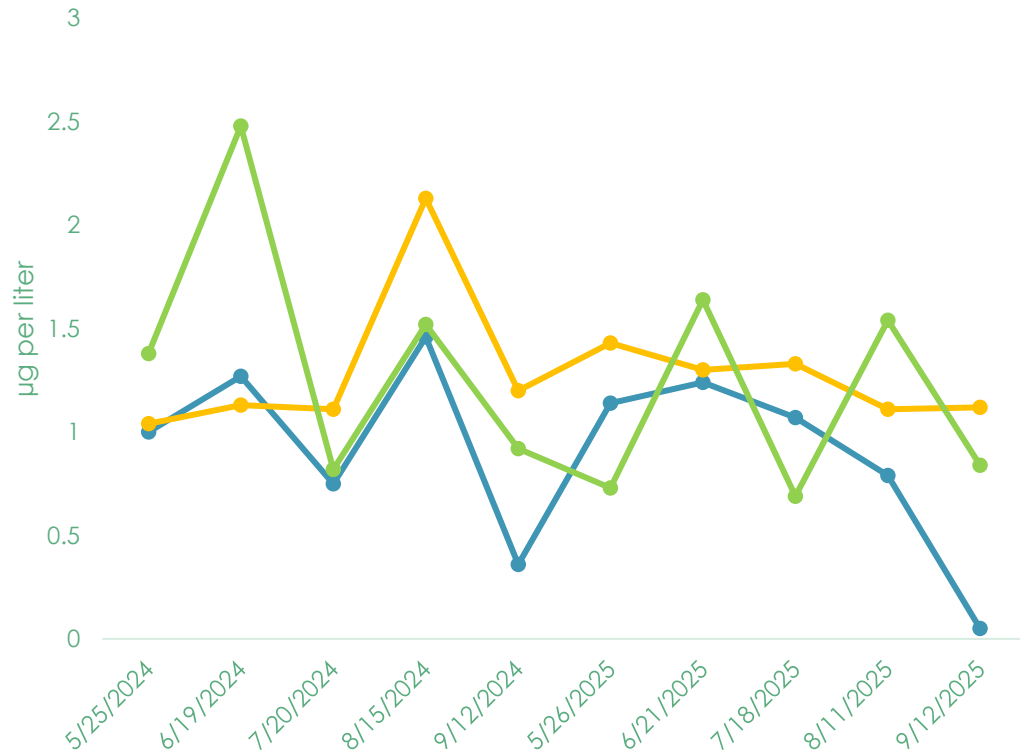


Open Water Treatment Shallow Water

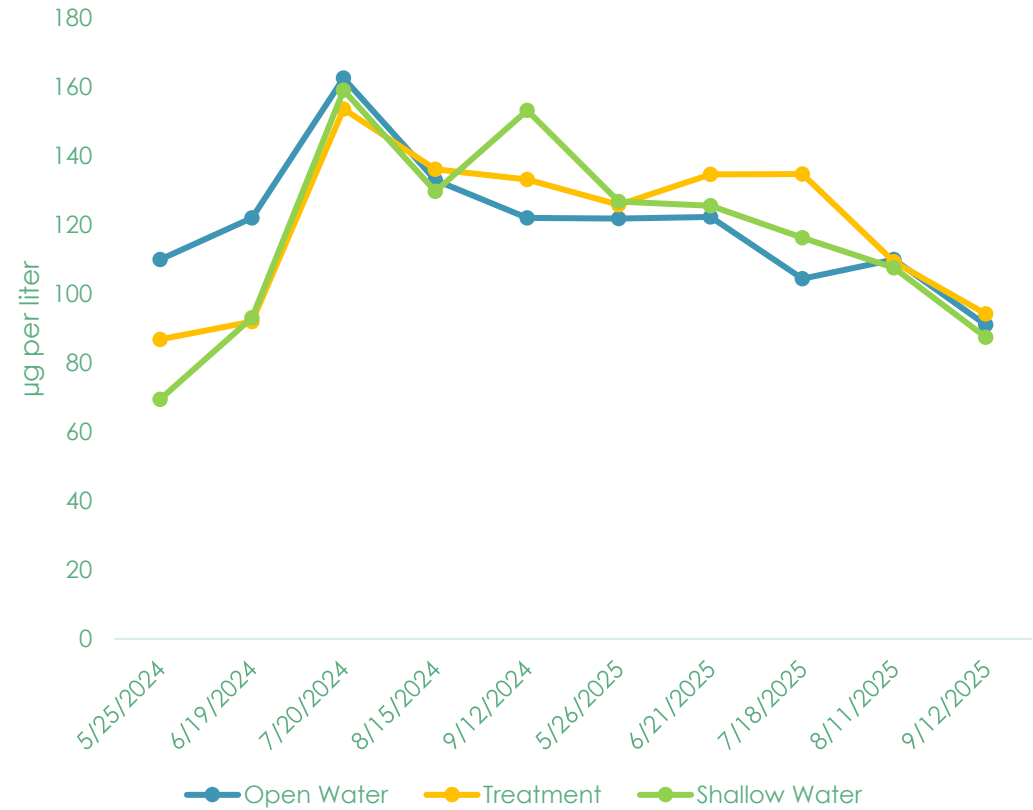
Open Water Treatment Shallow Water

Paradox Lake- Algae and Organic Matter

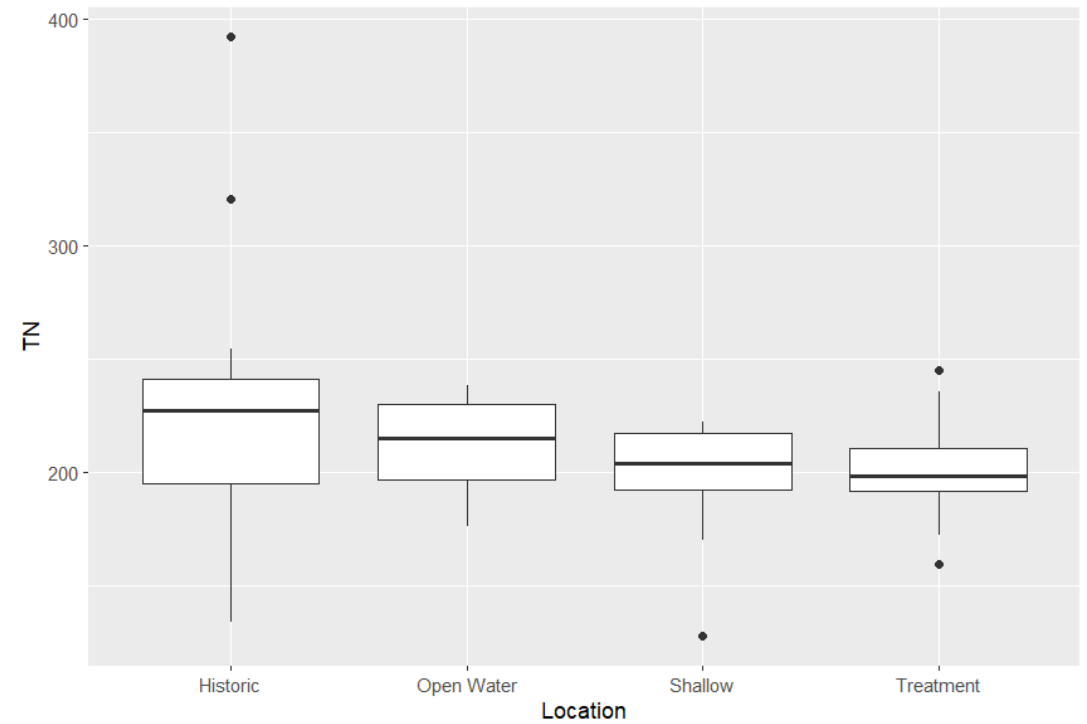
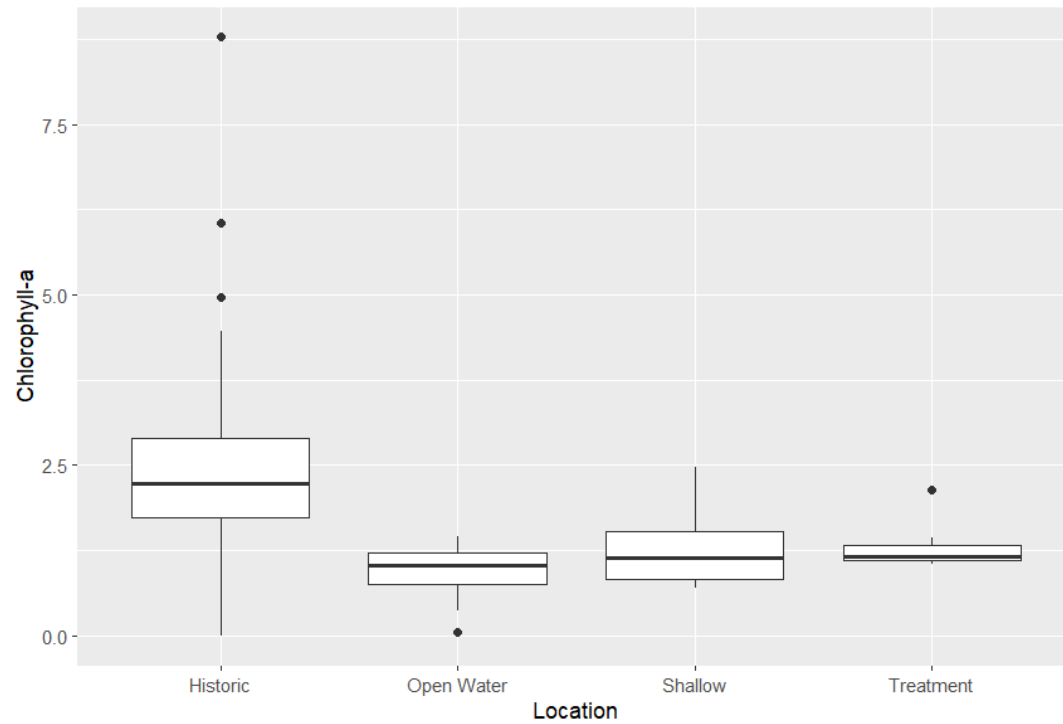
Chlorophyll-a



CDOM



Paradox Lake Historic



Summary

- Broad water quality measurements
- No water quality impacts of milfoil
- Results indicate no large-scale impacts from management
- Management done correctly shouldn't negatively impact WQ



Thank You

- NYS DEC for funding from the EPF!
- PSC AWI & Protect
- All the lake associations
- Dana Holmlund, Elly Smith, Anna Hardiman - APIPP

