

# GREAT EAST LAKE

## 2024 SAMPLING HIGHLIGHTS

### Station Deep

Wakefield, NH



Extension

Blue = Oligotrophic

Light Green = Mesotrophic

Dark Green = Eutrophic

Gray = No Data

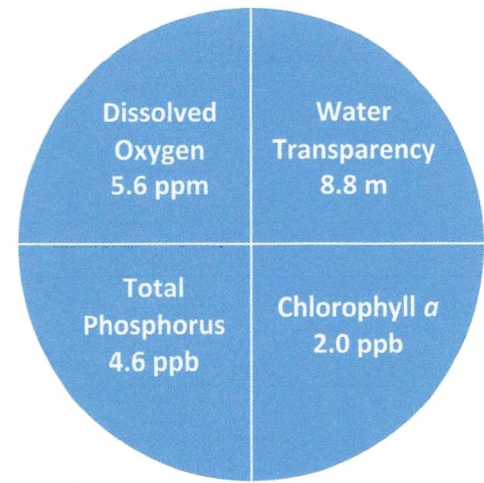


Figure 1. Great East Lake Water Quality (2024)

Water quality data displayed in Tables 1 and 2 are surface water measurements with the exception of the dissolved oxygen data that are collected near the lake bottom. Summary statistics are provided for samples collected between May 3 and September 19, 2024.

Table 1. 2024 Great East Lake Seasonal Averages and NH DES Aquatic Life Nutrient Criteria<sup>1</sup>

Parameter	Oligotrophic "Excellent"	Mesotrophic "Fair"	Eutrophic "Poor"	Great East Lake Average (range)	Great East Lake Classification
Water Clarity (meters)	> 4.0 – 7.0	2.5 - 4.0	< 2.5	8.8 meters (7.4 – 10.8)	Oligotrophic
Chlorophyll <i>a</i> <sup>1</sup> (ppb)	< 3.3	3.3 – 5.0	> 5.0 – 11.0	2.0 ppb (1.5 – 2.3)	Oligotrophic
Total Phosphorus <sup>1</sup> (ppb)	< 8.0	8.0 – 12.0	> 12.0 – 28.0	4.6 ppb (3.5 – 6.5)	Oligotrophic
Dissolved Oxygen (ppm)	> 5.0 – 7.0	2.0 – 5.0	< 2.0	5.6 ppm (3.8 – 7.8) *	Oligotrophic

\* Dissolved oxygen concentrations were measured between 11.5 and 29.0 meters, in the bottom water layer, on September 19, 2024.

Table 2. 2024 Great East Lake Seasonal Average Accessory Water Quality Measurements

Parameter	Assessment Criteria					Great East Lake Average (range)	Great East Lake Classification
	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored		
Color (color units)	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored	11.2 color units (range: 9.0 – 14.5)	Slightly colored
Alkalinity (ppm)	< 0.0 acidified	0.1 – 2.0 extremely vulnerable	2.1 – 10 moderately vulnerable	10.1 – 25.0 low vulnerability	> 25.0 not vulnerable	8.0 ppm (range: 6.9 – 8.7)	Moderately vulnerable
pH (std units)	< 5.5 suboptimal for successful growth and reproduction		6.5 – 9.0 optimal range for fish growth and reproduction			7.2 standard units (range: 7.0 – 7.4)	Optimal range for fish growth and reproduction
Specific Conductivity ( $\mu$ S/cm)	< 50 $\mu$ S/cm Characteristic of minimally impacted NH lakes		50-100 $\mu$ S/cm Lakes with some human influence	> 100 $\mu$ S/cm Characteristic of lakes experiencing human disturbances		73.8 $\mu$ S/cm (range: 72.0 – 75.8)	Characteristic of lakes with some human influence

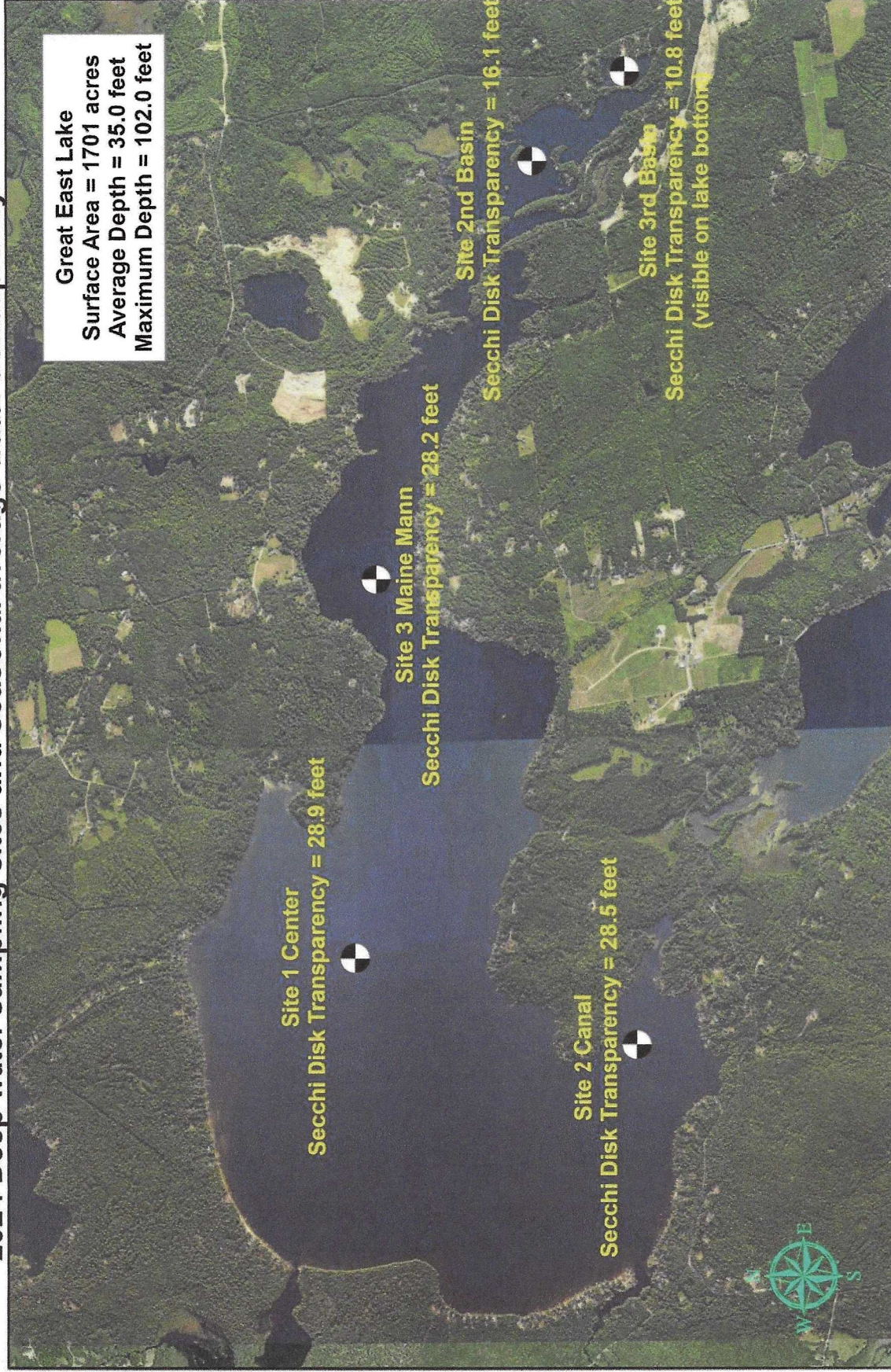
### Strategies to stabilize and improve water quality

Implement Best Management Practices (BMPs) within the Great East Lake watershed to minimize the adverse impacts of polluted runoff and erosion into Great East Lake. Refer to "[Landscaping at the Water's Edge: An Ecological Approach](#)" and "[New Hampshire Homeowner's Guide to Stormwater Management: Do-It-Yourself Stormwater Solutions for Your Home](#)" and the [Acton Wakefield Watershed Alliance webpages](#) for more information on how to reduce nutrient loading caused by overland runoff. NH Lakes also provides a series of resources aimed at educating residents and protecting our lakes and ponds.

# Figure 10. Great East Lake

Acton, ME and Wakefield, NH

2024 Deep water sampling sites and seasonal average water transparency.



# LOVELL LAKE

## 2023 SAMPLING HIGHLIGHTS

### Station Deep

Wakefield, NH



Blue = Oligotrophic

Yellow = Mesotrophic

Red = Eutrophic

Gray = No Data

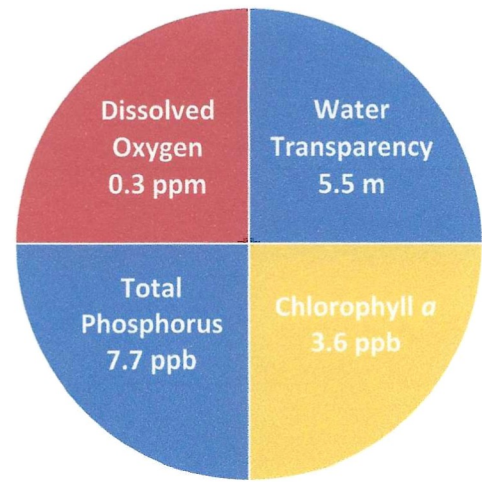


Figure 1. Lovell Lake Water Quality (2023)

Water quality data displayed in Tables 1 and 2 are surface water measurements with the exception of the dissolved oxygen data that are collected near the lake bottom. Summary statistics are provided for bi-weekly samples collected between June 5 and October 2, 2023.

Table 1. 2023 Lovell Lake Seasonal Averages and NH DES Aquatic Life Nutrient Criteria<sup>1</sup>

Parameter	Oligotrophic "Excellent"	Mesotrophic "Fair"	Eutrophic "Poor"	Lovell Lake Average (range)	Lovell Lake Classification
Water Clarity (meters)	> 4.0 – 7.0	2.5 - 4.0	< 2.5	5.5 meters (4.4 – 6.8)	Oligotrophic
Chlorophyll $\alpha$ <sup>1</sup> (ppb)	< 3.3	3.3 – 5.0	> 5.0 – 11.0	3.6 ppb (2.6 – 6.1)	Mesotrophic
Total Phosphorus <sup>1</sup> (ppb)	< 8.0	8.0 – 12.0	> 12.0 – 28.0	7.7 ppb (5.7 – 9.0)	Oligotrophic
Dissolved Oxygen (ppm)	> 5.0 – 7.0	2.0 – 5.0	< 2.0	0.3 ppm (0.0 – 1.3) *	Eutrophic

\* Dissolved oxygen concentrations were measured between 7.5 and 12.0 meters, in the mid and bottom water layers, on August 28, 2023.

Table 2. 2023 Lovell Lake Seasonal Average Accessory Water Quality Measurements

Parameter	Assessment Criteria					Lovell Lake Average (range)	Lovell Lake Classification
	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored		
Color (color units)	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored	13.6 color units (range: 11.5 – 15.5)	Slightly colored
Alkalinity (ppm)	< 0.0 acidified	0.1 – 2.0 extremely vulnerable	2.1 – 10 moderately vulnerable	10.1 – 25.0 low vulnerability	> 25.0 not vulnerable	13.3 ppm (range: 12.9 – 13.9)	Low Vulnerability
pH (std units)	< 5.5 suboptimal for successful growth and reproduction		6.5 – 9.0 optimal range for fish growth and reproduction			7.2 standard units (range: 7.1 – 7.3)	Optimal range for fish growth and reproduction
Specific Conductivity ( $\mu\text{S}/\text{cm}$ )	< 50 $\mu\text{S}/\text{cm}$ Characteristic of minimally impacted NH lakes		50-100 $\mu\text{S}/\text{cm}$ Lakes with some human influence	> 100 $\mu\text{S}/\text{cm}$ Characteristic of lakes experiencing human disturbances		119.0 $\mu\text{S}/\text{cm}$ (range: 109.5 – 125.0)	Characteristic of lakes experiencing human disturbances

### Strategies to stabilize and improve water quality

Implement Best Management Practices (BMPs) within the Lovell Lake watershed to minimize the adverse impacts of polluted runoff and erosion into Lovell Lake. Refer to ["Landscaping at the Water's Edge: An Ecological Approach"](#) and ["New Hampshire Homeowner's Guide to Stormwater Management: Do-It-Yourself Stormwater Solutions for Your Home"](#) and the [Acton Wakefield Watershed Alliance webpages](#) for more information on how to reduce nutrient loading caused by overland runoff. NH Lakes also provides a series of resources aimed at educating residents and protecting our lakes and ponds.

# LOVELL LAKE

## 2024 SAMPLING HIGHLIGHTS

### Station Deep

Wakefield, NH



Blue = Oligotrophic

Light Green = Mesotrophic

Dark Green = Eutrophic

Gray = No Data

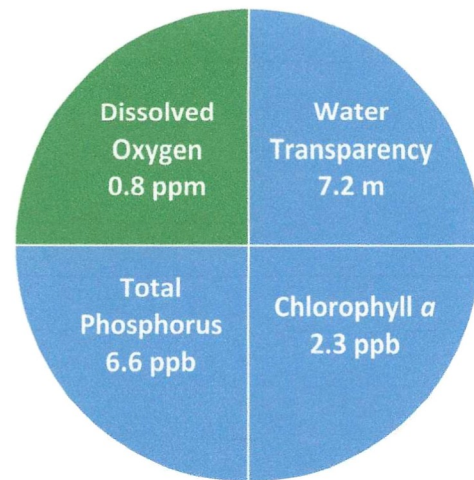


Figure 1. Lovell Lake Water Quality (2024)

Table 1. 2024 Lovell Lake Seasonal Averages and NH DES Aquatic Life Nutrient Criteria<sup>1</sup>

Parameter	Oligotrophic "Excellent"	Mesotrophic "Fair"	Eutrophic "Poor"	Lovell Lake Average (range)	Lovell Lake Classification
Water Clarity (meters)	> 4.0 – 7.0	2.5 - 4.0	< 2.5	7.2 meters (6.4 – 9.3)	Oligotrophic
Chlorophyll $\alpha$ <sup>1</sup> (ppb)	< 3.3	3.3 – 5.0	> 5.0 – 11.0	2.3 ppb (1.4 – 3.2)	Oligotrophic
Total Phosphorus <sup>1</sup> (ppb)	< 8.0	8.0 – 12.0	> 12.0 – 28.0	6.6 ppb (3.9 – 10.0)	Oligotrophic
Dissolved Oxygen (ppm)	> 5.0 – 7.0	2.0 – 5.0	< 2.0	0.8 ppm (0.0 – 2.2) *	Eutrophic

\* Dissolved oxygen concentrations were measured between 7.5 and 12.0 meters, in the mid and bottom water layers, on August 22, 2024.

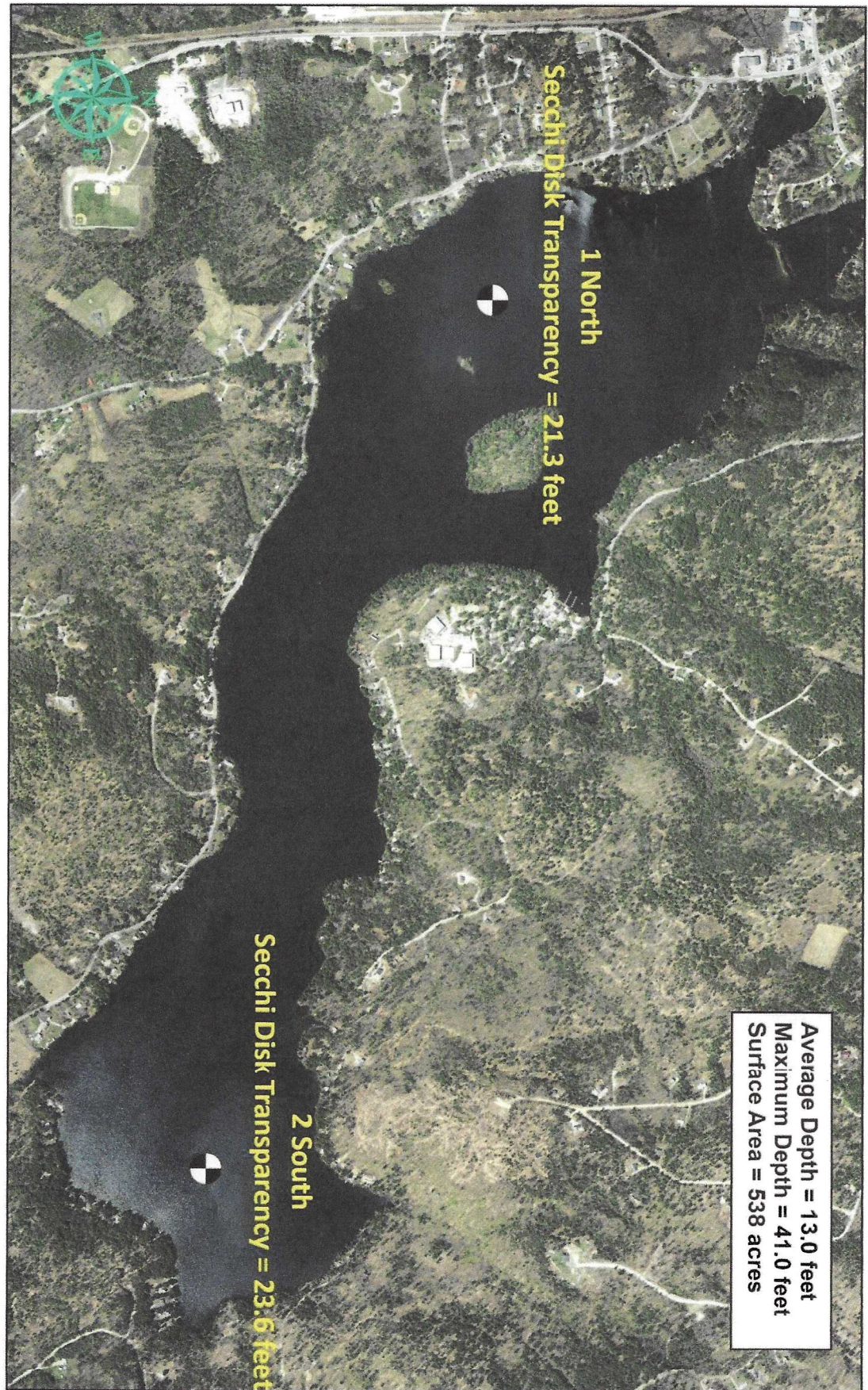
Table 2. 2024 Lovell Lake Seasonal Average Accessory Water Quality Measurements

Parameter	Assessment Criteria					Lovell Lake Average (range)	Lovell Lake Classification
	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored		
Color (color units)	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored	10.7 color units (range: 8.3 – 16.3)	Slightly colored
Alkalinity (ppm)	< 0.0 acidified	0.1 – 2.0 extremely vulnerable	2.1 – 10 moderately vulnerable	10.1 – 25.0 low vulnerability	> 25.0 not vulnerable	12.1 ppm (range: 3.9 – 14)	Low vulnerability
pH (std units)	< 5.5 suboptimal for successful growth and reproduction		6.5 – 9.0 optimal range for fish growth and reproduction			7.2 standard units (range: 6.8 – 7.5)	Optimal range for fish growth and reproduction
Specific Conductivity ( $\mu\text{S}/\text{cm}$ )	< 50 $\mu\text{S}/\text{cm}$ Characteristic of minimally impacted NH lakes		50-100 $\mu\text{S}/\text{cm}$ Lakes with some human influence	> 100 $\mu\text{S}/\text{cm}$ Characteristic of lakes experiencing human disturbances		107.1 $\mu\text{S}/\text{cm}$ (range: 104.6 – 111.1)	Characteristic of lakes experiencing human disturbances

### Strategies to stabilize and improve water quality

Implement Best Management Practices (BMPs) within the Lovell Lake watershed to minimize the adverse impacts of polluted runoff and erosion into Lovell Lake. Refer to ["Landscaping at the Water's Edge: An Ecological Approach"](#) and ["New Hampshire Homeowner's Guide to Stormwater Management: Do-It-Yourself Stormwater Solutions for Your Home"](#) and the [Acton Wakefield Watershed Alliance webpages](#) for more information on how to reduce nutrient loading caused by overland runoff. NH Lakes also provides a series of resources aimed at educating residents and protecting our lakes and ponds.

**Figure 10. Lovell Lake**  
Sanbornville, NH  
2024 deep water sampling site locations that display the seasonal average water clarity



Aerial Orthophoto Source: NH GRANIT  
Site location GPS coordinates collected by the UNH Center for Freshwater Biology



# PINE RIVER POND

## 2023 SAMPLING HIGHLIGHTS

### Station Deep

Wakefield, NH



Blue = Oligotrophic

Yellow = Mesotrophic

Red = Eutrophic

Gray = No Data

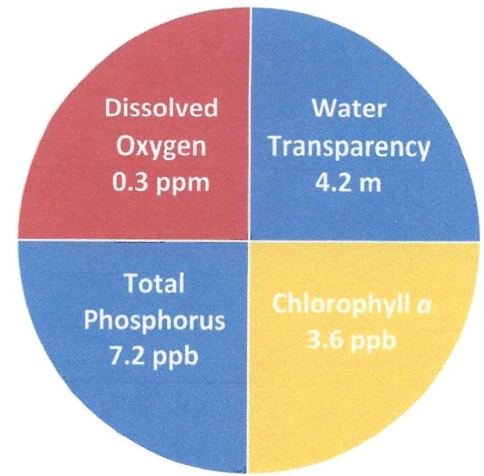


Figure 1. Pine River Pond Water Quality (2023)

Table 1. 2023 Pine River Pond Seasonal Averages and NH DES Aquatic Life Nutrient Criteria<sup>1</sup>

Parameter	Oligotrophic "Excellent"	Mesotrophic "Fair"	Eutrophic "Poor"	Pine River Pond Average (range)	Pine River Pond Classification
Water Clarity (meters)	> 4.0 – 7.0	2.5 - 4.0	< 2.5	4.2 meters (3.5 – 4.8)	Oligotrophic
Chlorophyll a <sup>1</sup> (ppb)	< 3.3	3.3 – 5.0	> 5.0 – 11.0	3.6 ppb (2.6 – 4.9)	Mesotrophic
Total Phosphorus <sup>1</sup> (ppb)	< 8.0	8.0 – 12.0	> 12.0 – 28.0	7.2 ppb (6.8 – 8.1)	Oligotrophic
Dissolved Oxygen (ppm)	> 5.0 – 7.0	2.0 – 5.0	< 2.0	0.3 ppm (0.0 – 1.4) *	Eutrophic

\* Dissolved oxygen concentrations were measured between 10.0 and 15.5 meters, in the bottom water layer, on September 6, 2023.

Table 2. 2023 Pine River Pond Seasonal Average Accessory Water Quality Measurements

Parameter	Assessment Criteria					Pine River Pond Average (range)	Pine River Pond Classification
	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored		
Color (color units)	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored	28.5 color units (range: 19.7 – 42.5)	Lightly tea colored
Alkalinity (ppm)	< 0.0 acidified	0.1 – 2.0 extremely vulnerable	2.1 – 10 moderately vulnerable	10.1 – 25.0 low vulnerability	> 25.0 not vulnerable	6.3 ppm (range: 5.9 – 6.8)	Moderately vulnerable
pH (std units)	< 5.5 suboptimal for successful growth and reproduction		6.5 – 9.0 optimal range for fish growth and reproduction			6.8 standard units (range: 6.7 – 6.9)	Optimal range for fish growth and reproduction
Specific Conductivity (uS/cm)	< 50 uS/cm Characteristic of minimally impacted NH lakes		50-100 uS/cm Lakes with some human influence	> 100 uS/cm Characteristic of lakes experiencing human disturbances		51.1 uS/cm (range: 44.6 – 59.7)	Characteristic of lakes with some human influence

### Strategies to stabilize and improve water quality

Implement Best Management Practices (BMPs) within the Pine River Pond watershed to minimize the adverse impacts of polluted runoff and erosion into Pine River Pond. Refer to ["Landscaping at the Water's Edge: An Ecological Approach"](#) and ["New Hampshire Homeowner's Guide to Stormwater Management: Do-It-Yourself Stormwater Solutions for Your Home"](#) and the [Acton Wakefield Watershed Alliance webpages](#) for more information on how to reduce nutrient loading caused by overland runoff. NH Lakes also provides a series of resources aimed at educating residents and protecting our lakes and ponds.

# PINE RIVER POND

## 2024 SAMPLING HIGHLIGHTS

### Station Deep

Wakefield, NH



Extension

Blue = Oligotrophic

Light Green = Mesotrophic

Dark Green = Eutrophic

Gray = No Data

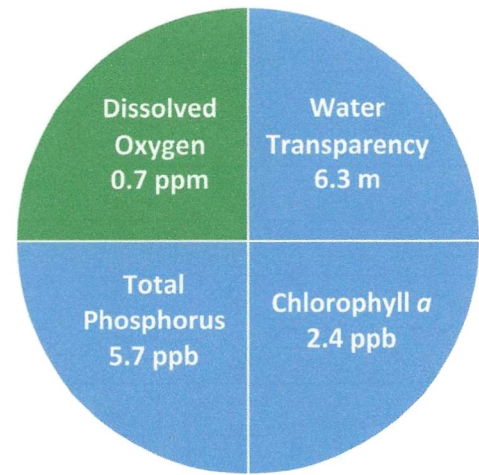


Figure 1. Pine River Pond Water Quality (2024)

Water quality data displayed in Tables 1 and 2 are surface water measurements with the exception of the dissolved oxygen data that are collected near the lake bottom. Summary statistics are provided for samples collected between June 3 and September 4, 2024.

Table 1. 2024 Pine River Pond Seasonal Averages and NH DES Aquatic Life Nutrient Criteria<sup>1</sup>

Parameter	Oligotrophic "Excellent"	Mesotrophic "Fair"	Eutrophic "Poor"	Pine River Pond Average (range)	Pine River Pond Classification
Water Clarity (meters)	> 4.0 – 7.0	2.5 - 4.0	< 2.5	6.3 meters (5.0 – 7.2)	Oligotrophic
Chlorophyll a <sup>1</sup> (ppb)	< 3.3	3.3 – 5.0	> 5.0 – 11.0	2.4 ppb (1.9 – 2.7)	Oligotrophic
Total Phosphorus <sup>1</sup> (ppb)	< 8.0	8.0 – 12.0	> 12.0 – 28.0	5.7 ppb (5.2 – 6.7)	Oligotrophic
Dissolved Oxygen (ppm)	> 5.0 – 7.0	2.0 – 5.0	< 2.0	0.7 ppm (0.0 – 2.9) *	Eutrophic

\* Dissolved oxygen concentrations were measured between 9.5 and 15.5 meters, in the bottom water layer, on September 4, 2024.

Table 2. 2024 Pine River Pond Seasonal Average Accessory Water Quality Measurements

Parameter	Assessment Criteria					Pine River Pond Average (range)	Pine River Pond Classification
Color (color units)	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored	14.6 color units (range: 10.8 – 22.9)	Slightly colored
Alkalinity (ppm)	< 0.0 acidified	0.1 – 2.0 extremely vulnerable	2.1 – 10 moderately vulnerable	10.1 – 25.0 low vulnerability	> 25.0 not vulnerable	7.0 ppm (range: 6.6 – 7.4)	Moderately vulnerable
pH (std units)	< 5.5 suboptimal for successful growth and reproduction		6.5 – 9.0 optimal range for fish growth and reproduction			7.1 standard units (range: 6.9 – 7.7)	Optimal range for fish growth and reproduction
Specific Conductivity (uS/cm)	< 50 uS/cm Characteristic of minimally impacted NH lakes		50-100 uS/cm Lakes with some human influence	> 100 uS/cm Characteristic of lakes experiencing human disturbances		49.5 uS/cm (range: 47.7 – 51.1)	Characteristic of minimally impacted NH lakes

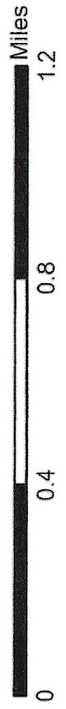
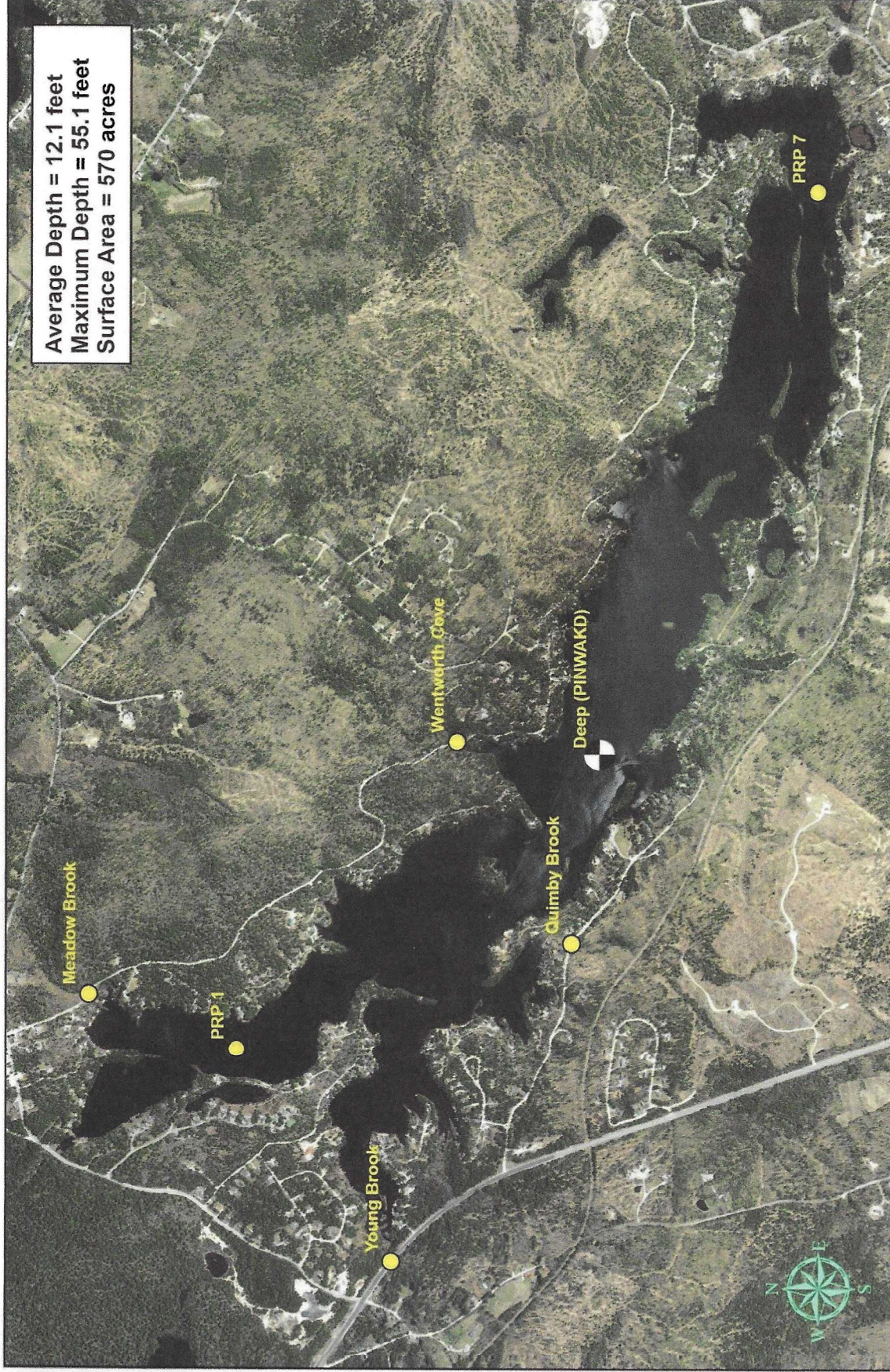
### Strategies to stabilize and improve water quality

Implement Best Management Practices (BMPs) within the Pine River Pond watershed to minimize the adverse impacts of polluted runoff and erosion into Pine River Pond. Refer to "[Landscaping at the Water's Edge: An Ecological Approach](#)" and "[New Hampshire Homeowner's Guide to Stormwater Management: Do-It-Yourself Stormwater Solutions for Your Home](#)" and the [Acton Wakefield Watershed Alliance webpages](#) for more information on how to reduce nutrient loading caused by overland runoff. NH Lakes also provides a series of resources aimed at educating residents and protecting our lakes and ponds.

# Figure 12. Pine River Pond

Wakefield, NH

2024 deep water and tributary sampling stations



Aerial Orthophoto Source: NH GRANIT  
Site location GPS coordinates collected by the UNH Center for Freshwater Biology



Extension



# DEPOT POND

## 2023 SAMPLING HIGHLIGHTS

### Station 2 Milton

Milton, NH



Blue = Oligotrophic

Yellow = Mesotrophic

Red = Eutrophic

Gray = No Data

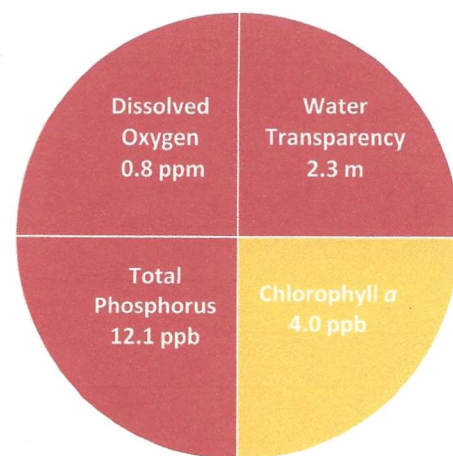


Figure 1. Depot Pond Water Quality (2023)

Table 1. 2023 Depot Pond Seasonal Averages and NH DES Aquatic Life Nutrient Criteria<sup>1</sup>

Parameter	Oligotrophic "Excellent"	Mesotrophic "Fair"	Eutrophic "Poor"	Depot Pond Average (range)	Depot Pond Classification
Water Clarity (meters)	> 4.0 – 7.0	2.5 - 4.0	< 2.5	2.3 meters (1.9 – 2.9)	Eutrophic
Chlorophyll $a$ <sup>1</sup> (ppb)	< 3.3	3.3 – 5.0	> 5.0 – 11.0	4.0 ppb (2.7 – 5.0)	Mesotrophic
Total Phosphorus <sup>1</sup> (ppb)	< 8.0	8.0 – 12.0	> 12.0 – 28.0	12.1 ppb (9.8 – 14.9)	Eutrophic
Dissolved Oxygen (ppm)	> 5.0 – 7.0	2.0 – 5.0	< 2.0	0.8 ppm (0.7 – 1.1) *	Eutrophic

\* Dissolved oxygen concentrations were measured between 8.0 and 11.0 meters, in the deep bottom water layer, on September 29, 2023.

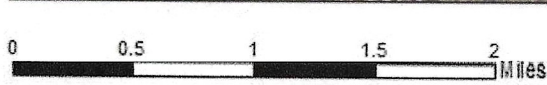
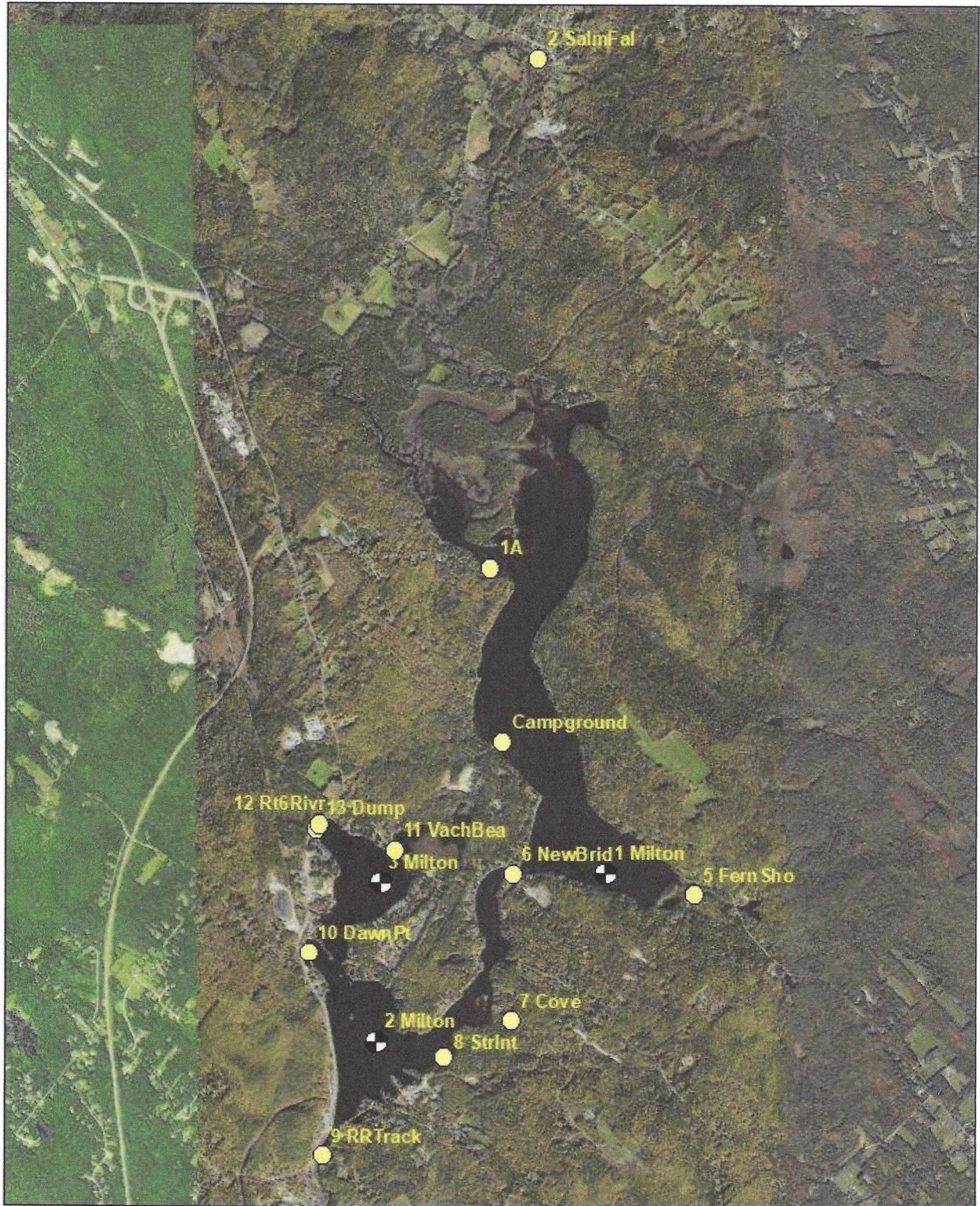
Table 2. 2023 Depot Pond Seasonal Average Accessory Water Quality Measurements

Parameter	Assessment Criteria					Depot Pond Average (range)	Depot Pond Classification
	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored		
Color (color units)	< 10 uncolored	10 – 20 slightly colored	20 – 40 lightly tea colored	40 – 80 tea colored	> 80 highly colored	62.4 color units (range: 43.6 – 87.5)	Tea colored
Alkalinity (ppm)	< 0.0 acidified	0.1 – 2.0 extremely vulnerable	2.1 – 10 moderately vulnerable	10.1 – 25.0 low vulnerability	> 25.0 not vulnerable	10.0 ppm (single value)	Moderately vulnerable
pH (std units)	< 5.5 suboptimal for successful growth and reproduction		6.5 – 9.0 optimal range for fish growth and reproduction			7.1 standard units (single value)	Optimal range for fish growth and reproduction
Specific Conductivity ( $\mu$ S/cm)	< 50 $\mu$ S/cm Characteristic of minimally impacted NH lakes		50-100 $\mu$ S/cm Lakes with some human influence	> 100 $\mu$ S/cm Characteristic of lakes experiencing human disturbances		84.2 $\mu$ S/cm (single value)	Characteristic of lakes with some human influence

### Strategies to stabilize and improve water quality

Implement Best Management Practices (BMPs) within the Depot Pond watershed to minimize the adverse impacts of polluted runoff and erosion into Depot Pond. Refer to [Landscaping at the Water's Edge: An Ecological Approach](#) and the [New Hampshire Homeowner's Guide to Stormwater Management: Do-it-Yourself Stormwater Solutions for Your Home](#) for information on how to reduce nutrient loading caused by overland runoff. NH Lakes also provides a series of resources aimed at educating residents and protecting our lakes and ponds through the [LakeSmart](#) program.

**Figure 11. Milton Three Ponds**  
Lebanon, ME and Milton, NH  
2023 deep, near-shore and tributary sampling locations



Aerial Orthophoto Source: NH Grant  
Site location GPS coordinates collected by the UNH Center for Freshwater Biology