FINAL

May 2023

Hyde Lake, NY

Hyde Lake Management Plan

PREPARED FOR:

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Abbreviations

AIS = aquatic invasive species

BMP = best management practices

Chl-a = chlorophyll-a

CSLAP = Citizens Statewide Lake Assessment Program

$CuSO_4$ = copper sulfate

CWSRF = Clean Water State Revolving Fund

CyanoHABs = cyanobacterial harmful algal blooms

DO = dissolved oxygen

DOS = Department of State

EPA = Environmental Protection Agency

GI = green infrastructure

GIS =geospatial information systems

HAB = harmful algal bloom

LID = low impact development

N = nitrogen

NLCD = National Land Cover Database

NO_X = total oxidized nitrogen

NYSEFC = New York State Environmental Facilities Corp

NYSDAM = New York State Department of Agriculture and Markets

NYSDEC = New York State Department of Environmental Conservation

NYSDOH = New York State Department of Environmental Health

NYSFOLA = New York State Federation of Lake Associations

P = phosphorus

PAHL = Preservation Alliance of Hyde Lake

SEQR = State Environmental Quality Review

SLELO PRISM = St. Lawrence Eastern Lake Ontario Partnership for Regional Invasive Species Management

SPDES = State Pollution Discharge Elimination System

SRP = soluble reactive phosphorus

TDP = total dissolved phosphorus

TMDL = total maximum daily load

T-NH_3 = total ammonia

TP = total phosphorus

UFI = Upstate Freshwater Institute

1. Executive Summary

Hyde Lake is a small, shallow waterbody located in the Town of Theresa in Jefferson County, New York. It is a natural lake within the Eastern Lake Ontario Basin, and a part of the Perch River Watershed. Due to ongoing issues with Harmful Algal Blooms (HABs) and nuisance macrophyte growth through the duration of the summer, the Preservation Alliance of Hyde Lake (PAHL) has enlisted partners to develop a management plan in an effort to mitigate these conditions. Additionally, Hyde Lake is listed on the New York 2018 303(d) list of Impaired Waters Requiring a Total Maximum Daily Load (TMDL) for dissolved oxygen concentrations as a result of natural conditions which result in occasional oxygen loss from the deeper portions of the lake. For the 2022 draft 303(d) list, Hyde Lake is now listed for both low dissolved oxygen and for elevated total phosphorus concentrations.

A large number of waterbodies throughout New York State are on the 303(d) list for a variety of reasons and the amount of time to address the causal mechanisms for every listing is often beyond the capacity of public regulatory agencies such as the New York State Department of Environmental Conservation (NYSDEC). As a publicly accessible waterbody, Hyde Lake is subject to oversight and assistance from the NYSDEC, and actions taken to improve lake water quality must be based on quantitative data collected and analyzed by accredited institutions. Therefore, community members who utilize Hyde Lake, have laid the groundwork for investigations into lake management concerns including those noted by the 303(d) list. Volunteers from the lake association representing Hyde Lake have intermittently collected data as part of the NYSDEC administered Citizen Statewide Lake Assessment Program (CSLAP), and PAHL members have recently re-enrolled to continue monitoring important aspects of lake water quality. Additionally, sampling to examine the amount and extent of dissolved oxygen loss have been completed thanks to the acquisition of a Yellow Springs Instruments (YSI) ProSolo digital water quality meter. Access to historical information, observations of water quality and lake management issues that span decades, and regular presence on the lake makes lake residents ideal stewards of the waterbody. This plan was commissioned by members of the PAHL to compile the available information from historical water quality sampling, publicly available records, and provide context into the myriad of factors that impact Hyde Lake water quality and its best use.

Following the data analyses presented in this document, an adaptive management approach is recommended. The PAHL is currently very active and is continuing to gather information and data from a variety of sources; as new information become available, proposed actions taken to reach management goals may change in light of new information. The best effective management practices will be those that incorporate the most recent relevant information in a timely and cost effective manner to attain desirable outcomes. Therefore, this plan can be considered a "living

document" that should be updated periodically to not only incorporate new data, but also to address novel management concerns as they arise.

This 2023 Hyde Lake Management Plan reviews the history of the watershed, trends in water quality and macrophyte conditions, and sources of nutrients based on current data. Recommended actions are provided based on analysis of current conditions and concerns of lake residents. High priority actions include:

(1) continued water quality monitoring, to evaluate lake conditions and with additional monitoring specifically aimed at determining sources of phosphorus,

(2) continued efforts to reduce internal and external phosphorus loading,

(3) establishing a monitoring, education, and outreach program to assess and monitor the status of invasive species with the lake, and

(4) continued educational strategies to stakeholders involved in preservation efforts for Hyde Lake to foster a community interest in preserving lake water quality.

Additional suggestions for action are provided in this plan, and organized by a hierarchy of "high", "moderate", and "low" priority, however, advancing any goal should be priority given the opportunity. Priority "low" actions should not be ignored simply because there are "high" priority actions that have not been completed. This is a critical facet of adaptive management.

2 Objectives and Scope

Throughout the summer of 2022, as in prior years, Hyde Lake experienced noxious cyanobacterial harmful algal blooms (CyanoHABs) that limited the recreational usage and aesthetic enjoyment of the lake. This condition has reportedly become the norm in Hyde Lake, prompting the development of this plan to characterize these blooms and provide guidance for the effective management of CyanoHABs and aquatic plants to enable continued recreational enjoyment of the waterbody.

Elevated nutrient and sediment inflows affect habitat quality and can alter the distribution and species composition of native aquatic animals and plants. Phosphorus is the primary nutrient limiting primary production (growth of photosynthetic organisms, including aquatic plants, algae, and cyanobacteria) in New York State lakes. Therefore, this plan focuses on sources and possible strategies for limiting the amount of phosphorus entering the water column of Hyde Lake. This management plan will build upon previous efforts to enhance Hyde Lake water quality. In 1999 the Center for Earth and Environmental Science at SUNY Plattsburgh created a Management Plan for Hyde Lake (Lamb 1999). Since 1999, Hyde Lake has intermittently taken part in the Citizen Statewide Lake Assessment Program (CSLAP), providing a valuable record of water quality over the past two decades. One of the priorities of this report is to analyze these data for important trends and to identify critical data gaps which will aid PAHL in the management of Hyde Lake.

The NYSDEC 303(d) impaired waterbody is comprised of lakes, rivers, streams, and estuaries throughout New York that exhibit water quality and/or habitat conditions that do not support their designated uses. In 2007, 2018, and 2022 Hyde Lake was listed for low oxygen concentrations. Hyde Lake's designated uses for aquatic life and recreation were also deemed "impaired" by excessive phosphorus in 2022. All listings are cited as requiring verification of the cause or source of the given pollutant. Creation of a TMDL plan is deferred until further verification of the source causing the change in water quality. A TMDL is the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. Once the source is identified, lakes on the 303(d) list qualify for TMDL development. This management plan aims to provide insights into the causal mechanisms of the 303(d) impairments for dissolved oxygen and phosphorus and identify potential remedies.

The 2023 Hyde Lake Watershed Management Plan focuses on the following topics:

- Analysis of watershed history, land use and development
- Water quality status and trends
- Biological community status and trends
- Major sources of phosphorus

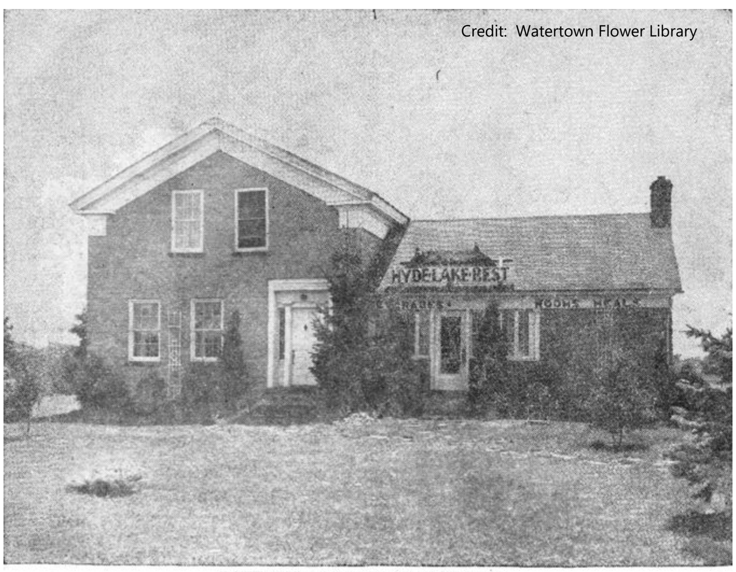
- Watershed and in-lake based recommendations to enhance the lakes desired uses
- Recommendations for long-term monitoring to track water quality

3 Cultural and Environmental Setting

3.1 Hyde Lake and Watershed[1]

Given the abundance and diversity of local water resources, including the St. Lawrence River, Lake Ontario, the Indian River, and the Indian River chain of lakes, it's no surprise that the town of Theresa became a focal point of settlement in the region. The first recorded use of the land dates back as far as 841 B.C. when a group of indigenous peoples called the Meadowood Phase used this area for hunting and gathering. Later, it would be used by the Iroquois for hunting and fishing until European settlement in the early 1800s.

Europeans utilized the many streams within the region, especially the Indian River, for the transport of goods and trade. In 1800, 220,000 acres of land were purchased by David Nelson LeRay which was divided and used to help stimulate further settlement. This included the construction of a gristmill and the introduction of cattle to graze the land.



Credit: Watertown Flower Library

DAVID FOSTER HOUSE AT HYDE LAKE

In 1816, the U.S. military constructed a road, known today as Route 37, which connected the surrounding areas and provided families with easy access to the region. With easy access and the established mills, the area continued to grow as more families purchased land parcels. By the 1820s, merchants and tradespeople of all kinds had established themselves, spurring the development of a school, church, and even an official mail route.

The area was officially declared the town of Theresa, named after the original land owner's daughter, Theresa LeRay, and separated from the neighboring Town of Alexandria in 1841. As the surrounding areas simultaneously developed, Theresa became easily accessible by road or rail. The first house constructed on Hyde Lake was built by David Foster in 1947. The Foster house was constructed along the ledge of Hyde Lake and the surrounding land was cleared for farming.

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[1] Historical information presented within this section were compiled from various sources listed at http://jefferson.nygenweb.net/theresa.htm

Continuing into the early 1900s, settlement and farming grew in the town, with milk and cheese being the main products of production. The recreation potential of the area was slowly being discovered, drawing in a new wave of people who used the land to partake in various aquatic recreation activities including fishing, swimming, and boating. By the 1920s there were two cottages constructed along the northern end of Hyde Lake, followed by an additional three during the 1930s. One of the cottage owners, Arthur Eddy, took advantage of the increased recreation interest and utilized his location to rent out boats to fishermen.

As time continued, so did the development of the land surrounding Hyde Lake. In the 1960s Clark's Campground was established at the northern end of the lake, followed by Wilson's Campground on the lower east side. Starting in the late 20th century, utilization of the lake shoreline for buildings, primarily new construction of year round homes and some summer camps or cottages, was noted by members of the lake community. In the 1970s dairy and beef farming decreased to only two farms, and part of the Hyde Lake watershed was included in the Perch River Wildlife Management Area.

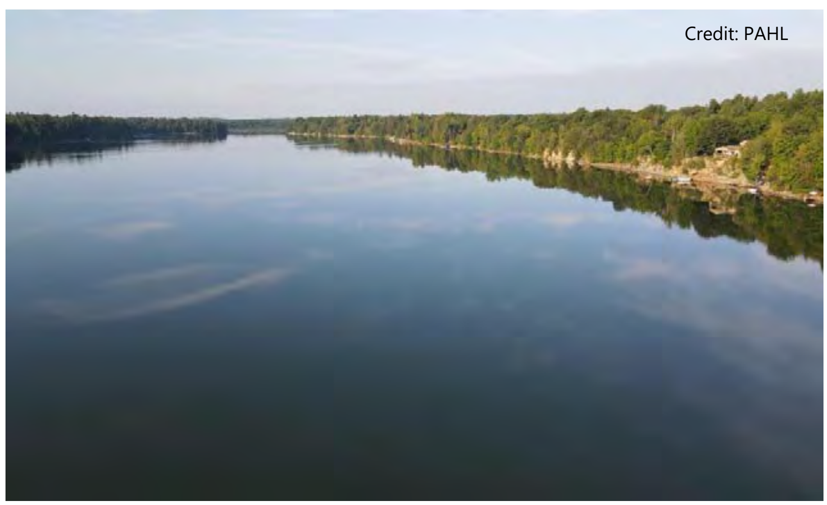
In the 1980s the NYSDEC began the stocking of Tiger Muskellunge; the public NYSDEC fishing access was opened at the northern end of the lake with a 10 hp motor limit. Public access to the lake resulted in some lake user conflicts during the first years after the construction of the fishing access.

The Save Hyde Lake Association, Inc. was formed in 1981 to restore the lake's water level. The water level of Hyde Lake has been maintained by both natural and man-made barriers to water flow from the outlet throughout the lakes history. The beaver (*Castor canadensis*), a well-known ecological engineer, has played a critical role in the lakes history by damming the outlet in various places and holding back more water than would typically be retained within the basin. Occasionally, mainly due to direct human interference, these beaver dams have broken and caused a rapid loss of large amounts of water from Hyde Lake. Residents of the area recall approximately 10 incidences of dam breaches resulting in significant drawdown of Hyde Lake's water level (J. Brunet, personal communication). In an attempt to maintain consistent lake levels, residents constructed sand bag dams at the outlet of Hyde Lake from 1970-1999 following beaver dam failures.

Newspaper clipping showing the result of a beaver dam breach

During the 1970's the wetland area south of Hyde Lake had been transformed for muck farming, which involved straightening and dredging of Hyde Creek and installation of drain tiles. At the turn of the 21st century farming activity had ceased and in February 2005, a stream restoration project was undertaken with funding from the US Fish and Wildlife Service through the Partners for Wildlife Program and money raised by the Save Hyde Lake Association. The goal of the project was to return Hyde Creek and the surrounding wetland located on the north side of Hyde Lake Road to the condition found prior to farming activity in the area. As part of the stream restoration a weir was installed on Hyde Creek, which beavers promptly utilized for building their own dam upon, prompting the installation of a Clemson style beaver leveler to allow water flow through the beaver dam. This weir now functions as water level control for Hyde Lake and provides much more stable water level control than was historically present. In 2006, the former 140 acre muck farm to the south of Hyde Lake Rd was enrolled in a conservation land easement between the private landowner and the USDA NRCS Wetland Restoration Program (J. Brunet, personal communication).

Today, there is only one remaining active campground, along with one active dairy/beef farm approximately 50 acres in size that contains approximately 12 cows (J. Brunet, personal communication). From 1970-2022, as per the Town of Theresa Tax Roll, an additional 14 shoreline residential year round homes, 9 shoreline summer cottages, and 38 non-shoreline year round homes have been constructed within the Hyde Lake Watershed, almost all of which use septic systems (J. Brunet, personal communication). Recommended improvements to wastewater collection and treatment are discussed in **Section 8.2.1**.



Current day photo of Hyde Lake (2022)

Hyde Lake itself (NYS water index #: Ont18-P390-1-P394) is a relatively small, eutrophic, glacially-formed perennial waterbody with a surface area of 179 acres, located in Theresa, north of Watertown in Jefferson County, New York at the top of the Perch River Watershed (Hydrologic Unit Code-8 04150102) (**FIGURE 3-1**). Water flows through the lake to Hyde Creek, an outlet channel at the southern end, and eventually to the Perch River Wildlife Management Area (**Appendix D**).

The lake is bathtub shaped with a relatively flat bottom, an average depth of about 3.5 meters (11.5 ft.), and a maximum depth of approximately 6 meters (20 ft.) **(Figure 3-2)**. Being such a flat shallow lake, thermal stratification is weak and occurs intermittently throughout the summer (**Figure 4-2**). Lakes with this type of thermal stratification regime are known as “polymictic” and can be susceptible to internal loading of phosphorus from the sediments to the water column as a result of dissolved oxygen depletion at the sediment water interface followed by a mixing event.

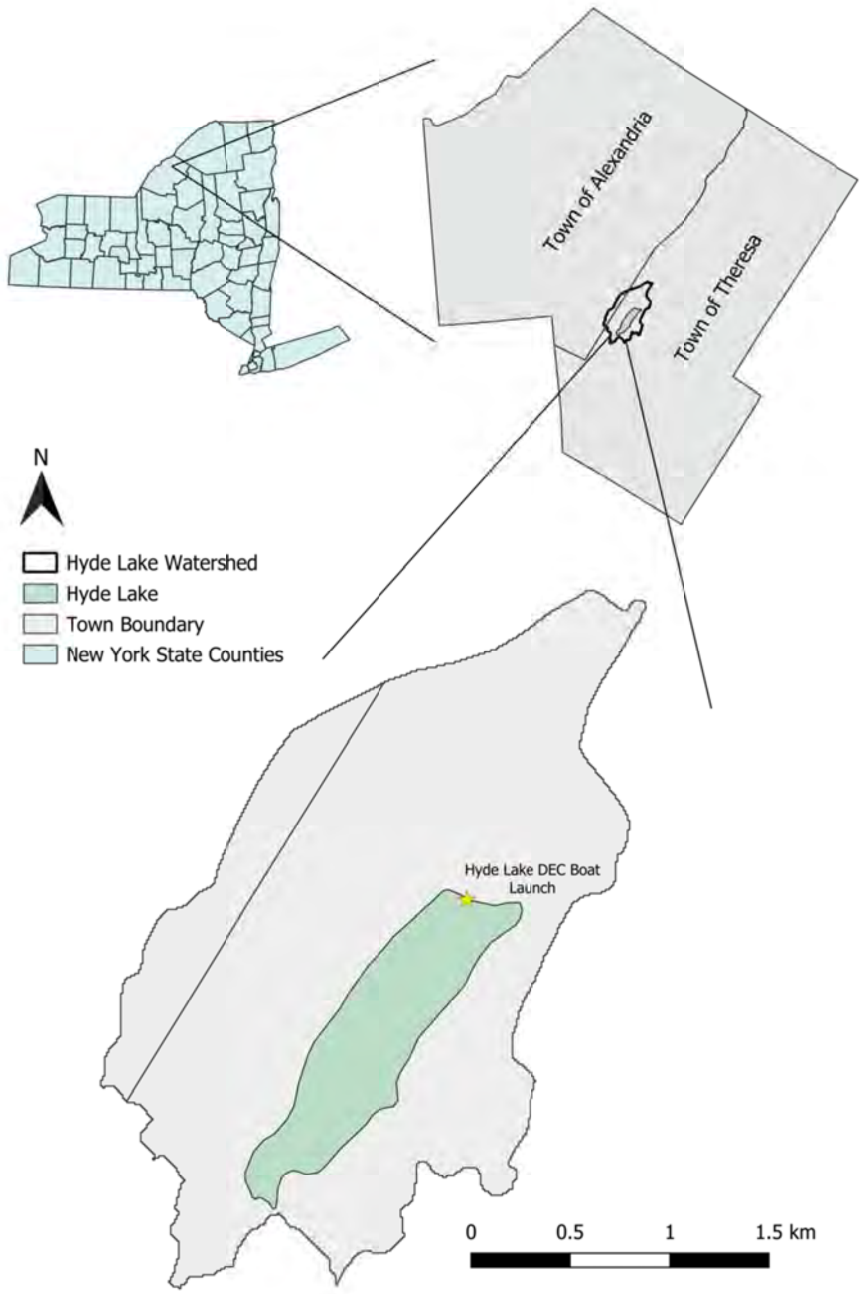


Figure 3-1: Hyde Lake (NYS water index #: Ont18-P390-1-P394), the Hyde Lake watershed, and location within New York State. Note 1 km ~ 1.6 mi.

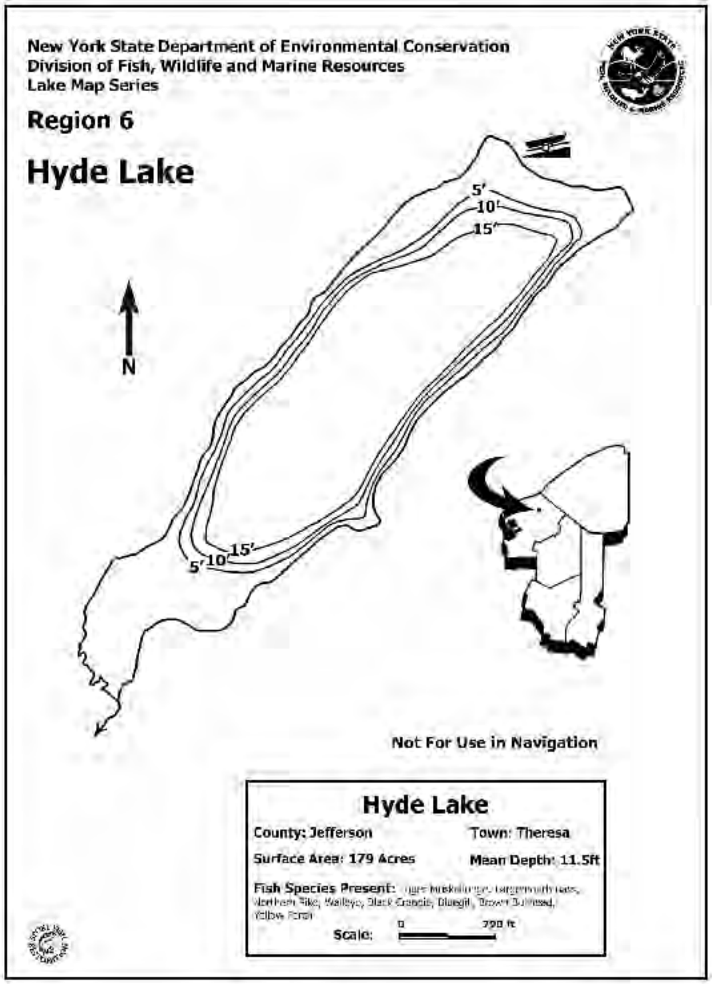


Figure 3-2: Crude bathymetric map of Hyde Lake showing the notable bathtub-like bathymetry. Lake max depth is approximately 23 feet.

3.2 Land Use and Development Patterns

Land cover characteristics significantly impact water quality management practices due to their influences on the delivery of water, nutrients, and sediment from the watershed to the lake. A lake with largely forested watershed will generally have lower levels of nutrient loading compared to a lake dominated by intensive agricultural and/or developed land cover types. Hyde Lake is located a relatively rural portion of New York State where agriculture plays an important role in the local economy. The watershed reflects this, containing a large amount of forested land and wetlands, with only a moderate amount of agricultural land primarily used for hay fields **(Figure 3-3)**. A number of these fields have been reported by members of PAHL to lie fallow in recent years. Of additional importance with regard to watershed impacts on the lake, the watershed area to lake

An ephemeral drainage entering Hyde Lake.

area ratio is quite small (~ 7:1), which suggests lesser importance of non-point impacts on the waterbody than lakes with larger watersheds. There is also only one major tributary that flows into Hyde Lake, entering on the south west side near the outlet of the lake **Figure (3-4)**. This limits the impact of the watershed on the lake primarily to periods of runoff when ephemeral (temporary and lasting a short time) inflows occur. Five ephemeral tributaries have been observed during periods of runoff by members of PAHL.

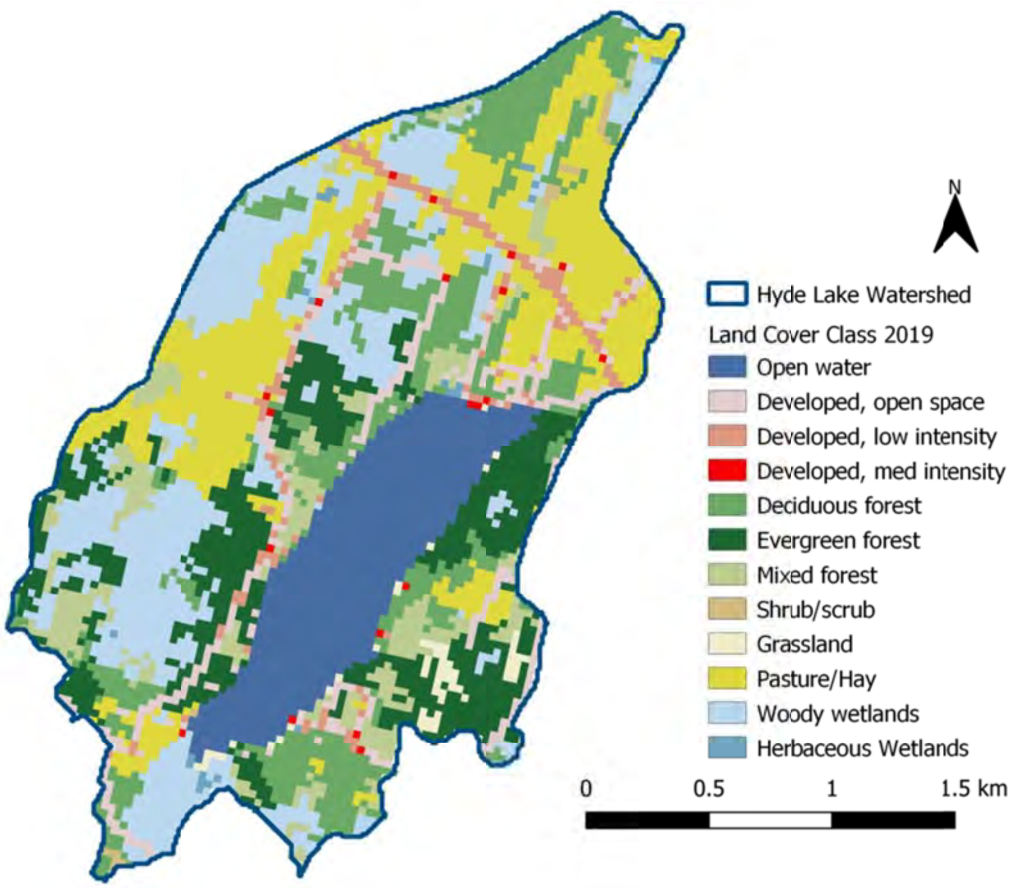


Figure 3-3: Land cover of the Hyde Lake watershed according to the National Land Cover Database 2019 (Homer et al. 2020). This dataset is useful for assessing watershed-wide trends in land cover.

A steep cliff on the eastern shore of Hyde Lake looking north.

The topography of the Hyde Lake watershed is relatively flat, but with steep slopes along the water's edge, especially on the east side of the lake **(Figure 3-4)**. Due to the topography, most of the houses and cabins are located along the western shore of the lake (**Figure 3-5**). There are 128 registered addresses located within the Hyde Lake watershed, many being seasonal cabins only in use during the summer months. Most of the roads in the watershed are side streets, with the exception of State Route 26 which runs across the northern portion of the watershed, northwest to southeast.

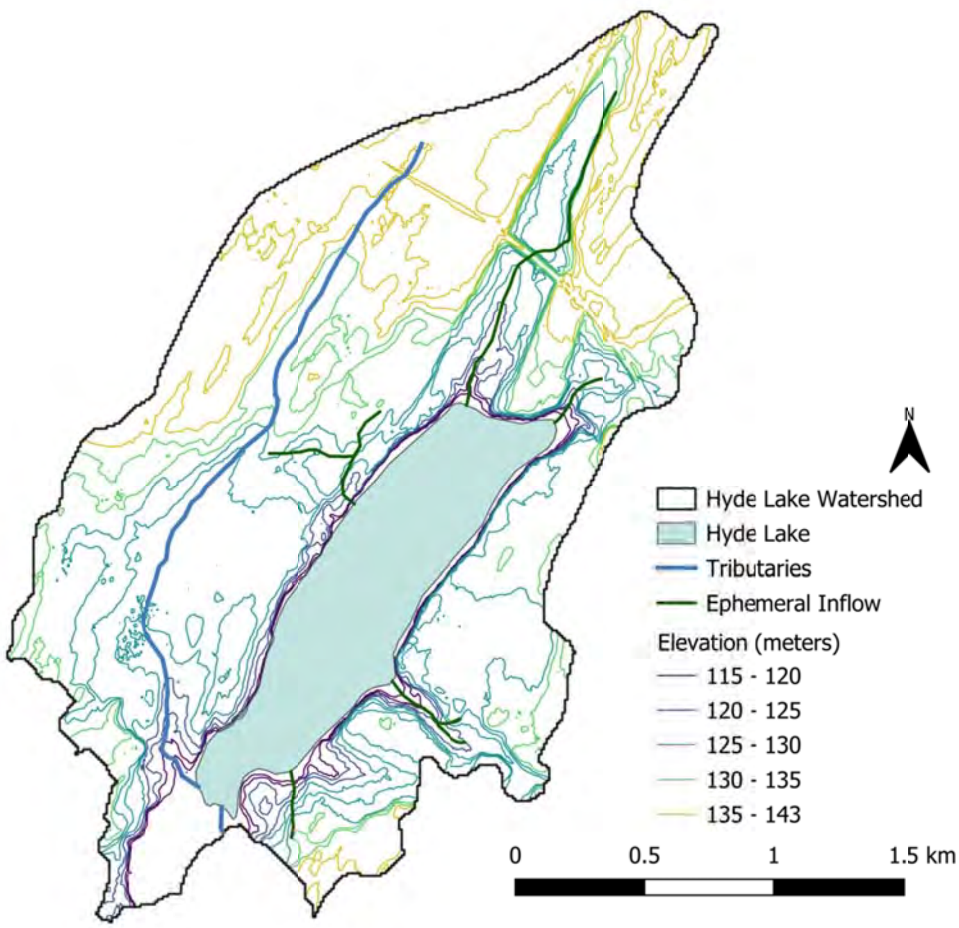


Figure 3-4: Elevation (meters) within the Hyde Lake watershed.

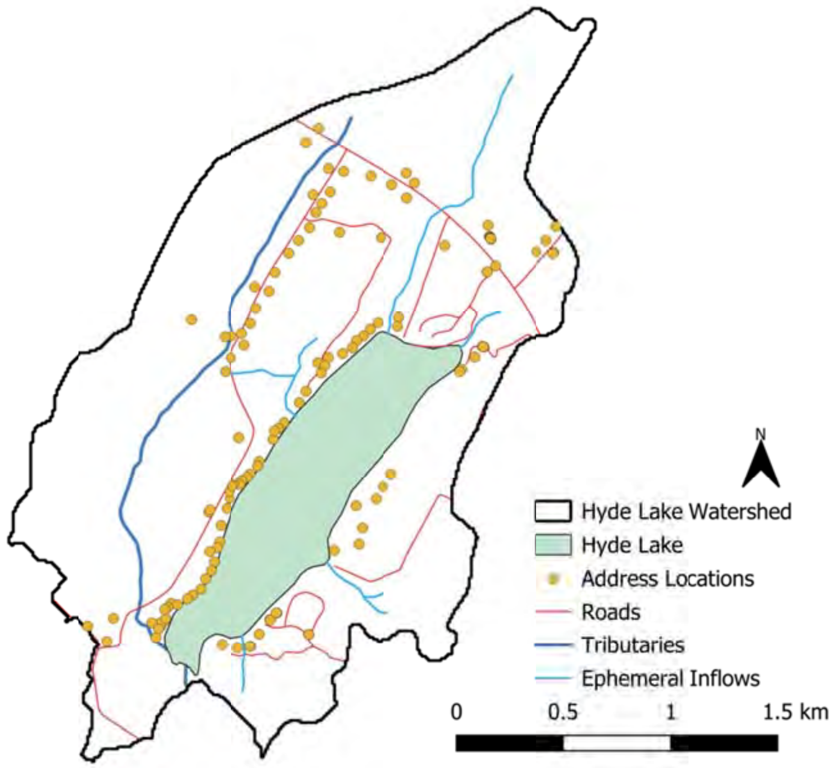


Figure 3-5: Major transportation routes and addresses in Hyde Lake Watershed.

Land cover at the watershed scale has remained relatively stable over the past two decades **(Figure 3-6)**. Forests are the dominant land cover type in the watershed, followed by similar percentages of agriculture and wetland **(Figure 3-7)**. Community members have noted that the bulk of shoreline development has occurred since 1990; and included an increase in the number of year round residents in the watershed.

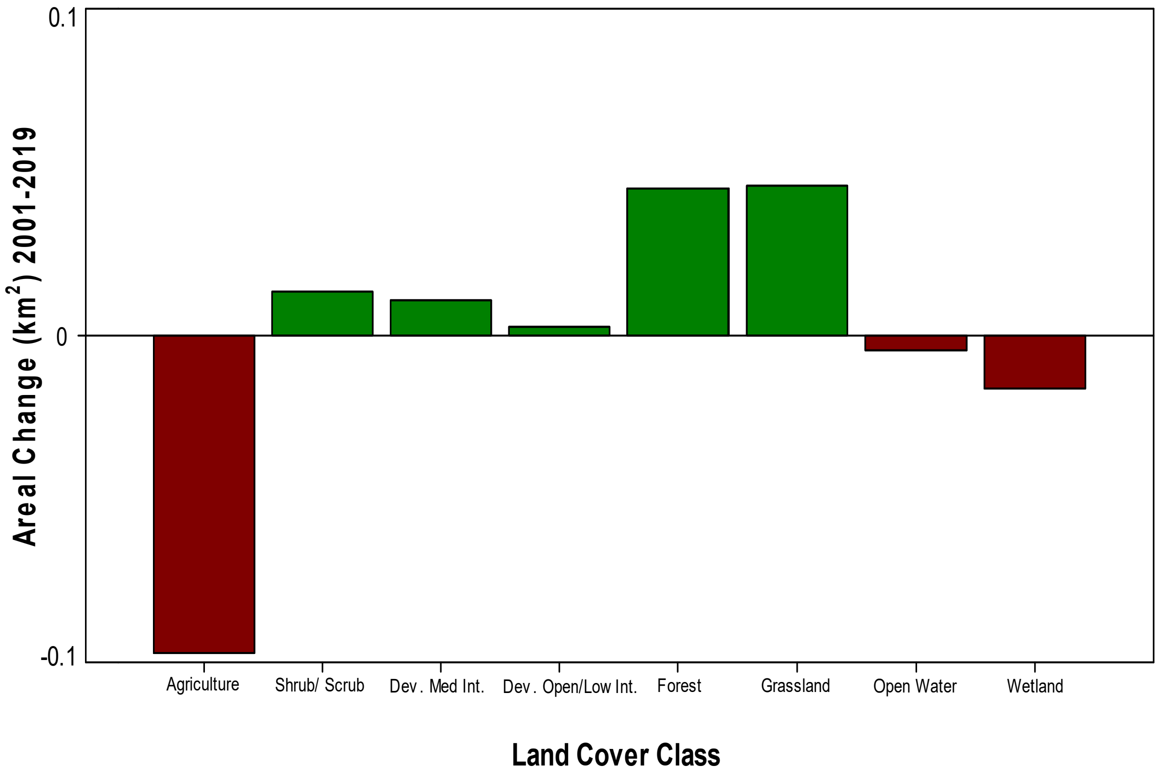


Figure 3-6: Land cover change 2001-2019 in square kilometers (km^2).

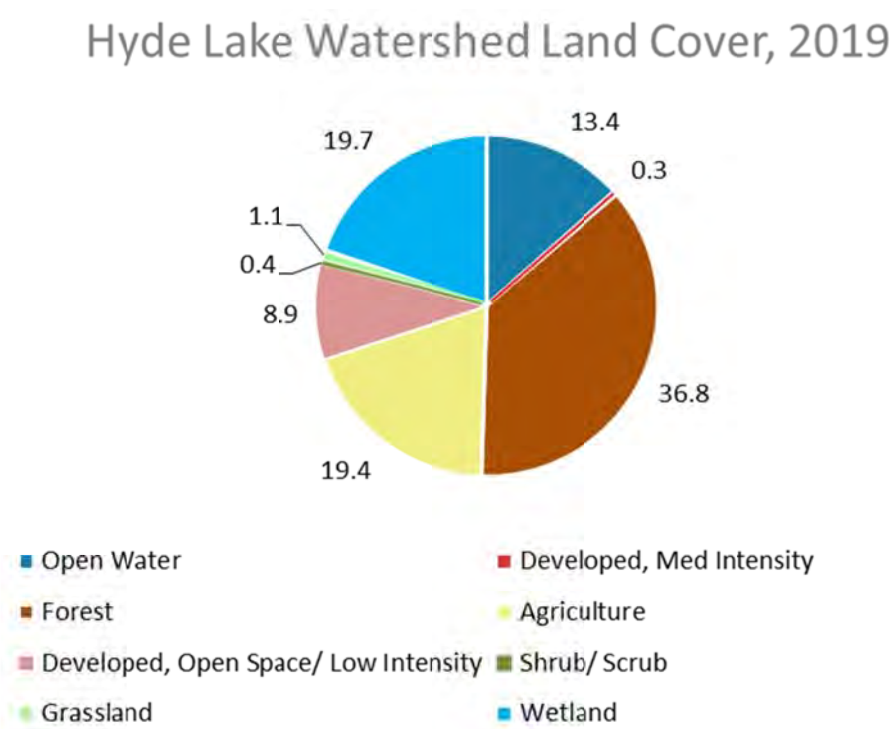


Figure 3-7: Proportional land cover, Hyde Lake watershed, 2019

Wetland area along a shallow portion of shoreline.

Wetlands present in the Hyde Lake watershed are notable due to their ecological and water quality importance **(Figure 3-8)**. Wetland areas act as sediment and nutrient sinks during the growing season, but also can contribute naturally to lake nutrient levels during periods of decomposition of organic matter. The primary wetland area adjacent to Hyde Lake is at the south end of the lake, near the outlet, but smaller areas of wetland were observed along the shoreline in 2021 in shallow embayments and near some ephemeral inflows. Some areas in the watershed that lie farther away from the lake appear in satellite imagery to be wetland areas, and are classified as such in NLCD data **(Figure 3-3)**.

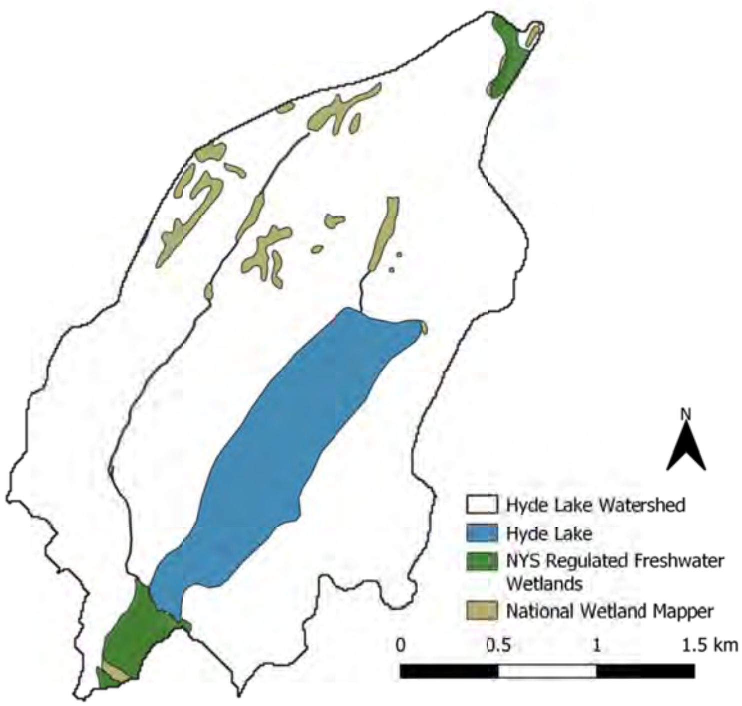


Figure 3-8: Regulated wetlands in the Hyde Lake watershed.

4 Hyde Lake Water Quality Status and Trends

4.1 Regulatory Classification and Best Use

Best use classifications for surface waters, which are developed by the NYSDEC Water Quality Standards Program, establish regulatory expectations for lake water quality and ecosystem health. Class A and AA waters are waterbodies classified as suitable for drinking and culinary purposes, as well as primary and secondary contact recreation and fishing. The best usages of Class B waters are primary and secondary contact recreation and fishing. Class C waters are best used for fishing, and should be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. The best use of Class D waters is fishing, although natural conditions such as intermittency of flow may not be conducive to game fishing. The NYSDEC will routinely review the water quality and habitat data to determine whether the lake still supports its designated best use.

Hyde Lake is classified as a Class B waterbody; however, in recent years the increase in documented CyanoHABs has limited opportunities for primary contact recreation. In the presence of CyanoHABs, the water clarity is reduced and green "scum" is present at the surface often giving off a foul odor. It is important to refrain from entering waterbodies with such characteristics as they can potentially harbor algal toxins. Fifty-two CyanoHABs were confirmed in Hyde Lake during 2022. The number of HAB events reported to the NYSDEC in Hyde Lake has increased each year from 2020 (1 event), 2021 (10 events), to 2022 (52 events, Archived CyanoHABs Notices at https://www.dec.ny.gov/chemical/83332.html), which speaks both to the prevalence of blooms in the waterbody and also the enhanced awareness of lake residents to recognize and report blooms.

Hyde Lake has participated in New York State Citizen Statewide Lake Assessment Program (CSLAP) in the years 1999-2001, 2003, 2004, 2008-2012, 2014 and 2022. CSLAP samples from Hyde Lake are collected by volunteer citizen scientists at the point of greatest lake depth, providing critical long term information for assessing long term water quality trends. Additional sampling locations were established from various shoreline areas with visible CyanoHABs. Once collected, the samples are submitted to a certified laboratory (UFI since 2000) for analysis and compiled into reports. CSLAP samples are analyzed for various forms of phosphorus (P) and nitrogen (N), as well as chlorophyll *a* (Chl-*a*), pH, specific conductivity (SC), calcium,

Kayak trail through bloom event at Hyde Lake chloride, and color. Since 2012, additional laboratory testing has been conducted to document the occurrence of CyanoHABs and associated algal toxins. Furthermore, measurements of water clarity and water temperature are taken by CSLAP volunteers in the field.

NYSDEC considers data from CSLAP in their assessment of whether a lake supports the designated best uses associated with its regulatory classification. The most recent publicly available CSLAP data for Hyde Lake is from 2014; however, as of 2022 the lake association has again become an active CSLAP participant, and the 2022 results are incorporated into this report. NYSDEC and the NYS Federation of Lake Associations (NYSFOLA) partner together to train and educate volunteers across the state with the objective of collecting data to quantify state-wide trends in water quality, identify changes and potential water quality problems in specific waterbodies, and to educate the general public about the importance of lake conservation. Continued participation in the CSLAP program by PAHL volunteers will be critical to monitor future water quality conditions in Hyde Lake and to assess management actions, as well as to garner support from regulatory agencies and possible funding sources for management actions.

4.2 Limnological Characteristics and Trophic State

4.2.1 Physical Characteristics and Stratification Regime

Hyde Lake is a holomictic lake, implying at least one complete mix of the water column each year. Typically New York lakes are dimictic, meaning they fully mix once in the spring and once in the fall with periods of thermal stratification in between. In the summer, the surface water warms, while cooler more dense water lies at the bottom, causing a separation of temperature layers which isolates deeper water from interaction with the atmosphere. The warm upper layer is known as the epilimnion, the region of rapid temperature change is the metalimnion, and the cold isolated deep water is the hypolimnion.

Wind-induced turbulence can be sufficient to fully mix the water column of shallow lakes regardless of thermal stratification. Evidence from field sampling in 2022 by PAHL volunteers suggests that Hyde Lake is a discontinuous cold polymictic lake. Lakes of this type experience ice cover for a portion of the year, followed by irregular thermal stratification from several days to weeks interrupted by internal mixing during the warm season (Wetzel 2001). Thermal profiles created from lake temperature observations during the summer indicate dates where thermal stratification was present as well as evidence of mixing of the entire water column **(Figure 4-1)**.

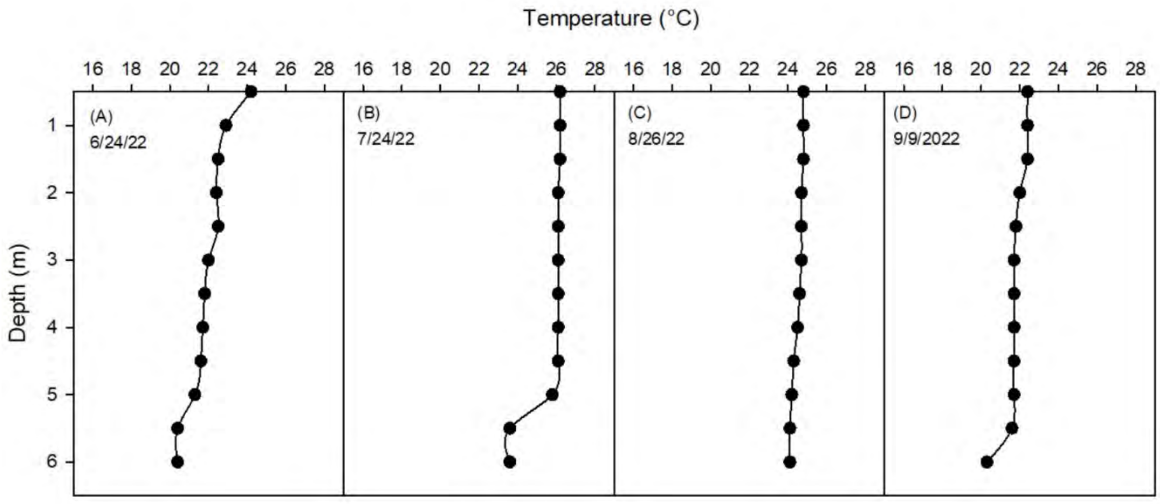


Figure 4-1: Thermal Profiles of Hyde Lake on four representative dates in 2022 collected with YSI ProSolo by PAHL volunteers (raw data may be found in Appendix B).

At the start of regular monitoring in 2022 the water column of Hyde Lake was approximately 20°C throughout. Weak thermal stratification set up in the first half of July with the bottom water remaining in the low 20°C range and surface waters warming to the upper 20°C by the end of July. An isothermal period (same temperature of ~24°C from the surface to the bottom) occurred during the last week of July. Thermal stratification recurred in August, but was weaker because the entire water column had been warmed during late July. Another isothermal event was indicated by temperature data in the middle of August, followed by weak thermal stratification prior to fall turnover at the start of September coinciding to the lake returning to ~ 20°C **(Figure 4-2)**.

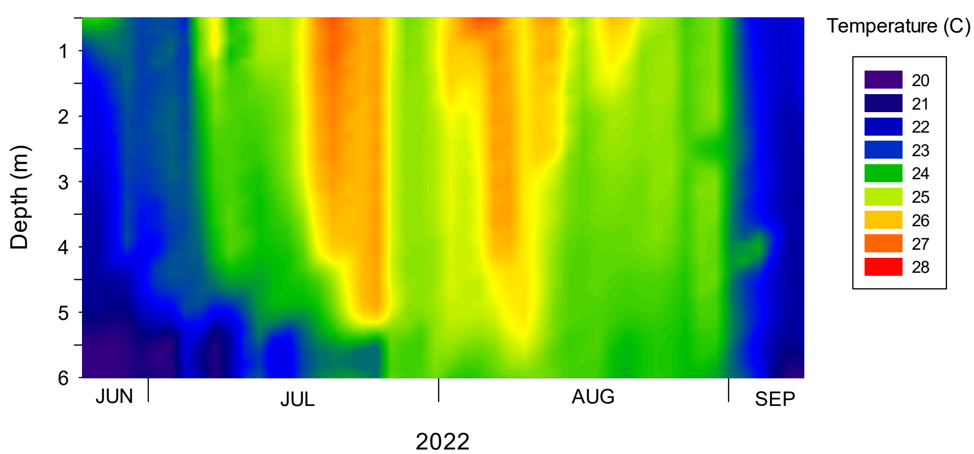


Figure 4-2: Water measurement of temperature in Hyde Lake June-September 2022 collected with YSI ProSolo by PAHL volunteers, (Appendix B)

Temperature is a primary regulator of important physical, chemical, and biochemical processes in lakes and is perhaps the most fundamental parameter in lake monitoring programs. Lakes in the northeast exhibit major temperature transformations linked to annual changes in air temperature and incident light. Biochemical processes and the life cycles of aquatic organisms are linked to the annual temperature cycle.

Periodic mixing of the entire water column during the summer changes a waterbody's functioning in fundamental ways. Periods of thermal stratification result in isolation of deep waters from the atmosphere, and aerobic respiration utilizes all of the dissolved oxygen with no means for replenishment **(see section 4.2.2.4)**. In addition, warm water throughout the water column is capable of holding less dissolved oxygen than cold water, impacting the habitat quality for fish and aquatic invertebrates throughout the lake.

4.2.2 Trophic State and Water Chemistry

4.2.2.1 Phosphorus and Nitrogen

Phosphorus (P) is recognized as the most critical nutrient controlling phytoplankton (microscopic plants and cyanobacteria present in open waters) abundance in most freshwater systems in the north temperate zone, as increased availability of P often leads to an increase in phytoplankton growth. Occurrences of particularly high phytoplankton concentrations are described as blooms, and high concentrations of scum-forming cyanobacteria are termed cyanobacterial harmful algal blooms (CyanoHABs). Humans have been greatly responsible for the increase in P entering water systems, described as cultural eutrophication. Reducing P availability and inputs into lakes is a proven restoration strategy to abate eutrophication and CyanoHABs.

P is commonly measured in three forms during lake monitoring: total phosphorus (TP), total dissolved phosphorus (TDP), and soluble reactive phosphorus (SRP). TP is widely used to indicate trophic state (level of plant production). TDP and SRP are measured on filtered (0.45 µm) samples. Most TDP is assumed to be ultimately available to support phytoplankton growth. SRP is a component of TDP that is usually assumed to be immediately available to support phytoplankton growth. A variety of factors affect the fraction of TP made up of TDP and SRP available for primary production, but increased TP is directly linked to increased available phosphorus. NYS has established a guidance value for TP of 20 µg/L (growing season average) to protect contact recreation in Class B and higher lakes. The majority of monitoring in Hyde Lake has focused on TP, with only two events (7/10/2010 and 9-8-2021) measuring TDP levels.

The TP concentration in Hyde Lake has consistently ranged from 10 – 30 µg/L since the start of CSLAP monitoring in 1999. Although, two of the three most recent years indicate elevated mean TP concentrations above the NYSDEC guidance of 20 µg/L, these values are based on only a single data point **(Figure 4-3)**. A single data point may not accurately reflect summer average conditions in Hyde Lake as there has been a relatively consistent pattern of increasing TP throughout the summer during all years when monitored occurred on more than one date **(Figure 4-4)**. This pattern of a seasonal increase in TP suggests that excess phosphorus could originate as internal loading from lake sediments or through elevated human activity in the watershed during the summer season.

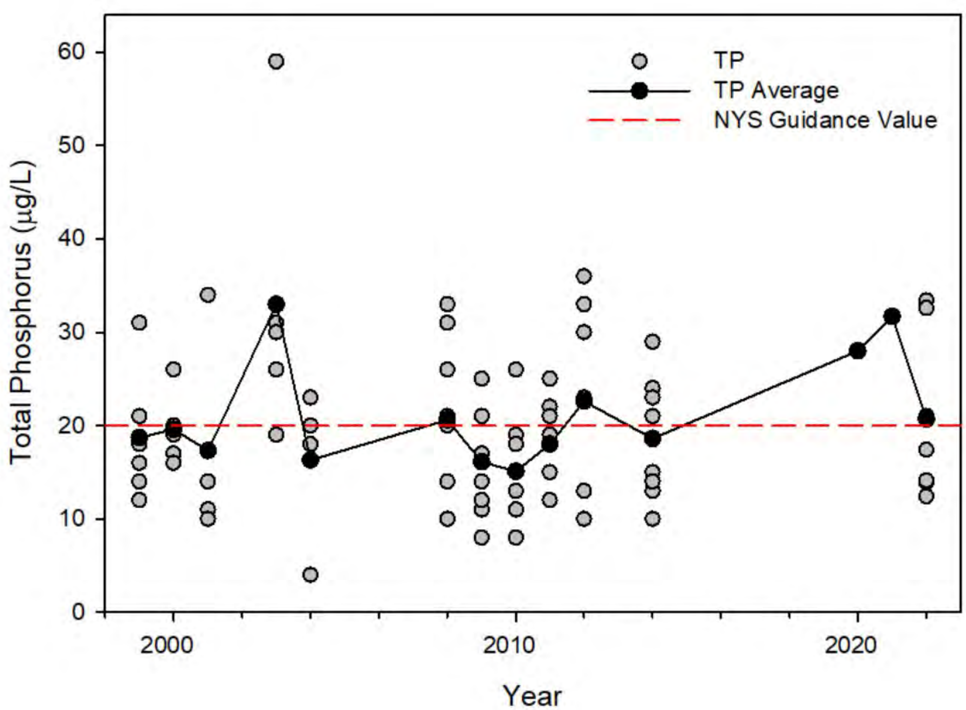


Figure 4-3: TP concentrations measures in Hyde Lake from 1999- 2022. Averages of each year are notated by black points, while grey indicate individual measurements.
Note: Years 2020 and 2021 only contained a single data point.

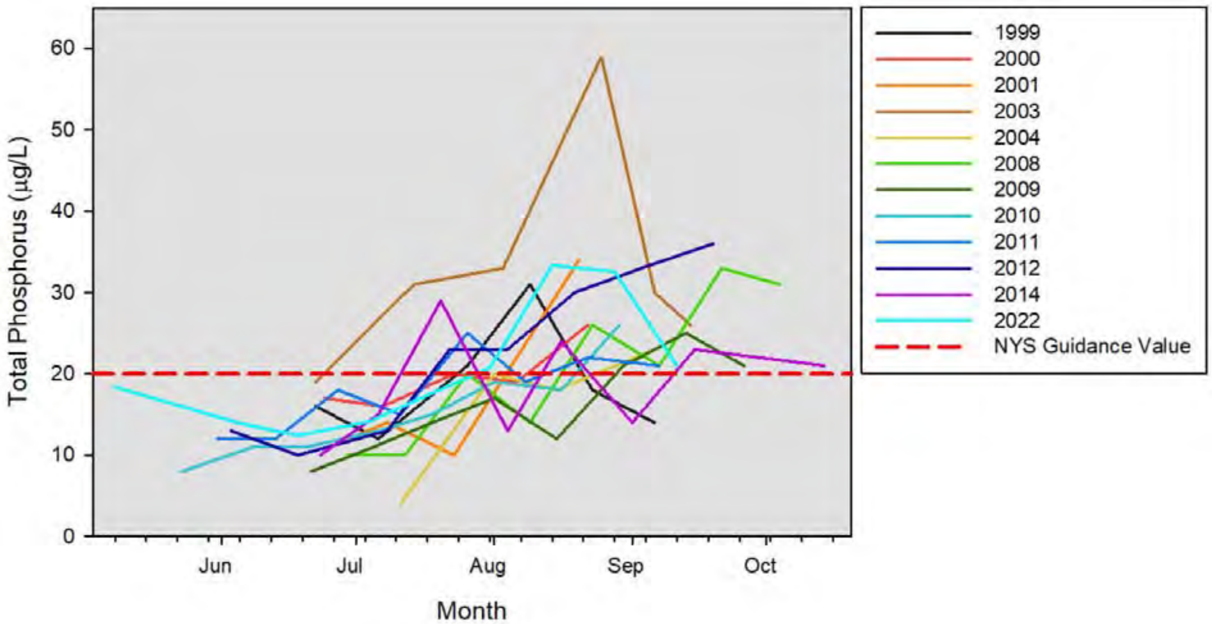


Figure 4-4: Seasonal patterns of TP concentrations in Hyde Lake. Years with only a single data point were omitted.

Nitrogen (N) is another nutrient in freshwater system that affects algal biomass in lakes and the composition of algal communities. It is often considered the second most critical nutrient controlling phytoplankton growth and becomes the limiting nutrient seasonally in some lakes. The development of N-limiting conditions is usually considered undesirable, as it may promote proliferation of bloom-forming cyanobacteria able to utilize N from the atmosphere to augment or meet their N requirements. Successful attempts to control cyanobacterial biomass by reducing N are exceptionally rare.

Two common usable forms of nitrogen found in lakes include nitrate (NO_3^-) and ammonium ion (NH_4^+). Ammonium is preferred by algae over nitrate because it is more easily assimilated. For that reason, ammonium is frequently depleted to levels below the detection limits of common analytical procedures. Through CSLAP, total N (TN), total ammonia (T-NH_3), and total oxidized N (NO_x) are monitored. Two components contribute to NO_x, nitrate (NO_3^-), and nitrite (NO_2^-). The dominant component of NO_x is NO_3^-, as NO_2^- is almost always present in low concentrations due to its highly reactive character.

As reported by CSLAP in 2022, measured concentrations of NO_X in Hyde Lake always were below 40 µgN/L, and often less than the analytical limit of detection (5 µgN/L). Concentrations of T-NH_3

remained low throughout the sampling season, rarely exceeding 30 µgN/L. These levels are typically considered low enough that nitrogen is not available in excess for primary production.

4.2.2.2 Algal Biomass

Example of algal bloom event at Hyde Lake

Algae contain multiple photosynthetic pigments that serve a variety of photochemical functions. Chlorophyll-*a* (Chl-*a*) is the primary photosynthetic pigment and the only pigment common to all algae and cyanobacteria. Because of its universal presence, Chl-*a* is the most widely used proxy for phytoplankton biomass. Various environmental conditions affecting Chl-*a* concentration include light exposure, temperature, and nutrient availability. Additionally, measurements of Chl-*a* do not resolve phytoplankton type, and the Chl-*a* content per unit biomass can vary according to species. Therefore, Chl-*a* is a preferred, albeit imperfect, measure of phytoplankton biomass.

During the 2022 CSLAP season, average Chl-*a* concentration was measured to be 20.0 µg/L in Hyde Lake, which indicates a high level of phytoplankton biomass and eutrophic conditions. Wide variations in Chl-a concentrations are common in productive lakes such as Hyde Lake, with the highest concentrations often occurring in late summer.

4.2.2.3 Water Clarity

Water clarity, or the extent of light penetration in water (e.g., ability to see submerged objects), is closely coupled with public perception of water quality. The evaluation of water clarity is often measured using a Secchi disk, a weighted white and black plate that is lowered until out of view and then raised until it is seen again. The average depth of where the disk disappears and reappears is the “Secchi depth”, a proxy for water clarity. With increased suspended particles in the water, such as phytoplankton, silt, clay, or organic materials, the light transmitted will be reduced, and the Secchi depth will be shallower. Secchi disk transparency remains the most broadly used measure of light penetration. The recommended minimum Secchi depth for swimming safety is 1.2 meters (4ft.).

In Hyde Lake, the average seasonal water transparency measured with a Secchi disk is generally between 1 and 3.5 meters **(Figure 4-10)**, which is common for productive lakes. Higher transparency is generally associated lower Chl-*a* concentrations, while lower transparency generally coincides with increased Chl-*a* levels. In Hyde Lake the relationship between Secchi depth and Chl-*a* was well-defined for Chl-*a* concentrations above 5 µg/L **(Figure 4-5)**. According to this relationship, a target water clarity of 2 meters would correspond to a Chl-*a* concentration of 14.9 µg/L.

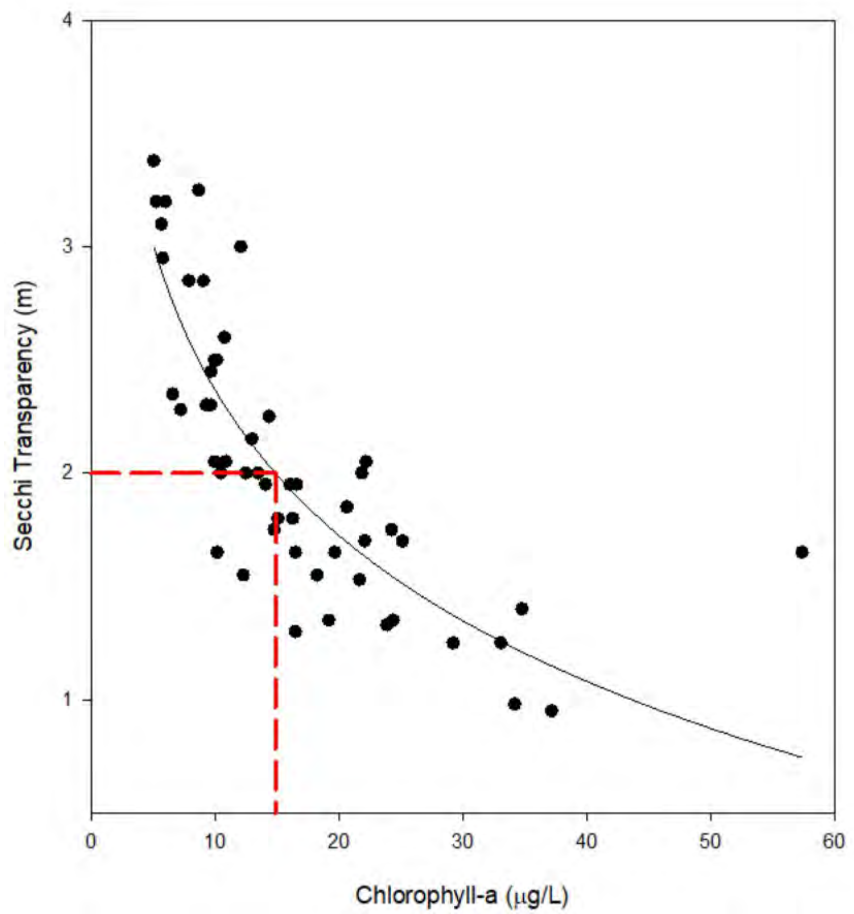


Figure 4-5: Evaluation of the relationship between Secchi transparency and chlorophyll-a in Hyde Lake, based on 1999-2022 CSLAP measurements. Chl-*a* concentrations below 5 µg/L were omitted because at those levels Secchi transparency varies independently of Chl-*a*.

4.2.2.4 Dissolved Oxygen, pH, and Specific Conductance

Other critical indicators of lake water quality and habitat include dissolved oxygen (DO), pH, and specific conductance (SC). DO concentrations are an essential factor in determining what organisms are supported within the water. Many factors influence the concentrations of DO within a waterbody, including time of day, presence of algal blooms, and temperature of the lake. According to the Environmental Protection Agency (EPA), water with a DO level below 3 mg/L is cause for concern. DO concentrations at depth less than 4 m were above 7 mg/L, while DO depletion was observed at depths above 4 m **(Figure 4-6)**.

Even at the moderate level of thermal stratification observed in Hyde Lake **(Figure 4-2)**, below 4 m of depth the lake was consistently hypoxic (< 2 mg/L DO) or anoxic (DO completely depleted) **Figure 4-6)**. On one date near the end of July, 2022 mechanical mixing of the water column resulted in the return of significant (>7 mg/L) dissolved oxygen to all depths **(Figure 4-7)**.

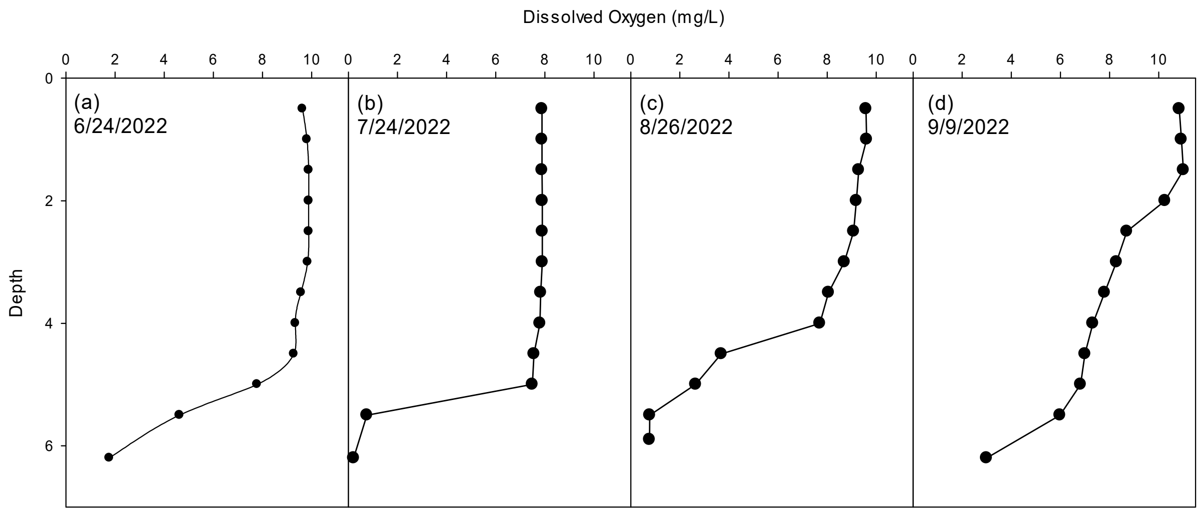


Figure 4-6: Select dissolved oxygen profiles for Hyde Lake in 2022.

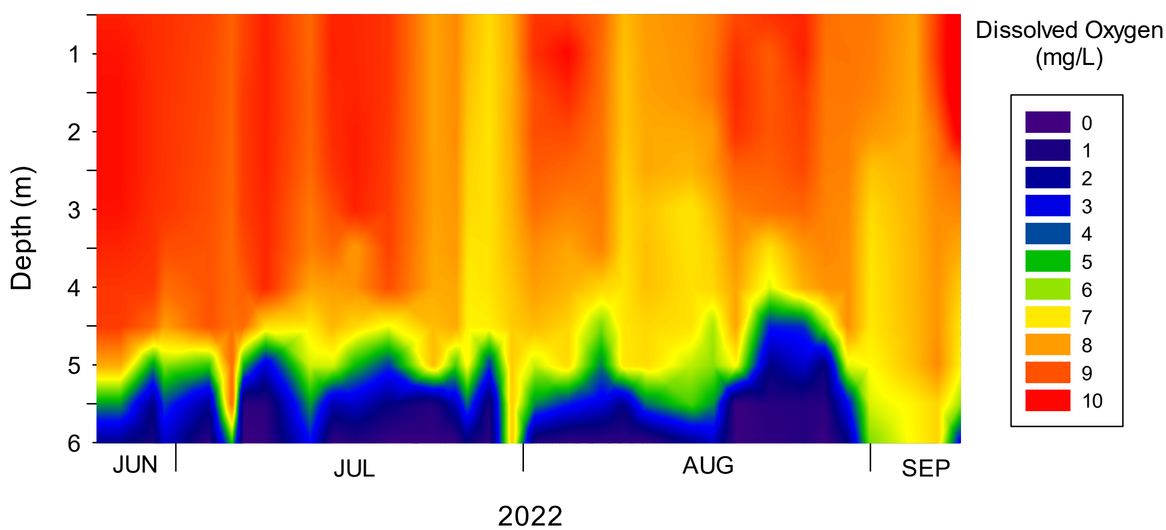


Figure 4-7: Dissolved Oxygen contours in Hyde Lake June - September 2022.

Specific conductance is an aggregate measure of the summed ionic content of water and is closely related to salinity. Measurements of specific conductance in 2021 were consistent with depth at approximately 175 µS/cm, which is similar to other lakes in the region **(Figure 4-8)**.

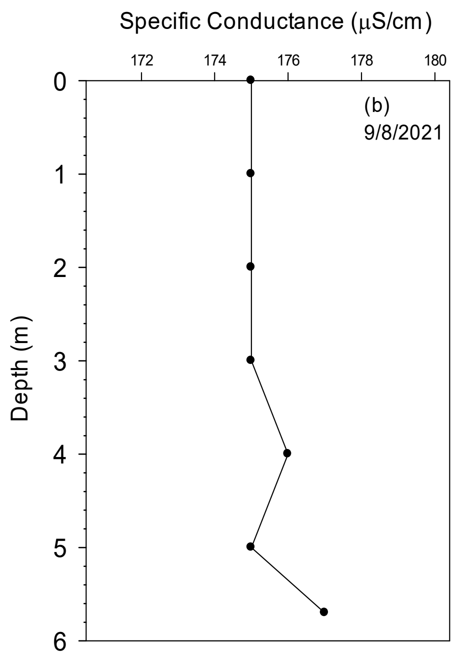


Figure 4-8 Specific Conductance Profile of Hyde Lake at Sample Site: September 2021.

The pH in Hyde Lake is within the expected range, between 7.0 and 8.5 **(Figure 4.9)**. pH varies primarily in response to photosynthesis, when CO_2 is drawn out of the water for incorporation into plankton cells. The result is seasonally elevated pH throughout the water column of Hyde Lake.

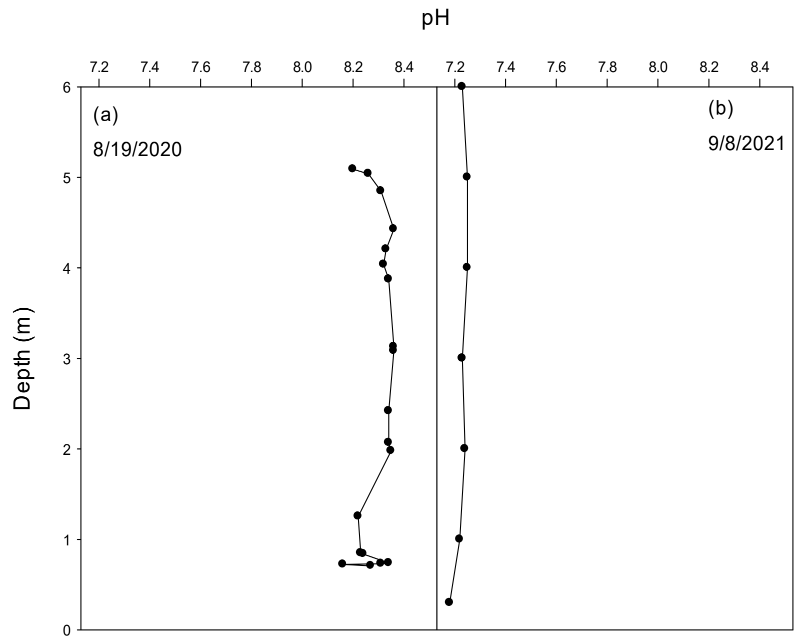


Figure 4-9: Select pH Profiles of Hyde Lake in 2020 and 2021 showing seasonal elevation during the growing season (a).

4.3 Long-Term Water Quality Trends

Long-term data is essential for assessing water quality changes. This is one of the key values of participating in CSLAP; access to a long-term dataset collected by trained volunteers using standard methods. CSLAP has provided the only relatively consistent record of water quality in Hyde Lake, occurring periodically from 1999 through present day (**Figure 4-10)**. These data paint the picture of a relatively nutrient rich productive lake; the next few years will be invaluable to indicate whether any changes have occurred during the 9 year hiatus from the CSLAP program.

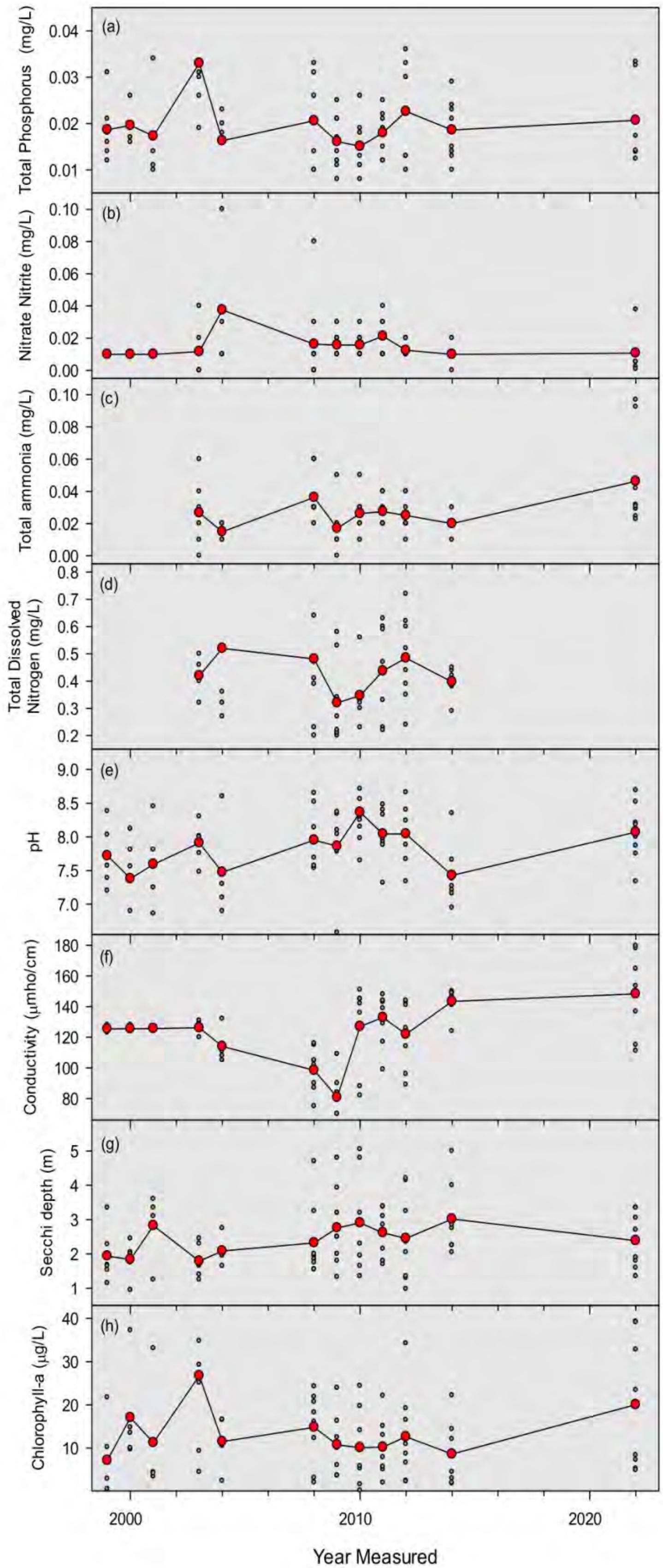


Figure 4-10: Measured CSLAP parameters (1999 – 2022) from Hyde Lake.

Trophic state index (TSI) is another tool used to evaluate trends in lake productivity using phytoplankton biomass. (Carlson 1977, Carlson and Havens 2005). TSI is a continuous index, ranging from 0 to 100, determined independently for the three commonly used indicators of trophic state: total phosphorus, chlorophyll-a, and Secchi disk transparency. According to TSI calculations, Chl-*a* levels are almost entirely above 50 on the TSI scale, implying a Eutrophic lake from 1999 throughout 2022 (**Figure 4-11**). TSI-TP and TSI-Secchi are primarily in the mesotrophic range, which would put Hyde Lake in the meso-eutrophic category. Based on the scale, TP and Chl-*a* are closely related as both follow a similar pattern with TSI-Chl values remaining higher. TSI-Secchi was also lower and predominantly inverse to the trends shown by TP and Chl. These relations suggest that algal growth is most likely phosphorus limited, and the algal community predominantly made up of larger particles which may include colonial or filamentous cyanobacteria.

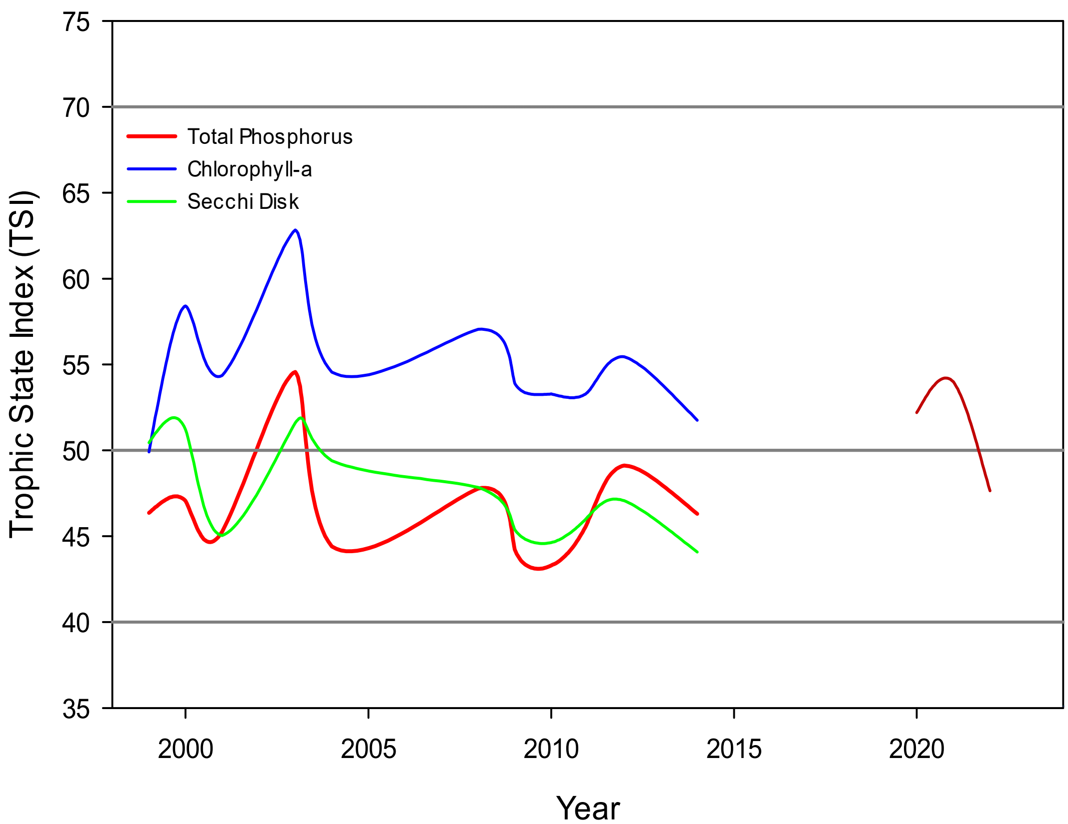


Figure 4-11: Time series of the trophic state index values for total phosphorus, Secchi disk transparency, and chlorophyll-a: Hyde Lake, 1999-2022.

4.4 Emerging Issues

Cyanobacterial harmful algal blooms (CyanoHABs), are the rapid growth or accumulation of cyanobacteria that can cause harm to people, animals, or the local ecology. Cyanobacteria, also known as blue-green algae, are capable of producing toxins and surface scums. CyanoHABs have the potential to harm people and animals, causing serious health complications such as a rash, eye irritation, respiratory symptoms and in severe cases, death, particularly in small animals. The presence of CyanoHABs affects people, animals, aquatic ecosystems, tourism, drinking supplies, property values, and recreational activities, including swimming and commercial and recreational fishing (https://www.epa.gov/cyanohabs).

In recent years as a part of CSLAP, HABs sampling has been conducted by volunteers, allowing for a confirmation toxicity and identification of blue-green species present. Skim samples from the CSLAP program in 2022 taken on four dates (8/1, 8/15, 9/12, 9/26) consisted primarily of cyanobacteria species (*Woronichinia spp., Microcyctis spp., Dolichospermum spp.*) capable of producing toxins.

Example of algal blooming event at Hyde Lake

There have also been reported cyanoHAB occurrences through the NYSDEC online reporting portal for the public to report a suspected HAB occurrence (https://www.dec.ny.gov/chemical/83310.html). Online reporting only allows for qualitative assessment, implying that a bloom fits the description of a CyanoHAB based on imagery without the corroboration of physical samples. In 2017 and 2018, at least one bloom event was suspected to be a CyanoHAB through the online reporting system. In 2020 and 2021, there has been at least one confirmed HAB verified by water sampling, and in 2022, Hyde Lake experienced 52 reported HABs. Both open water and shoreline blooms of cyanobacterial taxa capable of producing toxins have been confirmed in Hyde Lake. As education amongst lake users and residents has increased regarding HABs, the number and consistency of reporting blooms increases. A continued effort to report and sample suspected CyanoHAB blooms is necessary to assess trends in Hyde Lake.

The availability of key nutrients, especially phosphorus, is an essential determinant in algal growth and CyanoHAB potential. Conditions such as warm water temperatures, ample light exposure, and stagnant waters favor CyanoHABs. Although the reasons are not completely understood, there is a scientific consensus that the frequency and intensity of CyanoHABs has increased in waterbodies worldwide.

Not all algal blooms contain cyanobacteria, and even blooms that contain cyanobacteria may not contain harmful toxins; however, precautionary measures should always be taken in the presence of an algal bloom because toxicity cannot be evaluated by eye. It is important to report algal blooms to the NYSDEC HABs notification site and remind lake users that they and their pets should avoid contact with blooms. Additional information is available on the NYSDEC HABs website (https://www.dec.ny.gov/chemical/77118.html).

5 Hyde Lake Biological Community Status and Trends

5.1 Macrophyte Community

In August 2003, an aquatic vegetation survey was completed by the Center for Earth and Environmental Science at SUNY Plattsburgh with the goal of mapping vegetation beds and identifying the species present (Lamb et al., 2003). Of the two visible beds surveyed, one was a small dense bed made up entirely of Eurasian Watermilfoil (*Myriophyllum spicatum*), and another larger bed made up mostly of White waterlily (*Nymphaea odorata*), and a small percent of cattail (*Typha latifolia*) and Eurasian Watermilfoil. Both were located at the southern end of Hyde Lake **(Figure 5-1)**.

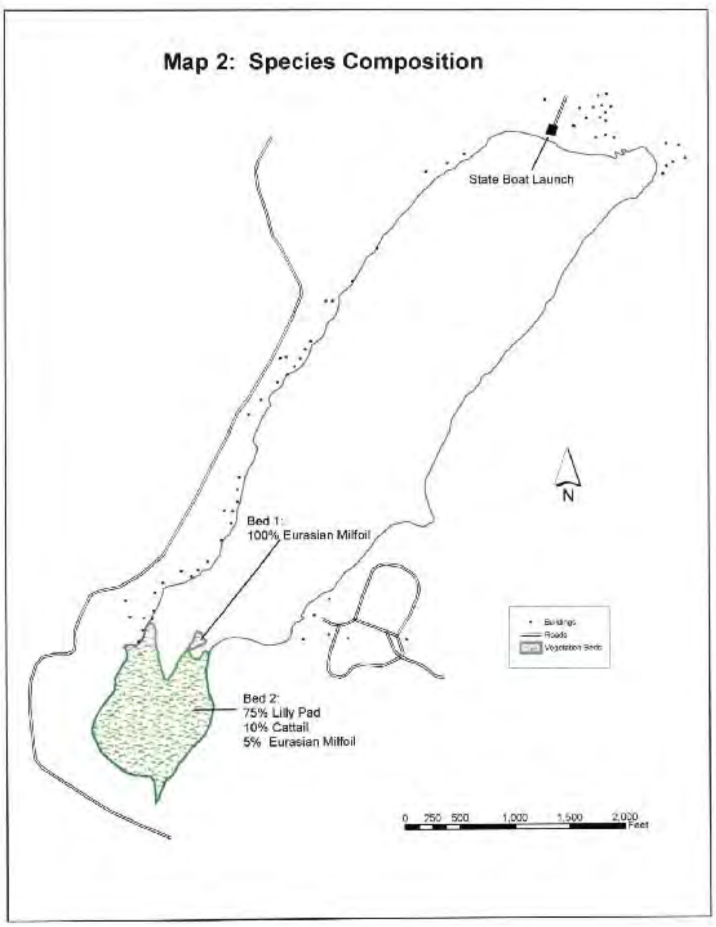


Figure 5-1: Macrophyte distribution in Hyde Lake in 2003 (copied from: Lamb et al., 2003).

In September 2021, exploratory rake tosses were completed to assess the plant community of Hyde Lake in two locations by UFI scientists. At the southern end of the lake near the outlet, the majority of vegetation consisted of Robbins pondweed (*Potamogeton robbinsii*) dense cattails, and yellow water lilies (*Nuphar lutea*) present on the surface. In the northern portion of the lake near the state launch site the macrophyte community consisted mostly broadleaf pondweed (Potamogeton spp.) and Coontail (*Ceratophyllum demersum*). Most of the macrophytes present in the lake were located within the shallow southern end of the lake. Native species were the present majority of all sampling locations in September 2021 and were dominant.

Macrophyte community assessment occurred in late summer of 2021 and there was no Eurasian watermilfoil observed probably due to natural dieback. However, personal accounts of Preservation Alliance of Hyde Lake (PAHL) members noted significant increases in the Eurasian Watermilfoil cover over time. Additionally, St. Lawrence Eastern Lake Ontario Partnership for Regional Invasive Species Management (SLELO PRISM) volunteers from PAHL have begun mapping AIS coverage within the lake, showing a significant distribution of Eurasian Watermilfoil in the southern end of the lake. European Frogbit has been identified in the south west corner of the lake and in Hyde Creek.

It is important to note aquatic plants are essential supports of a healthy ecosystem. They provide shelter, dissolved oxygen, and are a major food source to many lake organisms. While the removal of high growth native species may be aesthetically pleasing and open areas for more recreation, it could be detrimental to the ecosystem and water quality of a lake.

5.2 Fish Community

Recreational fishing in Hyde Lake is popular amongst residents and visitors to the lake. Documented fish at Hyde Lake include a mix of cool water and warm water species including the hybrid tiger muskellunge (*Esox masquinongy x lucius*), and walleye (*Sander vitreus*), which are both NYSDEC stocked fish. Other species present include largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), rock bass (*Ambloplites rupestris*), northern pike (*Esox lucius*), black crappie (*Pomoxis nigromaculatus*), bluegill (*Lepomis macrochirus*), pumpkinseed (*Lepomis gibbosus*), brown bullhead (*Ameiurus nebulosus*), and yellow perch (*Perca flavescens*).

Tiger muskellunge stocking was initiated in 1980 as part of a study by Cornell University to suppress the number of planktivorous panfish species and restructure the fish community with a higher number of larger fish. Some initial successes were reported in the reduction of panfish stocks, however, little effect was observed on the black crappie population that was introduced in the 1960's and anecdotally coincident to the reduction of the walleye population. Continued stocking of tiger muskellunge (1000 stocked every year from 2012-2020 at 10 inches in size) now supports a targeted fishery in Hyde Lake.

Despite temperatures near the high end of their thermal preference for much of the summer season, walleye stocking supports a fishery in Hyde Lake which was also prevalent historically. Targets of 4,000 pond fingerlings (1 – 2 inches) are stocked annually by the NYSDEC since the inception of this stocking program in 1981. Both tiger muskellunge and walleye are predatory species that can impact the fish community through trophic pressure on forage species including pan fish. There is limited data available from fisheries surveys by the NYSDEC to assess changes in the fish community over time, with the most recent being completed in 2007, and the data that is available has suggested that the walleye population continues to be suppressed despite continued stocking.

Water quality conditions, food availability, and habitat quality are critical for maintaining the lake's diverse and productive fish community. Stresses to these resources can cause diminished reproductive success and a reduced number of fish comprising a given year class (defined as recruitment) and affect fish growth of juvenile and adult fishes. Stressors can include:

- Thermal (water temperature at the limits of biochemical tolerance)
- Low dissolved oxygen (respiratory distress)
    - Note that elevated turbidity contributes to limited gas exchange across the gills.
- Invasive species
    - Invasive species often have no natural predators to help control their population. They may exhibit other characteristics, including increased aggression or more generalist feeding, that can directly impact native species or indirectly affect the availability of food and habitat for native species.
    - Invasive aquatic plants can diminish available habitat for fish reproduction, recruitment, and refuge.
- Limited or low-quality food sources, including benthic macroinvertebrates.
    - As noted in the 2001 NYSDEC study of sediment toxicity of lakes treated with the common algaecide copper sulfate ($CuSO_4$), macroinvertebrate communities are adversely affected by this chemical.
- Degraded water quality from algal blooms
    - Algal blooms can adversely impact fish by altering water chemistry and contributing to low dissolved oxygen concentrations in localized areas. Additionally, harmful algal blooms with high concentrations of toxins can be lethal to fish and other organisms.

Although Hyde Lake supports a diversity of fish species, multiple stressors present threats to this resource such as climate change and introductions of AIS.

5.3 MacroInvertibrate Community

Aquatic macroinvertebrates are an important part of aquatic ecosystems and the makeup of their community can be indicators of water and habitat quality. The macroinvertebrate community was surveyed by the NYSDEC in 2020 with results forthcoming as of the writing of this management plan.

5.4 Zooplankton Community

Zooplankton links primary producers to higher trophic levels in aquatic ecosystems by providing food that supports forage fish species and applies grazing pressure on algae. Some inferences of the food web within a body of water may be made by examination of the zooplankton community. Typically, lakes dominated by large predatory fish species are home to a diverse community of zooplankton that includes large bodied species effective at grazing down algal stocks. In the absence of large predators, smaller planktivorous fish species can dominate, suppressing the population of large bodied zooplankton. The tiger muskellunge stocking program was specifically designed to achieve better balance in the Hyde Lake fish population through the introduction of a large predatory species to reduce planktivorous grazing of zooplankton. However, no quantitative assessment of zooplankton has been completed, which could help provide an overall understanding of trophic dynamics with in the lake.

5.5 Wildlife Community

Hyde Lake and its watershed host a diversity of wildlife including local and migratory species. Beavers, river otters, muskrat, and mink are regularly observed in and around the lake. A variety of bird species use the lake including great blue heron, osprey, goose and duck species, as well as common loons, various terns, and bald eagles. Historically, a breeding pair of loons has made their home on Hyde Lake, which is a federally protected species dependent upon consistent water levels during the breeding season to maintain their nests. Various reptile and amphibian species have been observed in and around the lake as well. There is concern among lake residents about the impacts of recent changes in water quality and how they might impact this diversity of life.

6 Sources of Phosphorus

6.1 Internal Loading

Natural cycling of P from the sediment into the water column is facilitated via several different mechanisms. Biological influences can be generated by various burrowing benthic organisms, or bottom-feeding disturbing the sediment. Physical influences such as wind in shallow lakes can also cause resuspension and distribute P throughout the water column. Finally, when oxygen is low phosphorus that is bound to iron compounds in the presence of oxygen is released through a bacterially mediated reduction reaction. This newly freed P is then distributed into the anoxic hypolimnion of stratified lakes and can be a major contributor to the overall phosphorus budget in some lakes. Internally loaded phosphorus is typically made up of bioavailable forms and can contribute immediately to elevations in primary production. Some species of cyanobacteria are capable of utilizing this pool of available phosphorus through daily vertical migration in the water column.

Based on monitoring data from 2022, periods of thermal stratification are punctuated by multiple isothermal mixing events and at least one time when oxygenated water was mixed all the way to the water-sediment interface. This suggests that internally loaded phosphorus may contribute to primary productivity in Hyde Lake throughout the growing season. In the absence of paired samples analyzing phosphorus levels during these events and also during periods of stratification, it is impossible to draw a direct link between internal loading and increased prevalence of algal blooms and cyanoHABs in Hyde Lake.

6.2 External Loading: Watershed and Groundwater Contribution

The transportation of externally derived materials into a waterbody is a critical process considered in lake management, and can represent a significant source of excess nutrients to some waterbodies. During heavy rain events and spring snowmelt, runoff containing dissolved and particulate forms of nutrients enters nearby waterbodies. Although a natural process, the extent of loading may be elevated as a result of human actions primarily resulting from development of the watershed. Increasing impervious surfaces such as roads or buildings, channelization of streams, the use of on-site septic systems, agriculture, and landscaping are all activities which can increase the amount of material transported into lakes by runoff. Infrastructure can sometimes create visible examples of the impact that humans have on water processes in the watershed. Drainage ditches and culverts are prime examples of the need to control the flow of water through the watershed to allow for our use of the land as transportation (roads). These alterations can occasionally be important factors for lake water quality, but also can provide great opportunities for implementing best management practices within the watershed. The US EPA recommends the use of riprap at the inflow and outlet of culverts to reduce erosion, and the NYSDEC has a variety of guidance documents available for constructing effective storm water infrastructure (https://www.dec.ny.gov/chemical/8694.html). Effective communication between the lake association and the town is requisite to ameliorate concerns and apply the most sensible storm water management solutions in the watershed, with a focus on infrastructure with a direct impact on the waterbody.

Culvert under Hyde Lake road installed during a 2010 infrastructure project by the Theresa highway department.

Areas with a large agriculture presence are often associated with higher rates of nutrient loading which is not prevalent in the Hyde Lake watershed; however, nutrients can also be accumulated in water running across treated lawns or gardens, salt from roads, and other anthropogenic sources. Land with more permeable cover types, such as forests; generally have less runoff reaching the waterbody as it is more readily absorbed through the soil. Runoff influences are not exclusive to waterfront properties, but any property within the watershed, although waterfront properties have an elevated importance. The slope of the ground also influences the runoff reaching the waterbody. A steeper slope, such as the one surrounding Hyde Lake, can result in increased runoff entering the lake.

6.2.1 Soil Composition

The land surrounding Hyde Lake is located on a shallow bedrock slate with fairly minimal soil depth, which severely limits the suitability for septic system use within the watershed **(Figure 6-1)**. The use of on on-site septic systems in such limited soil types and in close proximity to the waterbody may be a source of nutrients and/or other contaminants to Hyde Lake, especially for poorly maintained systems and under storm runoff conditions. A list of the most common soils found in the watershed and their specific limitation for septic system installation and building construction can be found in **Appendix C**.

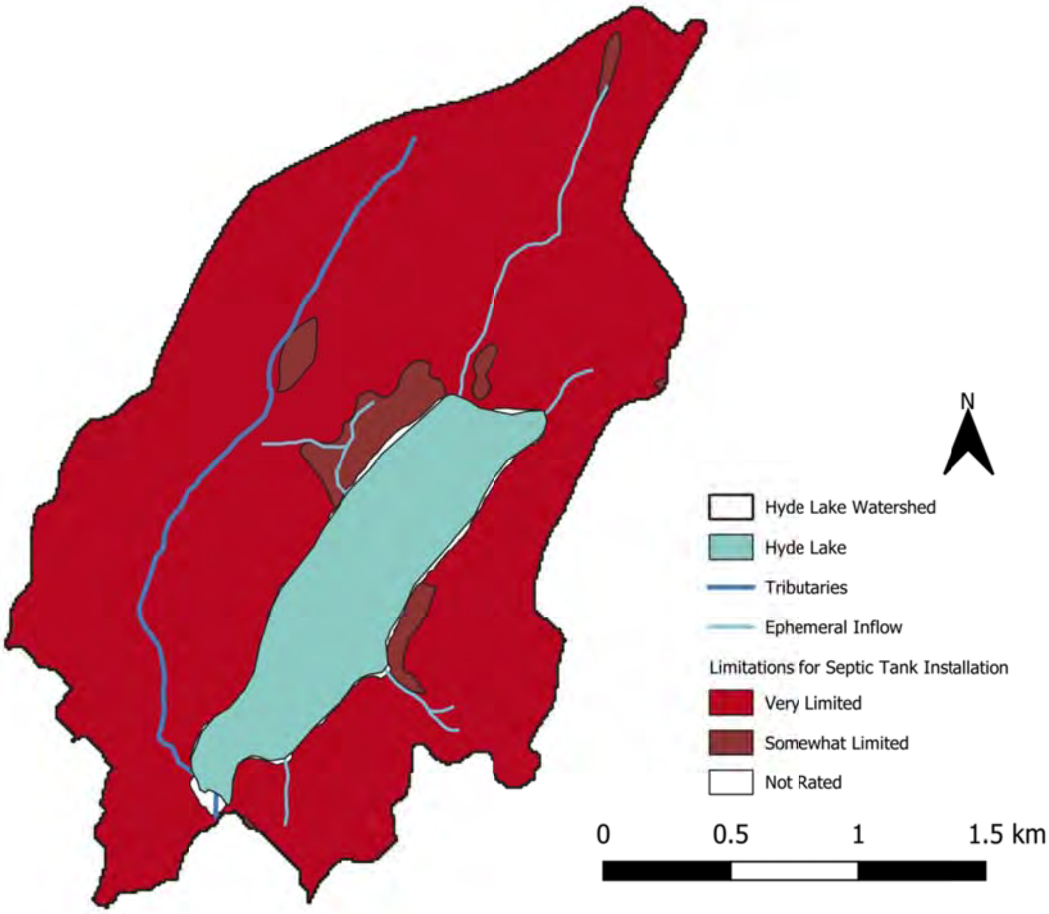


Figure 6-1: Soil septic suitability ratings within the Hyde Lake watershed.

The limited capacity of soils and steep topography surrounding Hyde Lake suggest that on-site wastewater systems may be faulty and contributing to eutrophication issues in Hyde Lake. Options to help identify the prevalence and extent of such anthropogenic pollution include tracking of optical brighteners used in laundry detergent, and examination of water samples for chemicals of emerging concern. Chemicals of emerging concern are organic micropollutants that are derived from products used by humans as pharmaceuticals, pesticides, household chemicals, or personal care products, and can be indicative of failures in wastewater systems.

7 Recent Actions to Advance Lake Management

The Preservation Alliance of Hyde Lake have been working hard to address issues regarding the health of Hyde Lake including training of volunteers for participation in various monitoring programs such as the St. Lawrence Eastern Lake Ontario Partnership for Regional Invasive Species

Management (SLELO PRISM), and CSLAP. Additionally, PAHL has acquired a dissolved oxygen probe from Yellow Springs Instruments (YSI), consults with various environmental organizations including the NYSDEC, and endeavor to keep the public engaged with updates regarding Hyde Lake on their public social media page, and by mailing informational packets to homeowners around the lake.

7.1 Water Quality Testing

As described in **Section 4.1,** Hyde Lake has been intermittently involved with CSLAP since 1999. The data provided through CSLAP allows analysis and assessment of trophic state conditions over time. Past CSLAP data is available on the NYSFOLA website at https://nysfola.org/cslap-report-search/. Additionally, further information regarding measured parameters through CSLAP is available on the NYSDEC website at https://www.dec.ny.gov/docs/water_pdf/cslaplkpara.pdf.

Throughout the summer of 2022, PAHL volunteers sampled the DO concentrations within the lake, and collected daily weather observations. Continued commitment to CSLAP involvement and personal lake sampling to assess water quality and ecosystem parameters will aid the lake community by providing long term metrics to assess the effectiveness of any implemented management actions.

7.2 Regulatory and Programmatic Initiatives for Water Quality

NYS agencies have established advanced legislation and programs aimed at improving water quality and aesthetic use of natural resources. A brief summary of major water quality initiatives is included in this section; links to relevant websites are provided in **Section 13**.

- In 2012, the NYS Nutrient Runoff Law was implemented; this regulation bans application of phosphorus-containing fertilizers to lawns and non-agricultural turf with limited exceptions.

- The Clean Water State Revolving Fund (CWSRF) is a federal-state partnership that assists communities with financing water and wastewater infrastructure projects.

- In 2018, NYSDEC issued the New York State Invasive Species Comprehensive Management Plan (https://www.dec.ny.gov/docs/lands_forests_pdf/iscmpfinal.pdf) outlining technical and programmatic measures for prevention, early detection, rapid response, and recovery of aquatic and terrestrial ecosystems.

- The NYS Department of State (DOS) has an active program of developing model local laws for communities to consider as they strive to mitigate adverse impacts of development on water resources. The DOS programs encompass land use solutions, building standards and codes, low impact development and green infrastructure approaches, and other community-based solutions. The DOS programs are intended to provide cost-effective technical and legal support to communities as they manage local land uses and adapt to the changing climate.

- Financial and technical resources to support green infrastructure and low impact development approaches are available through the NYS Environmental Facilities Corp (NYSEFC).

- The NYSDOT, US Fish and Wildlife Service, and NYSDEC offer technical support to municipalities on stormwater management, including culvert sizing, connectivity for fish passage, road ditching practices, and highway maintenance, including application of deicing materials.

- In 2020, the NYS Department of Health (NYSDOH) and NYSDEC launched a program to partially reimburse homeowners for replacing or repairing inadequate septic systems. Additional funding to continue and expand this program was approved in 2022.

- The NYS Department of Agriculture and Markets (NYSDAM) Agricultural Environmental Management (AEM) program offers technical and financial support for farmers. AEM is a phased approach to review current practices and identify opportunities to reduce losses of sediment, nutrients, and agricultural chemicals from the landscape. Trained staff members of county Soil and Water Conservation Districts support design, funding mechanisms, and implementation of improved practices.

- The NYSDEC leads many significant initiatives related to the health of aquatic, terrestrial, and wetland ecosystems. The Trees for Tribs - NYS Dept. of Environmental Conservation program is a notable example. This statewide program supports reforestation of the riparian (shoreline) areas around tributary streams that flow into lakes and rivers. Establishing a forested buffer will help decrease erosion, reduce flooding, improve habitat for fish and wildlife and protect water quality.

8 Management Alternatives

8.1 Reduce Internal Load of Phosphorus

8.1.1 Nutrient Inactivation

Internal phosphorus stored in the sediment of Lakes can be a source of elevated concentrations of phosphorus throughout the water column. Nutrient inactivation is a technique that decreases the amount of bioavailable phosphorus in the water column and reduces internal loading by locking phosphorus in the sediment. Mineral compounds are applied on the surface or injected below the surface to form a floc that binds to and precipitates phosphorus from the water column, effectively decreasing concentrations that can lead to nuisance and harmful algal blooms. Alum (aluminum sulfate) is a commonly used coagulant to control phosphorus as it has the ability to bind with phosphorus within a wide pH and dissolved oxygen range. Other mineral controls include iron, calcium, and lanthanum based clays (Phoslock®). Nutrient inactivation can be effective for two to three years after treatment. Phoslock® has been suggested as a better option than alum for wind exposed lakes with high rates of resuspension (Pallí 2015) but is not as effective where high concentration of dissolved organic carbon exist.

To utilize this technique in a lake setting, external nutrient loads must be minimal and a high natural alkalinity or buffering capacity is preferred. Depending on the formulation used, special attention must be given to the existing pH, alkalinity, and dissolved oxygen concentrations at all depths. The pH can fluctuate following application of alum, iron, and calcium in soft waters and cause damage to aquatic life.

<u>Permit Requirements:</u>

As of December 2022, alum and other inactivation products are not approved for use in New York State; however, pilot feasibility studies have been conducted within the state that have indicated little to no deleterious environmental impacts. If nutrient inactivation is a desired management action, PAHL members can prepare for permit application by concentrating on collecting water samples for analysis of phosphorus content during stratified periods. Samples should be taken from the anoxic layer situated near the bottom but without disturbing sediments. Hyde Lake does not fit the description of a lake with high rates of resuspension, and since pilot testing in New York is currently addressing alum and not Phoslock, the primary focus for future management actions on Hyde Lake should start with alum treatments.

Estimated Cost:

Alum treatments may cost $500-1000 per acre with additional costs related to application and post-treatment monitoring (Wagner, 2004). Phoslock treatments are significantly more expensive per unit of phosphorus removed.

Pros:

- Rapid removal of phosphorus from water column
- Reduction of internal loading
- Potential removal of algae and other suspended dissolved minerals
- Utilized in water and wastewater facilities, no significant adverse effects

Cons:

- Depends on lakes buffering capacity (mitigate risk of aluminum toxicity to aquatic life). Hyde Lake is generally a well buffered system.
- Potential for adverse impacts on aquatic life
- Expensive for large areas
- Limited effectiveness if external loading is not reduced below critical threshold
- Not currently approved for use in NYS

8.1.2 Aeration/Circulation

Hyde Lake experiences periods of stratification where oxygen is significantly reduced in the deepest portions of the water column. Dissolved oxygen depletion causes a reaction where phosphorus bound to iron is released back into the water column. Aeration serves two purposes; it increases dissolved oxygen concentrations near sediment directly, but also enhances lake mixing and de-stratifies the water column, allowing more frequent exchange with the atmosphere. This method is best executed in small ponds, and the extent of phosphorus reduction in the water column greatly varies (Tammeorg et al. 2017). For measurable improvements in water quality through the use of aeration, the main source of phosphorus loading must be through internal processes, and the aeration installation must be of adequate sizing.

Since Hyde Lake contains a broad area that is in the depth zone where oxygen depletion occurred in 2022, any aeration/circulation system would have to be quite large. To minimize cost, additional sites should be sampled for dissolved oxygen and temperature to discern whether the stratification observed at the deepest point is consistent throughout the waterbody. This information is critical to help decide whether aeration/circulation is a feasible option for Hyde

Lake, and also to ensure that any designed system utilizes resources most efficiently. Aeration systems may be powered through the existing electrical grid or via solar or wind power.

<u>Estimated Cost:</u>

Aeration systems may cost from $3,500 to $15,000 per year depending on the treated area and system method.

<u>Pros:</u>

- Decrease in bloom frequency
- Reduces accumulation of bottom sediment
- Improvements in water quality overall

<u>Cons:</u>

- Decrease in the availability of still water
- Expensive for large areas
- Additional external loading may mitigate the effects.
- More turbulent environment reduces habitat for certain organisms
- Possibility of no improvement

8.2 Reduce External Load of Phosphorus

8.2.1 Improved Wastewater Collection and Treatment

There are multiple ways septic systems can fail to sequester or decontaminate wastewater **(Table 8-1)**. Nutrients in septic seepage are predominantly in dissolved forms, which are readily available for uptake by primary producers. Actions can be taken at the homeowner and local government levels to address septic system failure and decrease the likelihood of contamination in groundwater and the lake.

Table 8-1: Common causes of septic system failure (EPA, 2005).

Type of failure	Underlying Causes
Hydraulic	Undersized, low soil permeability, poor maintenance
Organic	Excessive loading from unpumped/sludge-filled tanks
Soil depth to groundwater	Not enough soil between system and groundwater to properly allow

table or bedrock	pathogen removal and maintain hydraulic performance
System age	Systems > 25 years with irregular pumping/maintenance
Design	Wastewater strength, flow, geology, or position not considered during initial installation
System density	Combined effluent load from all systems in watershed or groundwater recharge area exceeds hydrologic capacity to accept or treat effluent

Acknowledging it is not always feasible to replace an entire septic system unit, proper maintenance and upkeep should be a priority for existing systems. A brief summary of proper septic system upkeep includes:

- Have the system routinely pumped and inspected
    - Every three to five years is recommended based on usage
- Be mindful what is going down the drain and toilet
    - Human waste and toilet paper should be the only things being flushed
    - Avoid dumping/ flushing products including greases, pesticides, paper towels, coffee grounds, wet wipes, feminine products, dippers, cigarettes, pharmaceuticals, etc.
- Garbage disposal usage can accumulate solid sludge faster than bacteria can digest it
    - Septic tank pumping should be performed more frequently with heavy garbage disposal usage
- Avoid high pressure and heavy weight on the drain field
    - Most drainfields are constructed in an open space and are not built to withstand the weight of heavy equipment such as vehicles
- Recognize the symptoms of septic problems
    - These can include puddles or greener grass above the septic system, indoor pumping backups, strong odors from the yard, etc.

The role of lake associations is often to foster interest in the community for voluntary compliance with programs that benefit lake health. A voluntary program of septic maintenance for lakeside residents is a good starting point to mitigate on-site wastewater as a source of cultural eutrophication. There are often state funded programs through which PAHL could apply for funding to assist homeowners with the costs of such a program, or to replace inadequate or failing septic systems. For more information regarding what can be done to maintain septic system integrity, please visit https://www.epa.gov/septic/how-care-your-septic-system#caring.

Estimated Cost:

Varies depending on need; a pump-out program will cost a homeowner between $200 – 500 every 3-5 years. Replacement of an entire system could cost upwards of $20,000 but may be supported through grant initiatives.

8.2.2 Improve Storm Water Management

Direct runoff events, such as during heavy precipitation, can be important short term inputs of particulate and dissolved material to a waterbody, particularly where steep slopes exist near the shoreline. Shoreline residents can take steps to mitigate the extent of human enhanced runoff by implementing lake friendly building and landscaping to minimize the quantity of water running off of impervious surfaces. Many of these options fall under the general umbrella of "green infrastructure" (GI) and "low impact development" (LID). Implementing GI and LID infrastructures can be done within the community, along with individually. Some examples of GI and LID practices include:

- Rainwater harvesting*
- Permeable pavements
- Riparian buffers*
- Rain gardens for runoff*
- Bioretention ponds
- Lake friendly landscaping (http://cceonondaga.org/resources/landscaping-for-water-quality-in-the-finger-lakes)
- Driveway diversion strips

With proper planning, many of these practices are very practical to implement on both a community and individual scale. The items noted with (*) above are relatively inexpensive to implement and also offer a benefit to the landowner such as increased aesthetic value of a rain garden or buffer strip or decreased property damage from heavy runoff. Riparian buffers are accessible through NYSDEC's "Buffer in a Bag" program. Rain gardens can be installed at the bottom of driveways, around parking lots, or along steeply sloped yards where water typically flows, not only helping infiltration and absorbing excess nutrients, but also giving aesthetic value to the property.

Example of a riparian buffer and rain garden on Hyde Lake.

Estimated Cost:

Varies depending on situation, particularly the size of the area a technique is applied to.

Litter accumulation from Hyde Lake DEC public boat launch

8.2.3 Lawn Care Best Management Practices

While having a manicured lawn is aesthetically pleasing, landscaping can have important impacts on lakes if done without care. Each year in the United States, and estimated 80 million pounds of pesticides and 90 million pounds of fertilizers are used on lawns. (Atwood and Paisley-Jones 2017). Runoff from fertilized lawns can contribute nutrients to the lake that adversely impact water quality. If fertilization is absolutely necessary, homeowners should test their soils for phosphorus and potassium content to select the formulation best suited for their property while minimizing over-fertilization. The 2012 nutrient runoff law (NYS Environmental Conservation Law, article 17, title 21 and Agriculture and Markets Law § 146-g) was enacted to address nonpoint source phosphorus input from residential lawns and includes prohibitions of fertilizer application is within 20 feet of any water body, and also from December 1 - April 1 in New York. Phosphorus containing fertilizers are prohibited for use on lawns in New York State. Further information regarding fertilizer use in New York and how to get soil testing done can be found online at: https://www.dec.ny.gov/chemical/67239.html

Additional best management practices for lawn care include avoiding overwatering, mowing too frequently or keeping grass too short, and reducing the overall use of pesticides and herbicides. Implementing a barrier such as long grasses, shrubs, or trees along the shoreline of lakefront properties can reduce the impacts of runoff on a waterbody. Through the NYSDEC "Trees for Tribs" program (https://www.dec.ny.gov/animals/77710.html) landowners with property within 50 feet of a waterway can receive free seedlings to plant within the riparian zone.

As part of good management, pet waste and other litter should be picked up and properly disposed of. The nutrients from the waste can be carried into the lake via surface run off, and may also be a source of disease causing microorganisms. Having adequate garbage disposal receptacles in the public access to the lake that are properly emptied in a timely manner can help reduce litter in the area, improving the aesthetic beauty and reducing human impact on the environment. Providing waste bags and signage stating the importance of proper pet waste and litter disposal may encourage visitors to properly dispose of waste.

8.2.4 Education and Outreach

The success of lake management initiatives often rely upon a vested and contingent interest among lake residents. Engagement through lake associations, town boards, and local land trusts are great ways to foster a sense of shared community with similar goals, while keeping abreast of the diversity of desires for ideal lake uses within the populous. State-wide programs such as CSLAP aim to educate lake residents to have a better understanding of factors which drive water quality and to be able to assess changes in the lakes over time. New York also administrates a boat steward program (https://www.dec.ny.gov/animals/107807.html) aimed at educating the boating public about how to prevent the spread of aquatic invasive species. Through this program, local lake associations can access signage, and plans for invasive species disposal stations which can be placed at public launches.

Public signs and plaques highlighting Hyde Lake's history, water quality, ecosystem, and ongoing management may help to educate visitors to the lake and encourage lake friendly behavior. Continued PAHL outreach, including social media platforms and public meetings, are an effective tool for building awareness and encouraging participation in watershed efforts. There are a number of other active lake associations in the area as well as a local land trust, the Indian River Lakes Conservancy, each of which could provide valuable insight into their own trials and tribulations of lake management, and offer possible collaborations on larger scale management initiatives.

Incentives that recognize and reward voluntary behavior are valuable; public recognition for positive action can help promote long-term and widespread stewardship. The Lake Friendly Living Pledge Program **(**https://www.cayugalake.org/lake-friendly-living/lake-friendly-living-pledge/**)** is a regional collaborative effort promoting the use of native grasses and gardens that do not require fertilization in addition to other BMPs related to water quality protection. Participants meeting the criteria of the program receive a lawn sign to display their commitment to water quality. This program creates a sense of community, provides public awareness, and has the potential to inspire others to embrace the concept of watershed stewardship.

8.3 Invasive Species Management

Compared to various lakes throughout the region and New York, Hyde Lake has a relatively low number of aquatic invasive species present. It is important to be vigilant in preventing the addition of additional invasive organisms to Hyde Lake.

Invasive species management is an ongoing process that requires frequent assessment and evaluation. The "Invasion Curve" is often used to describe how management objectives and goals change over time as the infested area or population grows **(Figure 8-1)**. There are typically four management goals that correspond to the time, level of infestation, and anticipated related costs. Without active monitoring or public education efforts, new invasive species can become established to a point where eradication is impossible. Preventing spread to other waters and long-term management become increasingly more expensive. In many cases, ecosystem services are extremely disrupted by proliferation of AIS.

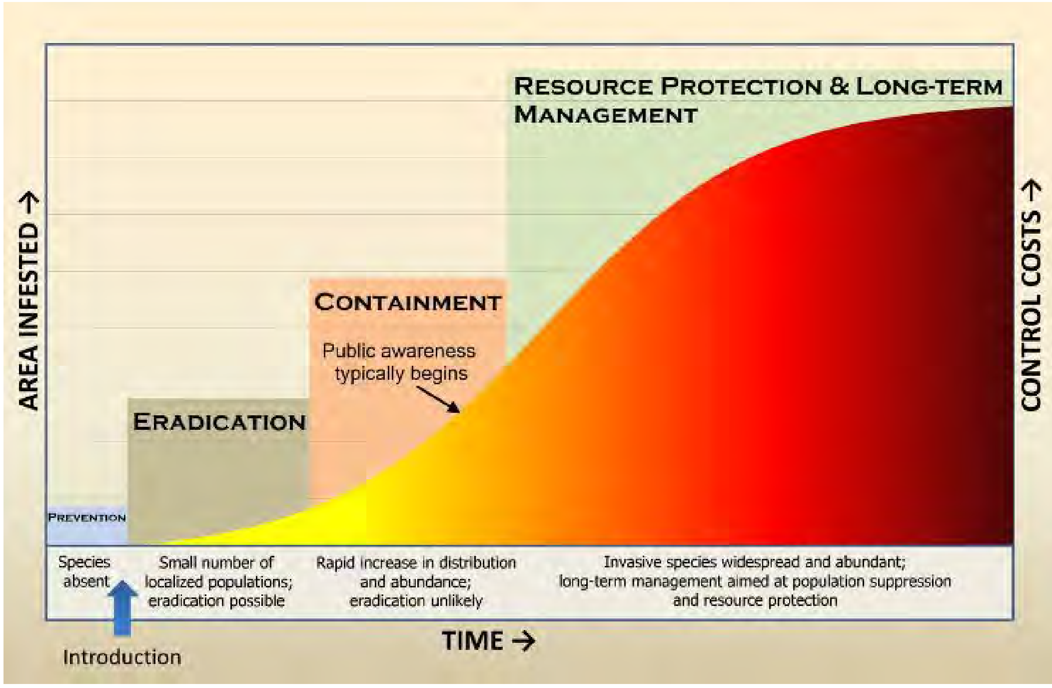


Figure 8-1: Invasive Species Management Curve (Source: USACE The Invasion Curve).

European frogbit (*Hydrocharis morsus-ranae*), and Eurasian watermilfoil (*Myriophyllum spicatum*) have been identified in Hyde Lake. There is a high risk for other aquatic invasive species introduction due to the lakes proximity to other publically accessible and recreationally utilized waterways. Several surrounding lakes possess AIS that are not currently identified within Hyde Lake including zebra mussels (*Dreissena polymorpha*), and curly pondweed (*Potamogeton crispus*), both highly invasive organisms. Additionally, Hyde Lake lies less than 10 miles from the St. Lawrence River which harbors a huge number of aquatic invasive species including spiny waterflea (*Bythotrephes* longimanus), fishhook waterflea (*Cercopagis pengoi*), and round goby (*Neogobius melanostomus*). Boaters who transport watercraft from other waterbodies to and from Hyde Lake should follow proper procedures for cleaning and disinfecting boats and trailers. Any of these invaders could have profound impacts on the Hyde Lake ecosystem. See section 9 for recommendations regarding AIS removal and spread prevention.

8.4 Direct Algae Control

Typically control of nuisance algae growth is accomplished by nutrient reductions via the various methods discussed in this plan. Occasionally, if conditions worsen to the point where lake use is hindered for long periods of time, or result in human health concerns, direct actions can be taken to mitigate the effects of harmful algae. Algaecides have been used historically in New York State including copper based and peroxide compounds. Although copper based algaecides have been successful in New York State historically, their use can lead to accumulation of copper in the sediment to levels harmful to benthic biota. Peroxide based algaecides offer an alternative to copper without the accumulation of metals in the sediment, but aren't always as effective for very dense algae, and are slightly more expensive.

Some new technologies have emerged recently that seem perhaps more science fiction than reality, but are a glimpse into what the future may look like in terms of algae control. Ultrasonic devices that damage cyanobacterial gas vacuoles have been successfully applied to small ponds. The primary problem with these devices is they have a limited range for a large scale application and if they were to be scaled up the energy demand for such an application would be large. Due to mixing these devices are ineffective for localized control as well, for example placing one on a swimming platform would have little effect as algae cells are rapidly transported to and from the area. A second technology, irradiation with ultraviolet radiation (UV-C), has shown promise as well. For this to work on lakes, an automated portable system is required **(Figure 8-2)**. Successful application to large waterbodies has not yet been shown.

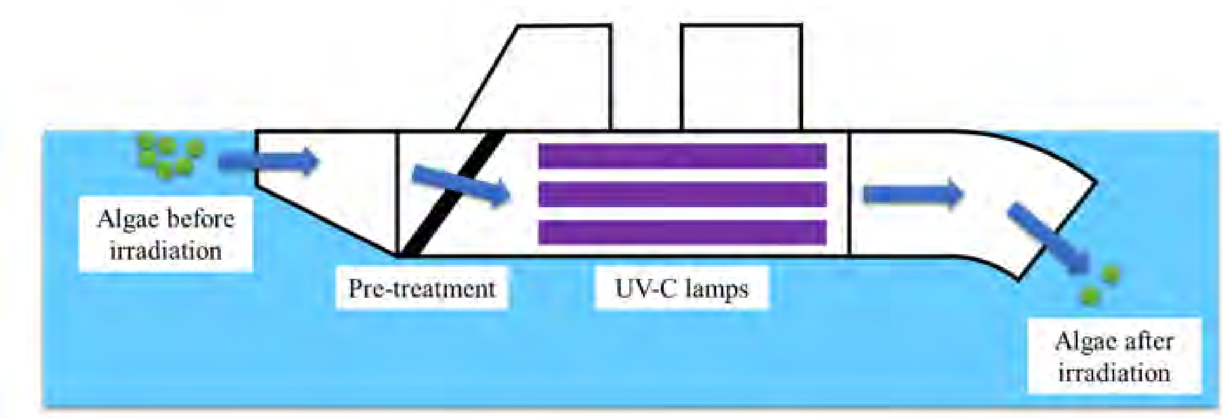


Figure 8-2: A conceptualization of a UV-C irradiation vessel (copied from (Li et al. 2020)).

The NYSDEC HABs program guide provides further guidance on various control measures for algae (https://www.dec.ny.gov/docs/water_pdf/habsprogramguide.pdf).

Permit Requirements:

For algacide: SPDES General Permit required (NYS Article 15/Part 327; Article 17 SPDES General Permit). Likely need an Article 24 wetlands permit as well.

Ultrasonic/UV: Need to consult with DEC regional offices to determine status. UV does not yet have NYS guidance.

Estimated Cost:

Algaecide treatments cost somewhere in the range of $5 – 25 per acre/foot.

Ultrasonic units are expensive at ~$5000 per unit. Operational costs are low but these estimates are for small ponds or lagoons. Additional costs may be incurred to add marine grade power service to the lakeshore.

There is little information on what the cost of a UV boat would be but it would be large.

8.5 Macrophyte Management Strategies

The limited formal survey data available on the macrophyte community of Hyde Lake suggests a reasonable balance of native and invasive species with the regular occurrence of small localized nuisance beds of Eurasian watermilfoil. These dense patches of Eurasian watermilfoil have been the primary concern of lake residents. Despite the long time that Eurasian watermilfoil has been present in Hyde Lake, the relatively small shoreline area conducive to its growth makes its management quite feasible by a number of methods. If any large scale management of aquatic plants is desired, such as herbicide application or mechanical harvesting, a full macrophyte survey should be prioritized to examine the full distribution and diversity of the macrophyte population. Since the extent of Eurasian watermilfoil growth in Hyde Lake is relatively concentrated to the southern end of the lake, it seems that localized targeted management strategies would be more efficient and environmentally friendly than a lake wide chemical application, for example. In this section, multiple options are provided for consideration to control the Eurasian watermilfoil population in Hyde Lake.

8.5.1 Hand Harvesting

Manual removal of plants by hand can be effective for smaller areas of concern, and consists of either removal of the entire plant from the root, or cutting of growth down to the sediment. Hand pulling plants by the root should be done early in the growing season and the remains taken to an upland area for disposal. No specialized gear is required in water depths less than 3 ft and can be accomplished by small watercraft (e.g., kayaks and canoes) or by wading. Hand cutting differs from hand pulling in that macrophytes are cut, torn, or dislodged from the lake sediments using various tools and instruments such as scythes, "weed" rakes, chains, or other specialized devices. These implements are used from the shoreline, docks or other platform. As with hand pulling, all plant fragments should be collected and deposited in an upland area. This technique does not require the individual to enter the water. Since the entire plant and root system are not removed, macrophytes will regrow within treatment areas, thereby requiring repeated cutting during the recreational season.

Permit Requirements:

No permit is required for hand pulling or hand cutting unless the property is within 100 ft of a jurisdictional wetland. Within a wetland, applications for the general permit of management of invasive species (GP-0-21-004) may be submitted to target AIS using benthic barriers, hand harvesting, and suction-harvesting.

Estimated Cost:

The cost of hand pulling Macrophytes is estimated to be around $100 to $500 per acre if a contractor is hired (Wagner, 2004). The cost of hand cutting is negligible for the individual landowner and would at most be the hourly rate of any workers hired to clear waterfront areas. A weed rake costs between $75 and $150 and a modest waterfront area could be cleared for a labor cost of $100 to $200.

Pros:

- Relatively low cost
- Can be done with volunteers with little training
- Easy to implement
- East to manage with small areas
- Can be used for selective removal
- Limited impact on non-targeted organisms
- Provides rapid response to a new invasive species
- Provides immediate removal of invasive or nuisance species

Cons:

- Expensive for larger areas
- Labor intensive
- Disposal of pulled plants may be difficult while avoiding affecting a different watershed
- Selective removal requires ability to correctly identify plants
- Cutting can remove native species (non-selective)
- Potential for fragmentation and spreading
- Must be repeated annually (Pulling) or multiple times in a summer (Cutting)
- Can increase turbidity in localized work areas
- Presence of HABs can limit ability to enter water (Pulling)

8.5.2 Benthic Mats

A benthic mat, sometimes called a benthic barrier, bottom barrier, weed mat, or bottom screen is a mat that is anchored to the lake bottom in order to limit rooted plant growth. They are an effective way to reduce aquatic plant biomass in small areas and are often used to control rooted plant growth around docks, boat launches, and within swimming areas. Mats can be made of various materials including polyethylene, burlap, or polypropylene, and typically cover 150 to 250 square feet (NYSFOLA, 2009). Benthic mats are legal to install only after July 1 of each year to protect fish spawning, and need to be removed before October 31 by law in New York State. Depending on their size and weight, many benthic barriers are movable and can be installed at any depth. Divers may be necessary for installation in deeper waters. Bottom features (i.e., rocks, substrate type) should be considered when deciding on how to best anchor the benthic barrier to the lake bottom.

Permit Required:

No permits are required if the treated areas are not within a regulated wetland/wetland check zone (100ft of wetland), and so long as the barrier installation does not involve placement of fill (i.e., sand or gravel). Within a wetland, applications for the general permit of management of invasive species (GP-0-21-004) may be submitted to target AIS using benthic barriers, hand-harvesting, and suction-harvesting.

Estimated Cost:

The most commonly used materials for benthic barriers cost between \$0.25/ft2 and \$0.60/ft2. The total installed cost per half-acre is \$10,000 to \$25,000. While the initial capital cost is substantial, the barriers can be used for many years if they are maintained properly. The installation cost is substantially reduced if the work is conducted by property owners or volunteers (Wagner, 2004).

Pros:

- Elimination of macrophytes in target area is possible with proper installation and maintenance
- Useful for relatively small areas such as docks and swimming beaches
- Can create an immediate open area after installing
- May reduce resuspension of fine-grained sediment
- Create edge effects and habitat enhancement
- With proper maintenance, most barriers may be re-used annually

Cons:

- Non- selective macrophyte management technique
- Potential adverse impact on benthic dwelling organisms or fish spawning
- Relatively high initial investment
- Installation and maintenance over large area can be expensive

- Improper maintenance reduces the effectiveness of the barriers
- Depending on the materials used, gasses can build under the barrier causing maintenance issues
- Can be difficult to install in deep/muck sediments

8.5.3 Aquatic Herbicides

Herbicides offer a form of control that can be either localized to small areas or applied to large areas to treat nuisance macrophyte and AIS growth. Typically, there are two classes of herbicides, contact and systematic, both having examples approved for use in NY lakes. Contact herbicides only kill the part of the plant that comes into direct contact with the chemical. Systemic herbicides are taken into the plant and affect metabolic processes by inhibiting plant-specific enzymes, such as those important to photosynthesis. Systemic herbicides can be translocated into roots, leaves, and shoots which can cause them to take longer to work. Despite initially slow results, systemic herbicides are generally more effective for long term control. Aquatic herbicides registered for application in NYS are listed in **Table 8-2**.

Several herbicides with different active ingredients have demonstrated control of Eurasian milfoil; however, these products often affect non-target species as well. The product ProcellaCOR® is a systemic herbicide recently registered for aquatic use in New York. It has demonstrated selectivity for control of Eurasian and variable water milfoil with minimal to no effect on native species (Beets et al., 2019). It also has no restrictions on contact recreation and water portability. The product can offer up to 2 years of effective control within a treatment zone. While the per unit product cost is typically higher than other herbicides, the amount needed and the cost of application is generally less than other herbicide treatments (e.g., triclopyr, fluridone). For more information about this product, see https://www.sepro.com/aquatics/procellacor-product.

Mud Lake, in the hamlet of Redwood which lies nearby Hyde Lake, has undertaken repeated chemical treatments to control Eurasian milfoil in the past. Mud Lake maintains an active lake association which would be a good resource if the PAHL were interested in pursuing aquatic herbicides to control milfoil proliferation in the lake.

Permit Requirements:

All herbicide applications must be completed by or under the supervision of certified applicators following permitting procedures with the NYSDEC. At a minimum a pesticide permit is required and a State Pollution Discharge Elimination System (SPDES) general permit are necessary to apply any chemical to a waterbody in New York State. Treatment areas within regulated wetlands or wetland check zones would require extra permitting. Permitting can be completed by individuals or organizations seeking application; however, consultation with a lake management firm that provides herbicide application services is recommended.

Pros:

- Fast- acting
- Can be relatively inexpensive
- Effective against many AIS
- Effective for nuisance, dense growth areas

Cons:

- Generally non-selective
- Potential for adverse effects on wildlife
- Does not remove any phosphorus or nitrogen from the water column by removing plant biomass
- Permitting challenges
- Potential for opportunistic invasive species to recolonize the area and grow to greater levels

Table 8-2: Registered herbicides in NYS with information regarding costs, target species and pro/cons.

Active Ingredient	Brands[1]	Relative Costs	Target Species	Pros	Cons
Glyphosate [3]	Rodeo®, AquatNeat®	$500-1,000 per acre + cost of application	Emergent and floating-leaved macrophytes	Broad spectrum	Restrictions for application on potable water sources, not used for submerged species
2,4 D	Chinook®, AquaSweep®, Navigate®	$300-800 per acre + cost of application	Emergent and floating leaved macrophytes	May be effective on susceptible species for two years, semi-selective on AIS at low doses	Impact on aquatic life, Restrictions for application and use in/near potable water sources

Active Ingredient	Brands[1]	Relative Costs	Target Species	Pros	Cons
Triclopyr	Garlon®3A, AquaSweep®, Renovate3®	$1,000-1,500 per acre + cost of application	Submerged macrophytes	Effective on Eurasian watermilfoil	Costly, may negatively impact non-target species, restrictions for potable water sources
Imazamox [3]	Clearcast®	$300-800 per acre + cost of application	Emergent, floating-leaved, and submerged macrophytes	Broad spectrum	Nonselective
Florpyrauxifen-benzyl [2]	ProcellaCOR®	$700-900 per acre (includes application cost)	Floating-leaved and submerged macrophytes	Effective on AIS (e.g., Eurasian watermilfoil), has demonstrated minimal effect on native species, minimal risk to aquatic life, no restrictions for potable water sources, short application time	Future populations may develop resistance after 2+ consecutive years of treatment, restrictions for irrigation sources
Fluridone	Sonar®	$500-1000 per acre + cost of application for single treatment; $1000-2000 for sequential treatments	Submerged and floating-leaved macrophytes	Selective on AIS (i.e., Eurasian watermilfoil) at low doses, minimal risk to aquatic life, no restrictions for potable water sources	Acts slowly (90 days necessary), diffusive, costly
Diquat	Reward®, Tribune®	$200-500 per acre + cost of application	Submerged, floating-leaved, emergent macrophytes and filamentous algae	Broad spectrum, fast-acting, limited drift outside target area	Nonselective, kills plants not roots, potential for toxicity to wildlife

Active Ingredient	Brands[1]	Relative Costs	Target Species	Pros	Cons
Copper	Harpoon®, Komeen®		Submerged macrophytes	Targets copper-sensitive plants (i.e., hydrilla, naiads, coontail), affects algal growth	Often paired with another chemical to successfully act as an herbicide, toxic to many non-target species

(1) For a full list of NY registered brands, see https://www.solitudelakemanagement.com/product-labels-new-york-updates/.

(2) Active ingredients recommended for Eurasian watermilfoil control in Hyde Lake.

(3) Active ingredients recommended for floating-leaved (e.g., yellow water lily) control in Hyde Lake.

8.5.4 Biological Methods

Biological methods consist of the introduction of a natural predator to control an invasive species. It's perceived by many as more sustainable and environmentally responsible in the long term, so long as the introduced control species is not itself a non-native nuisance as well. Although the perceived benefits of plant management through biological means are evident, extent of control is often not immediately apparent and the extent of success is highly variable. Biological control can take multiple growing seasons to become a viable control measure, so if no other management strategies are pursued the overall macrophyte biomass can continue to increase and AIS may spread and become more dominant.

Biological controls specific to Eurasian watermilfoil are limited, and have had only moderate success. Herbivorous insects including the milfoil weevil (*Euhrychiopsis lecontei)* , and the aquatic larvae of the water veneer moth (*Acentria ephemerella)* have been examined as possible control agents. A species of caddis fly (*Nectopsyche albida)*, is a generalist feeding on many plant species, but it appears to prefer watermilfoil. Although an attractive option because of the limited environmental impact, there have been few examples of successful management of Eurasian watermilfoil through the use of only these insects. Since each depends on the plant for food, the best case we could expect would likely be a sort of boom-bust cycle where a high population density of the herbivore drives a low density of milfoil and vice versa. The milfoil weevil is known to exist naturally in other Indian River lakes, but at low density.

Permit Requirements:

A permit is required to stock aquatic weevils and moths per ECL Article 11.

Estimated Cost:

Milfoil weevils are sold for $1 each with a recommended stocking density of 3,000 per acre, yielding a purchased cost of $3,000 per acre. Alternatively, interested groups can raise the insect themselves, and reduce the cost to about $300 per acre.

Pros:

- No cost for established populations
- Augments natural processes to manage nuisance species

Cons:

- Augmenting populations is expensive and may not improve management where established populations are thriving
- Highly variable results
- Herbivorous insects as a management method are less effective in larger lakes
- Does not remove any phosphorus or nitrogen from the water column by removing plant biomass

An herbivorous fish, the grass carp (*Ctenopharyngodon idella*) has been stocked in lakes as a form of long-term management of macrophytes. Grass carp are originally from Asia, and are genetically modified to be incapable of reproduction. They are relatively long lived; a recent study showed grass carp can live for over 30 years if ample food is available (Clemens et al., 2016). Although the fish will eat nearly all types of submerged vegetation, Eurasian watermilfoil is often one of the last to be consumed (Pine 1991). The permitting process is quite strict in New York, and requires controls in place to prevent downstream escape of animals. High stocking rates can contribute to water quality issues including increased turbidity and alterations to water chemistry that can favor formation of algal blooms.

Permit Requirements:

Permits for grass carp stocking are generally only given to private ponds that are a maximum of 5 acres or, if larger than 5 acres, have been evaluated by the DEC and meet the criteria under the State Environmental Quality Review (SEQR) Act. The SEQR may include development of an environmental impact study or full environmental assessment with coordination from DEC personnel. Due to their potential to disturb the sediments, they are generally not approved for use in state regulated wetlands. For these reasons, grass carp are not considered a feasible alternative for Hyde Lake.

8.6 Lake Sediment Sampling and Analysis

The extent of internal phosphorus load can be effectively estimated via water sampling of the water immediately above the sediment interface during anoxic periods. Internal loading is a function of both the extent and duration of anoxic conditions as well as the nutrient content of the sediment itself. To ascertain nutrient content of lake sediments, surficial samples may be processed by a qualified laboratory. Extractions begin by removing loosely bound P from the sediment, then separating P bound to specific metals. Samples can be collected via coring or by a sediment surface grab. Sediment grabs are utilized when a specific sediment depth is not required for data analysis; sediment cores can provide historical context of sediment and nutrient deposition rates. During collection and storage it is crucial for the collected sediment to be stored in either oxic or anoxic environment depending upon the overlaying water conditions. Collections can be completed by an experienced field technician or trained volunteer.

8.7 Education and Outreach

Involving the public is essential to help meet the challenges of aquatic plant management, and an important element of long-term management strategies. Engaging the community can help provide them with realistic expectations, inform them of how their everyday actions can affect the lake, and build support for the ongoing commitment of funds needed to maintain the quality of Hyde Lake for all its users.

Ongoing education and outreach efforts are vital to reducing the spread and avoiding infestations of AIS. Some potential steps that can be taken to ensure local residents and visitors are aware of AIS include:

- Installing a sign at the public boat launch to inform users of the importance of cleaning their boats before and after using a waterbody
- Hosting AIS workshops
- Creating a brochure for new residents and other interested parties about protecting the lake
- Spreading information about AIS and best management practices through a newsletter

Invasive species management is easier and more cost effective before introduced species have time to infest a large area. Continued efforts to teach and train lake users the importance of proper cleaning techniques when entering and leaving the lake, and also in identifying invasive species is highly recommended. These objectives can be accomplished through visual products (i.e., signage, pamphlets, distribution of materials by PRISM or NYSDEC) and hands-on activities (i.e., workshops, hand-harvesting events). Monitoring areas that have used specific management methods, such as hand pulling and benthic barriers, with dissemination of results, will add knowledge and acceptance of future planning and management initiatives.

Not only is it important to be able to identify established and newly introduced AIS, but also to know what to do with that information. The New York Heritage Program's and NYSDEC's iMapInvasives is an interactive invasive species database of the observations made by community scientists and professionals that is used for natural resource management projects in the state. The application offers lake users and property owners the opportunity to become more active in the monitoring and reporting of AIS to state agencies. Interested groups may request an in-person or virtual training session online (https://www.nyimapinvasives.org/training).

Estimated Cost:

Effective public outreach and education requires time invested by agency staff with expertise in developing, designing, and tailoring outreach programs and tools, as well as costs related to hosting events and creating and disseminating print and web-based resources. Recent public outreach campaigns involving brochures and public service announcements by local radio stations have cost from $2,000 to $3,000 per campaign. Website/social media development and maintenance can cost from $3,000 to $5,000 annually, depending upon the level of service requested. Additional outreach such as posted signs can cost from $75 to $200 per sign.

Pros:

- Increased awareness regarding preventing spread of invasive species
- Improved understanding of shoreline buffers and maintaining valuable habitats
- Enhanced knowledge and acceptance of future planning and management initiatives

Cons:

- Indirect cost are a challenge to measure
- Requires management structure and coordination across agencies
- Outcomes of raised awareness may be difficult to quantify, despite acknowledged need and benefit

9 Recommended Actions and Implementation Plan

Hyde Lake is a resource enjoyed not only by the lake residents but lake visitors also. This plan has endeavored to provide context to various data and anecdotal reports that have been gathered by the lake association on Hyde Lake. Based on this information the following section contains recommended actions including further data collection goals. Each recommendation is identified by its priority using the available information; however, the designation of an action as "low priority" should not preclude its completion if the resources are available simply because other "high priority" actions have yet to be finished. Lake management is an iterative and long term process with many small actions hopefully adding up to meet the desired outcome. Some actions fulfill multiple goals, but are nonetheless divided into groups including phosphorus loading, water quality testing and monitoring, invasive species management, and education. Included with each action are informational needs as well as relative cost to complete.

Water Quality Testing and Monitoring:

Recent sampling by volunteers as part of CSLAP, and supplementation of this data with dissolved oxygen monitoring has provided some crucial information regarding in-lake processes. These data point to the possibility for internal loading of nutrients to play a critical role in the status of Hyde Lake, as well as anthropogenic sources of nutrients including on-site wastewater systems. Regardless of the choice of management activity, continued monitoring will be critical for assessing progress towards water quality goals. The following actions outline a plan for a continued level of effort for baseline assessments of lake water quality as well as to fill in data gaps critical for informing future management actions, grant submissions, and regulatory documents.

- Continue participation in CSLAP
    - Continued CSLAP participation will allow lake managers to view changes over time and asses the proper course of action
        - Relative cost: Low, $370/yr
        - Priority: High
- Continue PAHL dissolved oxygen monitoring
    - Continued testing of DO provides profiles to monitor stratification trends and lower depth oxygen levels
        - Monitoring frequency should be at least bi-weekly, but weekly is more desirable with a focus on July – September when thermal stratification is most likely to occur
        - Of particular interest are high wind events. Sampling targeted immediately following high winds will help assess the frequency of full water column mixing associated with replenishment of dissolved oxygen to the substrate water interface.
    - Add three additional sites in the main basin of the lake, monitored when stratification is observed at the primary sampling location
        - Sites should be located to the north, south and west of the current CSLAP location, targeting at least 5 m of water
            - During periods of anoxia, if low DO is observed below 5 m depth, opportunistic samples may be collected at shallower depth
            - Record specific latitude and longitude of sampling locations

    - Coupled with bathymetric information, the extent of oxygen depletion can be derived using this information for input into planning documents such as a TMDL for phosphorus
    - Relative cost: Low
    - Priority: High

- Additional testing for caffeine of optical brighteners in the event voluntary dye test shows leakage
  - Optical brighteners can identify inputs from septic systems to the lake
    - Optical brighteners may be detectable using fluorescence in real time
    - Surveys should be planned late in the summer season when seasonal camp (and septic system) use is highest and focus on nearshore zones when the water table is saturated
      - Users should be wary that dissolved organic carbon inputs fluoresce at the same wavelength as optical brighteners and can confound interpretation where wetland inputs are high.
    - Some examples of fluorometers capable of detecting optical brighteners https://www.turnerdesigns.com/optical-brighteners-fluorometer
  - Caffeine and other micro-pollutants can be useful for tracking wastewater inputs
    - A variety of pollutants associated with human inputs including chemicals in household cleaners, food, and pharmaceuticals can be indicative of anthropogenically sourced pollution
    - These are relatively specialized analyses but Cornell (https://helbling.research.engineering.cornell.edu/) and Syracuse University (https://ecs.syracuse.edu/faculty-staff/teng-zeng) both have completed studies in the past and may be open to partnering for a project
  - The IRLC might have access to an optical brightener probe; fostering a relationship with the IRLC should be a priority
    - Relative cost: Low/Medium
    - Priority: Moderate

- Water monitoring at maximum depth within the lake
  - Measuring nutrient levels at the lower depths of the water column is critical to quantify internal loading.
    - Primary focus on phosphorus with examination of nitrogen as resources allow
  - In addition to regular CSLAP monitoring, additional samples should be targeted when stratification and oxygen depletion of the bottom waters are observed. Samples should be collected from the anoxic layer (within 1 meter of the bottom) without disturbing the sediment
    - Coupled with information on dissolved oxygen these samples with allow quantification of internal loading
    - Relative cost: Medium
    - Priority: High

- Quarterly sampling of runoff inputs
  - Periodic sampling of runoff inputs entering Hyde Lake
    - Nitrogen and phosphorus should be analyzed during baseflow and runoff events with particular focus during the summer season when recreational use of the watershed is highest and algae growth is most prevalent
    - A minimum of 3 baseflow, and 3 runoff event samples should be targeted in the primary large tributary to the lake
  - Identification and sampling of ephemeral (intermittent) runoff to Hyde Lake
    - Ephemeral inflows should be sampled opportunistically
    - Note of the conditions should be made surrounding samples (currently raining heavy, moderate, light; amount of rain in previous 24 hours etc.) and include photos of the event
    - A goal of 3 samples per ephemeral inflow during the growing season as a starting point
    - Relative cost: Low/Moderate
    - Priority: Moderate
- Continue conversation with NYSDEC Region 6 regarding additional fish studies, and fish stocking efforts
  - There are currently no up to date assessments publicly available regarding the effects of fish stocking within Hyde Lake
  - Continue communication with the DEC Region 6 fisheries for additional options
    - Consider partnering with a college/university to perform a study with input from the DEC and report results to DEC staff
    - Consider examining condition factors for fish species of interest (walleye, black bass, pumpkinseed, black crappie) to elucidate possible trophic interactions between species.
    - Inclusion of a zooplankton component to the study would help form a more full picture of the aquatic food web in Hyde Lake and how fish species interact
    - Relative cost: Low
    - Priority: Low

<u>Phosphorus Loading:</u>

- Encourage voluntary testing of Septic Systems within community to maximize system performance and lifespan
  - Perform an inventory of active septic systems in the watershed
    - Voluntary survey can be a starting point, mandated reporting of system types will only be possible through changes to town ordinance
    - Include type of system, age, and size
  - Voluntary testing can ensure proper working systems, and minimize the chance of unknown leakage
  - A voluntary program can lead to more a more formalized and required septic maintenance program through town ordinance after lake residents have bought in
  - Various programs can help allay the cost of septic system improvements/replacement

        - For Jefferson County (https://efc.ny.gov/septic-replacement) a current program does not list Hyde Lake, but if testing indicates septic impacts on the lakes it may be reasonable to leverage that information to garner support
        - NYS Septic Replacement Fund (https://efc.ny.gov/septic-replacement) currently closed, monitor for updates
    - Upgrades to failing systems or those very close to lake (within 500 ft) to include on-site phosphorus treatment or replacement of the system with composting (https://www.jdpower.com/rvs/shopping-guides/how-do-rv-composting-toilets-work) or incineration (https://www.epa.gov/sites/default/files/2015-06/documents/incinera.pdf) toilets especially for seasonal cabins (less demand on the system)
        - Aerobic treatment (https://www.epa.gov/septic/types-septic-systems#aerobic)
        - Alum treatment systems (https://www.clearlaketechnology.com/)
    - Requiring upgrades/replacements will have to achieved through municipal ordinance
        - The Otsego Lake watershed has a septic management plan written in law that can act as a guide (https://ecode360.com/11848559)
    - Relative Cost: ~$600 per system tested (High), higher for replacement/upgrades
    - Priority: Moderate
- Encourage riparian zone buffers in areas where coverage may be incomplete to reduce runoff inputs
    - Along the lakeshore where developed areas run to the water's edge, educate and encourage the use of riparian buffers to limit direct runoff into the lake
    - Share information among lake residents about the DEC "Buffer in a Bag" program
    - Cornell Cooperative Extension landscaping for water quality handout (http://cceonondaga.org/resources/landscaping-for-water-quality-in-the-finger-lakes)
        - Relative Cost: Low (Potential funding through DEC programs)
        - Priority: Low
- Stay informed about recent advances in state law regarding the use of nutrient inactivation products
    - NYSDEC recently undertook a lake scale nutrient inactivation project aimed at assessing the use of alum for lake management in New York State.
    - Once legalized, this may be a feasible alternative for Hyde Lake, however the extent of internal loading of phosphorus needs to be quantified through monitoring first.

Invasive Species Management:

- Conduct monitoring of current and newly identified AIS within Hyde Lake
    - Leverage use of iMapInvasives to stay aware of the distribution and coverage of invasive species
    - The public boat launch is an area of high likelihood of introduction and regular monitoring in this vicinity may result in early detection of novel invasions
    - Early detection of new AIS introduced to the lake allows the possibility of total eradication
        - Relative cost: Low
        - Priority: High
- Spot treat dense areas of macrophytes impeding recreation (e.g. personal docks and boat launches) with benthic mats.

- While an abundance of aquatic vegetation may have become a recreational and aesthetic nuisance in localized areas, mass removal may have adverse effects including increasing the potential for algal growth, and reducing habitat for fish. Spot treatment of macrophytes for areas of high recreational use is recommended over whole lake action
  - Relative cost: Moderate
  - Priority: Low

- Establish hand pulling operations in frequently used areas with high macrophyte growth or newly introduced AIS
  - Hand pulling is an alternative to benthic mats for small areas of high recreational use
  - Hand pulling can be used for early eradication of newly introduced AIS including European Frogbit
  - Hand harvesting using rakes may be feasible if started early when macrophyte growth begins
    - Relative cost: Low
    - Priority: Low

<u>Education</u>:

- Continue using PAHL Facebook for outreach and updates
  - Social media outreach is a great method of encouraging public engagement, along with providing an outlet for information at public disposal
    - Relative cost: Low
    - Priority: Moderate
- Hold clean up days at public boat launch to encourage community involvement
  - Improperly discarded waste surrounding the public boat launch has the potential to bring unwanted pollutants into the lake, and in an eyesore. Community clean up removes the waste while also getting the community involved in bettering Hyde Lake
    - Relative cost: Low
    - Priority: Moderate
- Educate public on invasive vs noninvasive species identification
  - Knowing how to correctly identify the differences in various aquatic plant species allow for proper recording and reaction to introduced and current invasive species, along with the preservation of native species within the lake
  - Signage should be erected at the public boat launch that helps visitors identify invasive species
  - Disseminate information to lake residents via regular meetings, newsletters, and the facebook page
    - Relative cost: Low
    - Priority: High
- Communicate with local Aquatic Invasive Species Resource Educator/ Launch Steward program for additional signage and informational pamphlets

- o Having pamphlets and signage available around the lake can encourage visitors to properly treat recreational vessels when entering or leaving Hyde Lake to reduce the likelihood of additional AIS introduction
- o An invasive species disposal station may be fabricated, plans can be found on the NYSDEC website
    - Relative cost: Low
    - Priority: Moderate

10 Adaptive Management

An adaptive management approach is recommended for the Hyde Lake and watershed stakeholders. Adaptive management is a ``build and measure" approach that acknowledges uncertainties and uses data and information to define next steps **(Figure 10-1)**. This management type is recommended for Hyde Lake as it will allow further analysis of novel data to reduce current uncertainties and best provide effective management practices within the watershed.

A key challenge is to determine the source of phosphorus input into the lake, and whether it is internal or external. Should it be identified as excess internal loading, methods such as aeration/circulation, or nutrient inactivation, may become the best course of management for the reduction of algal blooms. Following the reduction of algal blooms, various factors may lead to the increase in macrophyte growth, prompting additional management to target extensive control.

This management plan should be updated periodically as additional information regarding water parameters are obtained, management techniques change, or objectives change.

Figure 10-1: The adaptive management process.


Credit: PAHL

11 Resources

A Primer on Aquatic Plant Management in New York State (2005): https://www.dec.ny.gov/docs/water_pdf/ch6apr05.pdf

Aquatic Pesticide Permits: https://www.dec.ny.gov/chemical/8530.html

Article 24 Freshwater Wetlands Title 23 of Article 71 of the Environmental Conservation Law: https://www.dec.ny.gov/docs/wildlife_pdf/wetart24a.pdf

CSLAP Data for Hyde Lake (1999-2014): https://nysfola.org/cslap-report-search/

EPA Urban Runoff: Model Ordinances to Prevent and Control Nonpoint Source Pollution: https://www.epa.gov/nps/urban-runoff-model-ordinances-prevent-and-control-nonpoint-source-pollution

GIS Clearinghouse map data: https://gis.ny.gov/gisdata/

Harmful Algal Blooms by County 2012 – 2019: https://www.dec.ny.gov/docs/water_pdf/habsextentsummary.pdf

Harmful Algal Blooms (HABs) Know it, Avoid it, Report it!: https://www.dec.ny.gov/chemical/77118.html

History of Hyde Lake: https://www.lakehomes.com/new-york/hyde-lake

Lawn Fertilizer (NYS Nutrient Runoff Law): https://www.dec.ny.gov/chemical/67239.html

New York State Soil and Water Conservation, Agricultural Best Management Practice Systems Catalogue (2014): https://www.dec.ny.gov/docs/water_pdf/agriculturebmp.pdf

Jefferson County Soils: https://cugir.library.cornell.edu/catalog/cugir-007907

United States Department of Agriculture Natural Resources Conservation Science, Web Soil Survey: https://websoilsurvey.nrcs.usda.gov/app/

2020 Archived HABs Notices: https://www.dec.ny.gov/chemical/83332.html

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13 Appendices

Appendix A: Laboratory Data

Data Report from the Upstate Freshwater Institute Laboratory (NY ID: 11462) that was collected for updated Hyde Lake Management Plan.

Appendix B: Field Data

Data collected at multiple sites within Hyde Lake including vertical profiles and Secchi Disk depths.

Appendix A

SAMPLE_TIME	INFORMA	SAMPLE_T	RSLT_RESU	LABORATO	CHARACTERISTIC_NAME	RSLT_RESU	RSLT_RESU	RSLT_RESU	RSLT_ANA	RSLT_MET	RSLT_QUA	RSLT_DET	RSLT_DET	RSLT_DET	RSLT_VAL	RSLT_INTE	RSLT_LAB	RSLT_CON	RSLT_FLAG
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	ALKALINITY, TOTAL (AS CACO3)	46.8	mg/L	TOTAL	SM 2320 B	1.8	2	mg/l			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	SUNYESF	ANATOXIN-A		ug/L		Boyer LCN	0.011		ug/L							
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	ARSENIC	0.77	ug/L	TOTAL	E200.8	0.32	1	ug/l			J	estimated	J		
8/19/2020 13:00	Epilimnio	WATER C	LAB	SUNYESF	BMAA (BETA-METHYL-AMINO-(L)-ALANINE)		ug/L		Boyer LCN	0.15		ug/L							
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	CALCIUM	17.2	mg/L	TOTAL	E200.7	110	1000	ug/l			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	CARBON, DISSOLVED ORGANIC (DOC)	4.1	mg/L	DISSOLVE	SM5310C	0.5	1	mg/l			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	CARBON, TOTAL ORGANIC	4.7	mg/L	TOTAL	SM5310C	0.5	1	mg/l			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	CHLORIDE	21.4	mg/L	TOTAL	E300.0	0.5	2	mg/l			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	CHLOROPHYLL A	21.1	ug/L	TOTAL	SM10200H		1.6	ug/l			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0	ug/L		bbe Fluoroprobe User Manual										F22
8/19/2020 13:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0	ug/L		bbe Fluoroprobe User Manual										
8/19/2020 13:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	3.2	ug/L		bbe Fluoroprobe User Manual										
8/19/2020 13:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A (PROBE) CONCENTRATION, C	4	ug/L		bbe Fluoroprobe User Manual										F22
8/19/2020 13:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	10.7	ug/L		bbe Fluoroprobe User Manual										
8/19/2020 13:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A (PROBE) CONCENTRATION, C	15	ug/L		bbe Fluoroprobe User Manual										F22
8/19/2020 13:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A (PROBE) CONCENTRATION, D	1	ug/L		bbe Fluoroprobe User Manual										F22
8/19/2020 13:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, D	0	ug/L		bbe Fluoroprobe User Manual										
8/19/2020 13:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, T	14	ug/L		bbe Fluoroprobe User Manual										
8/19/2020 13:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A (PROBE) CONCENTRATION, T	20	ug/L		bbe Fluoroprobe User Manual										F22
8/19/2020 13:00	Epilimnio	WATER C	LAB	SUNYESF	CYLINDROSPERMOPSIN		ug/L		Boyer LCN	0.056		ug/L							
8/19/2020 13:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.1	m												
8/19/2020 13:00	Epilimnion_Sample		LAB	SUNYESF	DOMINANT ALGAL TAXA	SPARSE DOLICHOSPERMUM, LIMNORAPHIS, MICROCYSTIS													
8/19/2020 13:00	Epilimnion_Sample		LAB	UFI	DOMINANT ALGAL TAXA	SYMMETRIC BIRAPHID DIATOMS													
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	HARDNESS (AS CACO3)	52.2	mg/L	TOTAL	SM2340B		6.62	mg/l			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	IRON	82.6	ug/L	TOTAL	E200.7	20	100	ug/l			J	estimated	J		
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	MANGANESE	91.4	ug/L	TOTAL	E200.7	1.7	10	ug/l			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	UFI	MICROCYSTIN		ug/L		EPA Meth	0.3		ug/L							F16
8/19/2020 13:00	Epilimnio	WATER C	LAB	SUNYESF	MICROCYSTIN		ug/L		Boyer LCN	0.22		ug/L							
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	NITROGEN, AMMONIA (AS N)	0.012	mg/L	TOTAL	E350.1	0.003	0.01	mg/l			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	NITROGEN, KJELDAHL, TOTAL	0.45	mg/L	TOTAL	E351.2	0.1	0.1	mg/l			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	NITROGEN, NITRITE		mg/L	TOTAL	E353.2	0.007	0.01	mg/l			U	Analyte w	U		
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	PH FOR COLOR ANALYSIS	7.21	pH units		SM2120B			pH units			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	PHOSPHORUS, DISSOLVED		mg/L	DISSOLVE	E365.1	0.0036	0.005	mg/l			U	Analyte w	U		
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	PHOSPHORUS, TOTAL	0.028	mg/L	TOTAL	E365.1	0.0036	0.005	mg/l			A				
8/19/2020 13:00	Epilimnio	WATER C	LAB	ALSRNY	SULFATE (AS SO4)	4.6	mg/L	TOTAL	E300.0	0.4	2	mg/l			A				
10/14/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	ANATOXIN-A		ug/L		Boyer LCN	0.06		µg/l			U		U		
10/14/2014 10:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	12.1	ug/L	TOTAL											
10/14/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0.2	ug/L		bbe Fluoroprobe User Manual										
10/14/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	1.14	ug/L		bbe Fluoroprobe User Manual										
10/14/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	3.93	ug/L		bbe Fluoroprobe User Manual										
10/14/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, D	0.6	ug/L		bbe Fluoroprobe User Manual										
10/14/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, T	5.87	ug/L		bbe Fluoroprobe User Manual										
10/14/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CYLINDROSPERMOPSIN		ug/L		Boyer LCN	0		µg/l			U		U		
10/14/2014 10:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	3	m												
10/14/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	MICROCYSTIN		ug/L		Boyer LCN	0.7		µg/l			U		U		
10/14/2014 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0	mg/L	TOTAL											
10/14/2014 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.419	mg/L	TOTAL											
10/14/2014 10:30	Epilimnio	WATER C	LAB	UFI	PH	7.16	pH units								T				F14,
10/14/2014 10:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0207	mg/L	TOTAL											
10/14/2014 10:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	149.4	uS/cm												
10/14/2014 10:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	15.5	deg C												
10/14/2014 10:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	7	color unit	TOTAL											
9/15/2014 0:00	Epilimnio	WATER C	LAB	SUNYESF	ANATOXIN-A		ug/L		Boyer LCN	0.03		µg/l			U		U		
9/15/2014 0:00	Epilimnio	WATER C	LAB	SUNYESF	BMAA (BETA-METHYL-AMINO-(L)-ALANINE)		ug/L		Boyer LCN	0.18		µg/l			U		U		
9/15/2014 0:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	22.2	ug/L	TOTAL											
9/15/2014 0:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0	ug/L		bbe Fluoroprobe User Manual										
9/15/2014 0:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	3.15	ug/L		bbe Fluoroprobe User Manual										
9/15/2014 0:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	8.37	ug/L		bbe Fluoroprobe User Manual										
9/15/2014 0:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, D	0	ug/L		bbe Fluoroprobe User Manual										
9/15/2014 0:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, T	11.52	ug/L		bbe Fluoroprobe User Manual										
9/15/2014 0:00	Epilimnio	WATER C	LAB	SUNYESF	CYLINDROSPERMOPSIN		ug/L		Boyer LCN	0		µg/l			U		U		
9/15/2014 0:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.05	m												
9/15/2014 0:00	Epilimnion_Sample		LAB	SUNYESF	DOMINANT ALGAL TAXA	ANABAENA, WORONICHINA, APHANIZOMENON, AND AULACOSERIA													
9/15/2014 0:00	Epilimnio	WATER C	LAB	SUNYESF	MICROCYSTIN		ug/L		Boyer LCN	0.7		µg/l			U		U		
9/15/2014 0:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.023	mg/L	TOTAL											F16,
9/15/2014 0:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.013	mg/L	TOTAL											F15,F16,
9/15/2014 0:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.451	mg/L	TOTAL											
9/15/2014 0:00	Epilimnio	WATER C	LAB	UFI	PH	7.38	pH units								T				F14,
9/15/2014 0:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0226	mg/L	TOTAL											
9/15/2014 0:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	142.2	uS/cm												
9/15/2014 0:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	20	deg C												
9/15/2014 0:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	7	color unit	TOTAL											
9/1/2014 9:25	Epilimnio	WATER C	LAB	SUNYESF	ANATOXIN-A		ug/L		Boyer LCN	0.14		µg/l			U		U		
9/1/2014 9:25	Epilimnio	WATER C	LAB	SUNYESF	BMAA (BETA-METHYL-AMINO-(L)-ALANINE)	0.31	ug/L		Boyer LCMS Methods			µg/l							
9/1/2014 9:25	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	9.1	ug/L	TOTAL											
9/1/2014 9:25	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0	ug/L		bbe Fluoroprobe User Manual										
9/1/2014 9:25	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	2.11	ug/L		bbe Fluoroprobe User Manual										
9/1/2014 9:25	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	5.32	ug/L		bbe Fluoroprobe User Manual										
9/1/2014 9:25	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, D	0	ug/L		bbe Fluoroprobe User Manual										
9/1/2014 9:25	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, T	7.43	ug/L		bbe Fluoroprobe User Manual										
9/1/2014 9:25	Epilimnio	WATER C	LAB	SUNYESF	CYLINDROSPERMOPSIN		ug/L		Boyer LCN	0		µg/l			U		U		
9/1/2014 9:25	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.85	m												
9/1/2014 9:25	Epilimnio	WATER C	LAB	SUNYESF	MICROCYSTIN		ug/L		Boyer LCN	0.3		µg/l			U		U		
9/1/2014 9:25	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0	mg/L	TOTAL											
9/1/2014 9:25	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.388	mg/L	TOTAL											
9/1/2014 9:25	Epilimnio	WATER C	LAB	UFI	PH	7.66	pH units								T				F14,
9/1/2014 9:25	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0137	mg/L	TOTAL											
9/1/2014 9:25	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	144.6	uS/cm												
9/1/2014 9:25	Epilimnio	WATER C	IN-SITU		TEMPERATURE	23.9	deg C												
9/1/2014 9:25	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	8	color unit	TOTAL											
8/18/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	ANATOXIN-A		ug/L		Boyer LCN	0.03		µg/l			U		U		
8/18/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	BMAA (BETA-METHYL-AMINO-(L)-ALANINE)		ug/L		Boyer LCN	0.1		µg/l			U		U		
8/18/2014 10:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	14.4	ug/L	TOTAL											
8/18/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0.1	ug/L		bbe Fluoroprobe User Manual										
8/18/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	2.32	ug/L		bbe Fluoroprobe User Manual										
8/18/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	8.17	ug/L		bbe Fluoroprobe User Manual										
8/18/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, D	0	ug/L		bbe Fluoroprobe User Manual										
8/18/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, T	10.59	ug/L		bbe Fluoroprobe User Manual										
8/18/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CYLINDROSPERMOPSIN		ug/L		Boyer LCN	0		µg/l			U		U		
8/18/2014 10:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.25	m												
8/18/2014 10:30	Epilimnion_Sample		LAB	SUNYESF	DOMINANT ALGAL TAXA	APHANIZOMENON AND VOLVOX													
8/18/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	MICROCYSTIN		ug/L		Boyer LCN	0.4		µg/l			U		U		
8/18/2014 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.015	mg/L	TOTAL											F15,F16,
8/18/2014 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.005	mg/L	TOTAL							U				F14,F22,
8/18/2014 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.396	mg/L	TOTAL											
8/18/2014 10:30	Epilimnio	WATER C	LAB	UFI	PH	7.21	pH units								T				F14,
8/18/2014 10:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.024	mg/L	TOTAL											
8/18/2014 10:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	149.4	uS/cm												
8/18/2014 10:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	21.1	deg C												
8/18/2014 10:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	5	color unit	TOTAL											
8/4/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	ANATOXIN-A		ug/L		Boyer LCN	0.1		µg/l			U		U		
8/4/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	BMAA (BETA-METHYL-AMINO-(L)-ALANINE)		ug/L		Boyer LCN	0.07		µg/l			U		U		
8/4/2014 10:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	4.5	ug/L	TOTAL											
8/4/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0.35	ug/L		bbe Fluoroprobe User Manual										
8/4/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0	ug/L		bbe Fluoroprobe User Manual										
8/4/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0	ug/L		bbe Fluoroprobe User Manual										
8/4/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, D	0.2	ug/L		bbe Fluoroprobe User Manual										
8/4/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, T	0.55	ug/L		bbe Fluoroprobe User Manual										
8/4/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	CYLINDROSPERMOPSIN		ug/L		Boyer LCN	0		µg/l			U		U		
8/4/2014 10:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	4	m												
8/4/2014 10:30	Epilimnio	WATER C	LAB	SUNYESF	MICROCYSTIN		ug/L		Boyer LCN	0.4		µg/l			U		U		
8/4/2014 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0	mg/L	TOTAL											

8/4/2012 10:30	Epilimnio	WATER C	LAB	UFI	ACIDITY, HYDROGEN ION (H+)	2.19E-09													
8/4/2012 10:30	Epilimnio	WATER C	LAB	SUNYESF	ANATOXIN-A		ug/L		Boyer LCM	0.66		µg/l			U		U		
8/4/2012 10:30	Epilimnio	WATER C	LAB	UFI	CALCIUM	15.3	mg/L	TOTAL											F2,
8/4/2012 10:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	10.9	ug/L	TOTAL											F13,
8/4/2012 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0	ug/L		bbe Fluoroprobe User Manual										
8/4/2012 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0.8	ug/L		bbe Fluoroprobe User Manual										
8/4/2012 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	8.2	ug/L		bbe Fluoroprobe User Manual										
8/4/2012 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, D	0	ug/L		bbe Fluoroprobe User Manual										
8/4/2012 10:30	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, T	9	ug/L		bbe Fluoroprobe User Manual										
8/4/2012 10:30	Epilimnio	WATER C	LAB	SUNYESF	CYLINDROSPERMOPSIN		ug/L		Boyer LCM	0.03		µg/l			U		U		
8/4/2012 10:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.05	m												
8/4/2012 10:30	Epilimnio	WATER C	LAB	SUNYESF	MICROCYSTIN		ug/L		Boyer LCM	0.3		µg/l			U		U		
8/4/2012 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.021	mg/L	TOTAL											F15,F16,
8/4/2012 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.005	mg/L	TOTAL							U				F14,F22,
8/4/2012 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.518	mg/L	TOTAL											
8/4/2012 10:30	Epilimnio	WATER C	LAB	UFI	PH	8.66	pH units								T				F14,
8/4/2012 10:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0228	mg/L	TOTAL											F4,
8/4/2012 10:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	88.7	uS/cm												
8/4/2012 10:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	26.1	deg C												
8/4/2012 10:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	10	color unit	TOTAL											F14,
7/22/2012 15:00	Epilimnio	WATER C	LAB	UFI	ACIDITY, HYDROGEN ION (H+)	8.51E-09													
7/22/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	ANATOXIN-A		ug/L		Boyer LCM	0.58		µg/l			U		U		
7/22/2012 15:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	6.6	ug/L	TOTAL											
7/22/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0	ug/L		bbe Fluoroprobe User Manual										
7/22/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	2.4	ug/L		bbe Fluoroprobe User Manual										
7/22/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	2	ug/L		bbe Fluoroprobe User Manual										
7/22/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, D	0	ug/L		bbe Fluoroprobe User Manual										
7/22/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, T	4.4	ug/L		bbe Fluoroprobe User Manual										
7/22/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CYLINDROSPERMOPSIN		ug/L		Boyer LCM	1.5		µg/l			U		U		
7/22/2012 15:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.35	m												
7/22/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	MICROCYSTIN		ug/L		Boyer LCM	0.3		µg/l			U		U		
7/22/2012 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.019	mg/L	TOTAL											F15,F16,
7/22/2012 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.021646	mg/L	TOTAL											F14,F16
7/22/2012 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.385	mg/L	TOTAL											
7/22/2012 15:00	Epilimnio	WATER C	LAB	UFI	PH	8.07	pH units								T				F14,
7/22/2012 15:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0234	mg/L	TOTAL											F4,F15
7/22/2012 15:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	114.3	uS/cm												
7/22/2012 15:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	25.3	deg C												
7/22/2012 15:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	6	color unit	TOTAL											F14,F16,
7/8/2012 11:00	Epilimnio	WATER C	LAB	UFI	ACIDITY, HYDROGEN ION (H+)	8.32E-09													
7/8/2012 11:00	Epilimnio	WATER C	LAB	SUNYESF	ANATOXIN-A		ug/L		Boyer LCM	0.39		µg/l			U		U		
7/8/2012 11:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	2.3	ug/L	TOTAL											F13,
7/8/2012 11:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0	ug/L		bbe Fluoroprobe User Manual										
7/8/2012 11:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0.9	ug/L		bbe Fluoroprobe User Manual										
7/8/2012 11:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0.7	ug/L		bbe Fluoroprobe User Manual										
7/8/2012 11:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, D	0	ug/L		bbe Fluoroprobe User Manual										
7/8/2012 11:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, T	0.7	ug/L		bbe Fluoroprobe User Manual										
7/8/2012 11:00	Epilimnio	WATER C	LAB	SUNYESF	CYLINDROSPERMOPSIN		ug/L		Boyer LCM	0.85		µg/l			U		U		
7/8/2012 11:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	4.2	m												
7/8/2012 11:00	Epilimnio	WATER C	LAB	SUNYESF	MICROCYSTIN		ug/L		Boyer LCM	0.3		µg/l			U		U		
7/8/2012 11:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.015	mg/L	TOTAL											F15,F16,
7/8/2012 11:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.005	mg/L	TOTAL							U				F14,F22,
7/8/2012 11:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.243	mg/L	TOTAL											F16,
7/8/2012 11:00	Epilimnio	WATER C	LAB	UFI	PH	8.08	pH units								T				F14,
7/8/2012 11:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0126	mg/L	TOTAL											F4,
7/8/2012 11:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	96.2	uS/cm												
7/8/2012 11:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	24.4	deg C												
7/8/2012 11:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	8	color unit	TOTAL											F14,
6/18/2012 19:00	Epilimnio	WATER C	LAB	UFI	ACIDITY, HYDROGEN ION (H+)	5.75E-09													
6/18/2012 19:00	Epilimnio	WATER C	LAB	SUNYESF	ANATOXIN-A		ug/L		Boyer LCM	0.41		µg/l			U		U		
6/18/2012 19:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	2.4	ug/L	TOTAL											
6/18/2012 19:00	Epilimnio	WATER C	LAB	SUNYESF	CYLINDROSPERMOPSIN		ug/L		Boyer LCM	0.73		µg/l			U		U		
6/18/2012 19:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	4.15	m												
6/18/2012 19:00	Epilimnio	WATER C	LAB	SUNYESF	MICROCYSTIN		ug/L		Boyer LCM	0.3		µg/l			U		U		
6/18/2012 19:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.028	mg/L	TOTAL											F16,
6/18/2012 19:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.019216	mg/L	TOTAL											F15,F16,
6/18/2012 19:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.444	mg/L	TOTAL											
6/18/2012 19:00	Epilimnio	WATER C	LAB	UFI	PH	8.24	pH units								T				F14,
6/18/2012 19:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0097	mg/L	TOTAL											
6/18/2012 19:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	125.5	uS/cm												
6/18/2012 19:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	22.8	deg C												
6/18/2012 19:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	4	color unit	TOTAL											F16,
6/3/2012 15:00	Epilimnio	WATER C	LAB	UFI	ACIDITY, HYDROGEN ION (H+)	2.14E-08													
6/3/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	ANATOXIN-A		ug/L		Boyer LCM	0.42		µg/l			U		U		
6/3/2012 15:00	Epilimnio	WATER C	LAB	UFI	CALCIUM	14.1	mg/L	TOTAL											F2,
6/3/2012 15:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	8.7	ug/L	TOTAL											F13,
6/3/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0	ug/L		bbe Fluoroprobe User Manual										
6/3/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0.2	ug/L		bbe Fluoroprobe User Manual										
6/3/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, C	0.8	ug/L		bbe Fluoroprobe User Manual										
6/3/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, D	0	ug/L		bbe Fluoroprobe User Manual										
6/3/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CHLOROPHYLL A (PROBE) CONCENTRATION, T	0.9	ug/L		bbe Fluoroprobe User Manual										
6/3/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	CYLINDROSPERMOPSIN		ug/L		Boyer LCM	0.76		µg/l			U		U		
6/3/2012 15:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.25	m												
6/3/2012 15:00	Epilimnio	WATER C	LAB	SUNYESF	MICROCYSTIN		ug/L		Boyer LCM	0.3		µg/l			U		U		
6/3/2012 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.013	mg/L	TOTAL											F15,F16,
6/3/2012 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0	mg/L	TOTAL											
6/3/2012 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.005	mg/L	TOTAL							U				F15,F22,
6/3/2012 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.348	mg/L	TOTAL											
6/3/2012 15:00	Epilimnio	WATER C	LAB	UFI	PH	7.67	pH units								T				F14,
6/3/2012 15:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0131	mg/L	TOTAL											
6/3/2012 15:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	143.4	uS/cm												
6/3/2012 15:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	19.4	deg C												
6/3/2012 15:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	10	color unit	TOTAL											
9/7/2011 9:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	13	ug/L	TOTAL											F15,
9/7/2011 9:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.15	m												
9/7/2011 9:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.037	mg/L	TOTAL											F15,F16,
9/7/2011 9:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.0045	mg/L	TOTAL							U				F14,F22,F2
9/7/2011 9:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.589	mg/L	TOTAL											
9/7/2011 9:30	Epilimnio	WATER C	LAB	UFI	PH	7.88	pH units								T				F14,
9/7/2011 9:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0206	mg/L	TOTAL											F4,
9/7/2011 9:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	99	uS/cm												
9/7/2011 9:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	21	deg C												
9/7/2011 9:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	26	color unit	TOTAL											
8/22/2011 18:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	15.1	ug/L	TOTAL											
8/22/2011 18:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.8	m												
8/22/2011 18:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.029	mg/L	TOTAL											F15,F16,
8/22/2011 18:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.0045	mg/L	TOTAL							U				F15,F22,
8/22/2011 18:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.604	mg/L	TOTAL											F26,
8/22/2011 18:00	Epilimnio	WATER C	LAB	UFI	PH	7.32	pH units								T				F14,
8/22/2011 18:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0221	mg/L	TOTAL											
8/22/2011 18:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	143.9	uS/cm												
8/22/2011 18:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	9	color unit	TOTAL											F15,F16,
8/8/2011 19:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	22.1	ug/L	TOTAL											
8/8/2011 19:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.7	m												
8/8/2011 19:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.025	mg/L	TOTAL											F15,F16,
8/8/2011 19:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.029863	mg/L	TOTAL											F15,F16,
8/8/2011 19:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.629	mg/L	TOTAL											
8/8/2011 19:00	Epilimnio	WATER C	LAB	UFI	PH	8.33	pH units								T				F14,

8/8/2011 19:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0194	mg/L	TOTAL											
8/8/2011 19:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	129.4	uS/cm												
8/8/2011 19:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	18	color unit	TOTAL											
7/26/2011 9:30	Epilimnio	WATER C	LAB	UFI	CALCIUM	15.8	mg/L	TOTAL											F2,
7/26/2011 9:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	7.9	ug/L	TOTAL											
7/26/2011 9:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.85	m												
7/26/2011 9:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.037	mg/L	TOTAL											F13,F15,F1
7/26/2011 9:30	Bottom_S	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.071	mg/L	TOTAL											F13,F15,
7/26/2011 9:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.034265	mg/L	TOTAL											F14,F16
7/26/2011 9:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.468	mg/L	TOTAL											F13,
7/26/2011 9:30	Epilimnio	WATER C	LAB	UFI	PH	7.92	pH units								T				F14,
7/26/2011 9:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0245	mg/L	TOTAL											F4,
7/26/2011 9:30	Bottom_S	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.1338	mg/L	TOTAL											
7/26/2011 9:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	142.5	uS/cm												
7/26/2011 9:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	25.28	deg C												
7/26/2011 9:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	12	color unit	TOTAL											F14,
7/11/2011 11:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	10.8	ug/L	TOTAL											
7/11/2011 11:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.6	m												
7/11/2011 11:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.022	mg/L	TOTAL											F15,F16,
7/11/2011 11:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.020777	mg/L	TOTAL											F14,F16,
7/11/2011 11:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.427	mg/L	TOTAL											
7/11/2011 11:00	Epilimnio	WATER C	LAB	UFI	PH	8.48	pH units								T				F14,
7/11/2011 11:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0147	mg/L	TOTAL											
7/11/2011 11:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	139.2	uS/cm												
7/11/2011 11:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	25.6	deg C												
7/11/2011 11:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	7	color unit	TOTAL											F14,F16,
6/27/2011 19:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	5.7	ug/L	TOTAL											
6/27/2011 19:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.1	m												
6/27/2011 19:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.023	mg/L	TOTAL											F15,F16,
6/27/2011 19:00	Bottom_S	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.018	mg/L	TOTAL											F15,F16,
6/27/2011 19:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.043075	mg/L	TOTAL											F15,
6/27/2011 19:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.333	mg/L	TOTAL											
6/27/2011 19:00	Epilimnio	WATER C	LAB	UFI	PH	8.4	pH units								T				F14,
6/27/2011 19:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0182	mg/L	TOTAL											
6/27/2011 19:00	Bottom_S	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0887	mg/L	TOTAL											
6/27/2011 19:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	148	uS/cm												
6/27/2011 19:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	23.9	deg C												
6/27/2011 19:00	Bottom_S	WATER C	IN-SITU		TEMPERATURE	25	deg C												
6/27/2011 19:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	12	color unit	TOTAL											F15,
6/13/2011 9:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	5.1	ug/L	TOTAL											
6/13/2011 9:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.375	m												
6/13/2011 9:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.02	mg/L	TOTAL											F15,F16,
6/13/2011 9:00	Epilimnio	WATER C	LAB		NITROGEN, AMMONIA (AS N)	0	mg/L	TOTAL											
6/13/2011 9:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.009	mg/L	TOTAL											F14,F16,F2
6/13/2011 9:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.22	mg/L	TOTAL											
6/13/2011 9:00	Epilimnio	WATER C	LAB	UFI	PH	7.96	pH units								T				F14,
6/13/2011 9:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0122	mg/L	TOTAL											
6/13/2011 9:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	117.1	uS/cm												
6/13/2011 9:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	21.1	deg C												
6/13/2011 9:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	12	color unit	TOTAL											F14,
5/31/2011 20:00	Epilimnio	WATER C	LAB	UFI	CALCIUM	19	mg/L	TOTAL											F2,
5/31/2011 20:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	2	ug/L	TOTAL											
5/31/2011 20:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.375	m												
5/31/2011 20:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.015	mg/L	TOTAL											F16,
5/31/2011 20:00	Epilimnio	WATER C	LAB		NITROGEN, AMMONIA (AS N)	0	mg/L	TOTAL											
5/31/2011 20:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.02	mg/L	TOTAL											F15,F16,
5/31/2011 20:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.231	mg/L	TOTAL											
5/31/2011 20:00	Epilimnio	WATER C	LAB	UFI	PH	8.06	pH units								T				F14,
5/31/2011 20:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0118	mg/L	TOTAL											F13
5/31/2011 20:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	143.6	uS/cm												
5/31/2011 20:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	22.2	deg C												
5/31/2011 20:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	26	color unit	TOTAL											F14,
8/29/2010 13:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	2.75E-09													
8/29/2010 13:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	24.4	ug/L	TOTAL											
8/29/2010 13:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.35	m												
8/29/2010 13:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.023	mg/L	TOTAL											F15,F16,
8/29/2010 13:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.0045	mg/L	TOTAL							U				F14,F16,F2
8/29/2010 13:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.555	mg/L	TOTAL											
8/29/2010 13:00	Epilimnio	WATER C	LAB	UFI	PH	8.56	pH units								T				F14,
8/29/2010 13:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0259	mg/L	TOTAL											F4,
8/29/2010 13:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	144.7	uS/cm												
8/29/2010 13:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	23.9	deg C												
8/29/2010 13:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	10	color unit	TOTAL											F14,
8/16/2010 13:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	4.79E-10													
8/16/2010 13:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	19.7	ug/L	TOTAL											
8/16/2010 13:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.65	m												
8/16/2010 13:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.017	mg/L	TOTAL											F15,F16,
8/16/2010 13:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.0045	mg/L	TOTAL							U				F15,F22,
8/16/2010 13:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.295	mg/L	TOTAL											
8/16/2010 13:00	Epilimnio	WATER C	LAB	UFI	PH	9.32	pH units								T				F14,
8/16/2010 13:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0182	mg/L	TOTAL											
8/16/2010 13:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE		uS/cm												F4,F19,
8/16/2010 13:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	25	deg C												
8/16/2010 13:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	12	color unit	TOTAL											F15,
8/1/2010 14:30	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	5.01E-09													
8/1/2010 14:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	14.1	ug/L	TOTAL											
8/1/2010 14:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.95	m												
8/1/2010 14:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.031	mg/L	TOTAL											F15,
8/1/2010 14:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.020416	mg/L	TOTAL											F15,F16,
8/1/2010 14:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.317	mg/L	TOTAL											
8/1/2010 14:30	Epilimnio	WATER C	LAB	UFI	PH	8.3	pH units								T				F14,
8/1/2010 14:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0192	mg/L	TOTAL											
8/1/2010 14:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	151	uS/cm												
8/1/2010 14:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	25	deg C												
8/1/2010 14:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	6	color unit	TOTAL											F15,
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	ALKALINITY, TOTAL (AS CACO3)	34.8	mg/L	TOTAL	SM 2320 B										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	CALCIUM	16.5	mg/L	TOTAL	E200.7										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	CARBON, TOTAL ORGANIC	4.8	mg/L	TOTAL	SM5310C										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	CHLORIDE	12.5	mg/L	TOTAL	E300.0										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	CHLOROPHYLL A	10.7	ug/L	TOTAL	SM10200H.2										
7/21/2010 12:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.5	m												
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	IRON		ug/L	TOTAL	E200.7	56.2		ug/l		Not Detec	U	U	U		
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	MAGNESIUM	28.2	ug/L	TOTAL	E200.7										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	MANGANESE	828	ug/L	TOTAL	E200.7										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	NITROGEN, AMMONIA (AS N)		mg/L	TOTAL	E350.1	0.01		mg/l		Not Detec	U	U	U	Nitrogen, Ammonia	
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	NITROGEN, KJELDAHL, TOTAL	0.44	mg/L	TOTAL	E351.2										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	NITROGEN, NITRATE-NITRITE	0.006	mg/L	TOTAL	E353.2										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	PHOSPHORUS, DISSOLVED	0.0055	mg/L	DISSOLVE	E365.1										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	PHOSPHORUS, TOTAL	0.0188	mg/L	TOTAL	E365.1										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	POTASSIUM	2460	ug/L	TOTAL	E200.7					Reporting	J	J	J		
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	SILICA	1.94	mg/L	TOTAL	E370.1										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	SODIUM	6890	ug/L	TOTAL	E200.7										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	SULFATE (AS SO4)	8.4	mg/L	TOTAL	E300.0										
7/21/2010 12:00	Epilimnio	WATER C	LAB	CASROCH	TRUE COLOR	10	color unit	TOTAL	E110.2										
7/18/2010 13:30	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	5.62E-09													
7/18/2010 13:30	Epilimnio	WATER C	LAB	UFI	CALCIUM	18.1	mg/L	TOTAL											F2,
7/18/2010 13:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	9.7	ug/L	TOTAL											
7/18/2010 13:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.3	m												

7/18/2010 13:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.025	mg/L	TOTAL											F15,F16,
7/18/2010 13:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.033	mg/L	TOTAL											F14,F16,
7/18/2010 13:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.343	mg/L	TOTAL											F13,F15,
7/18/2010 13:30	Epilimnio	WATER C	LAB	UFI	PH	8.25	pH units								T				F14,
7/18/2010 13:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0146	mg/L	TOTAL											F4,
7/18/2010 13:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	145.4	uS/cm												
7/18/2010 13:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	25.6	deg C												
7/18/2010 13:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	9	color unit	TOTAL											F14,
7/6/2010 18:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	7.08E-09													
7/6/2010 18:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	5.8	ug/L	TOTAL											F7,
7/6/2010 18:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.95	m												
7/6/2010 18:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.014	mg/L	TOTAL											F7,F15,F16
7/6/2010 18:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.02	mg/L	TOTAL											F7,F15,F16
7/6/2010 18:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.326	mg/L	TOTAL											F7,
7/6/2010 18:00	Epilimnio	WATER C	LAB	UFI	PH	8.15	pH units								T				F7,F14,
7/6/2010 18:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0125	mg/L	TOTAL											F7,
7/6/2010 18:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	142.4	uS/cm												F7,
7/6/2010 18:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	24.7	deg C												
7/6/2010 18:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	6	color unit	TOTAL											F7,F15,
6/20/2010 13:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	1.95E-09													
6/20/2010 13:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	5.3	ug/L	TOTAL											
6/20/2010 13:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.2	m												
6/20/2010 13:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.021	mg/L	TOTAL											F15,F16,
6/20/2010 13:00	Bottom_S	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.024	mg/L	TOTAL											F15,F16,
6/20/2010 13:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.012898	mg/L	TOTAL											F14,F16,
6/20/2010 13:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.232	mg/L	TOTAL											
6/20/2010 13:00	Epilimnio	WATER C	LAB	UFI	PH	8.71	pH units								T				F14,
6/20/2010 13:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0114	mg/L	TOTAL											
6/20/2010 13:00	Bottom_S	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.2697	mg/L	TOTAL											F2,F15,
6/20/2010 13:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	82.2	uS/cm												
6/20/2010 13:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	22.2	deg C												
6/20/2010 13:00	Bottom_S	WATER C	IN-SITU		TEMPERATURE	25	deg C												
6/20/2010 13:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	5	color unit	TOTAL											F13,F14,F1
6/8/2010 17:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	2.24E-08													
6/8/2010 17:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	0.2	ug/L	TOTAL											F16,
6/8/2010 17:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	4.8	m												
6/8/2010 17:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.028	mg/L	TOTAL											F15,
6/8/2010 17:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.0045	mg/L	TOTAL							U				F15,F22,
6/8/2010 17:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	2.258	mg/L	TOTAL											F24,
6/8/2010 17:00	Epilimnio	WATER C	LAB	UFI	PH	7.65	pH units								T				F14,
6/8/2010 17:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0111	mg/L	TOTAL											F13,
6/8/2010 17:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	87.6	uS/cm												
6/8/2010 17:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	22.8	deg C												
6/8/2010 17:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	1	color unit	TOTAL							U				F15,F22,
5/23/2010 11:30	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	1.05E-08													
5/23/2010 11:30	Epilimnio	WATER C	LAB	UFI	CALCIUM	16.6	mg/L	TOTAL											
5/23/2010 11:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	1.6	ug/L	TOTAL											
5/23/2010 11:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	5.05	m												
5/23/2010 11:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.049	mg/L	TOTAL											F15,
5/23/2010 11:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.663	mg/L	TOTAL											F15,
5/23/2010 11:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	5.473	mg/L	TOTAL											
5/23/2010 11:30	Epilimnio	WATER C	LAB	UFI	PH	7.98	pH units								T				F14,
5/23/2010 11:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0083	mg/L	TOTAL											
5/23/2010 11:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	135.8	uS/cm												
5/23/2010 11:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	19.2	deg C												
5/23/2010 11:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	7	color unit	TOTAL											F13,F15,
9/26/2009 13:30	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	9.12E-09													
9/26/2009 13:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	16.3	ug/L	TOTAL											F15,
9/26/2009 13:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.8	m												
9/26/2009 13:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.021	mg/L	TOTAL											F15,F16,
9/26/2009 13:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.0075	mg/L	TOTAL							U				F14,F22,
9/26/2009 13:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.583	mg/L	TOTAL											F14,
9/26/2009 13:30	Epilimnio	WATER C	LAB	UFI	PH	8.04	pH units								T				F14,
9/26/2009 13:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0211	mg/L	TOTAL											
9/26/2009 13:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	69.8	uS/cm												
9/26/2009 13:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	18.9	deg C												
9/26/2009 13:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	10	color unit	TOTAL											F14,
9/13/2009 14:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	4.27E-09													
9/13/2009 14:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	23.9	ug/L	TOTAL											F29,
9/13/2009 14:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.33	m												
9/13/2009 14:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.024	mg/L	TOTAL											F15,F16,
9/13/2009 14:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.0075	mg/L	TOTAL							U				F14,F22,
9/13/2009 14:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.53	mg/L	TOTAL											F14,
9/13/2009 14:00	Epilimnio	WATER C	LAB	UFI	PH	8.37	pH units								T				F14,
9/13/2009 14:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0247	mg/L	TOTAL											F24,
9/13/2009 14:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	78.5	uS/cm												
9/13/2009 14:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	21.7	deg C												
9/13/2009 14:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	26	color unit	TOTAL											F13,F14,
8/30/2009 13:30	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	7.94E-09													
8/30/2009 13:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	12.5	ug/L	TOTAL											
8/30/2009 13:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2	m												
8/30/2009 13:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.046	mg/L	TOTAL											F15,F24,
8/30/2009 13:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.031	mg/L	TOTAL											F15,F16,
8/30/2009 13:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.221	mg/L	TOTAL											F15,
8/30/2009 13:30	Epilimnio	WATER C	LAB	UFI	PH	8.1	pH units								T				F14,
8/30/2009 13:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0209	mg/L	TOTAL											
8/30/2009 13:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	63	uS/cm												
8/30/2009 13:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	22.2	deg C												
8/30/2009 13:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	22	color unit	TOTAL											F15,
8/15/2009 14:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	4.57E-09													
8/15/2009 14:00	Epilimnio	WATER C	LAB	UFI	CALCIUM	13	mg/L	TOTAL											F2,
8/15/2009 14:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	10	ug/L	TOTAL											
8/15/2009 14:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.2	m												
8/15/2009 14:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.013	mg/L	TOTAL											F15,F16,
8/15/2009 14:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.0075	mg/L	TOTAL							U				F14,F22,
8/15/2009 14:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.341	mg/L	TOTAL											F14,
8/15/2009 14:00	Epilimnio	WATER C	LAB	UFI	PH	8.34	pH units								T				F14,
8/15/2009 14:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0117	mg/L	TOTAL											#VALUE!
8/15/2009 14:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	90.3	uS/cm												
8/15/2009 14:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	26.7	deg C												
8/15/2009 14:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	9	color unit	TOTAL											F14,
8/1/2009 16:30	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	1.29E-08													
8/1/2009 16:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	10.16	ug/L	TOTAL											
8/1/2009 16:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.5	m												
8/1/2009 16:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.0055	mg/L	TOTAL							U				F15,F22,F2
8/1/2009 16:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.0075	mg/L	TOTAL							U				F14,F22,
8/1/2009 16:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.269	mg/L	TOTAL											F14,
8/1/2009 16:30	Epilimnio	WATER C	LAB	UFI	PH	7.89	pH units								T				F14,
8/1/2009 16:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.017	mg/L	TOTAL											
8/1/2009 16:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	84.46	uS/cm												
8/1/2009 16:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	24	deg C												
8/1/2009 16:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	13	color unit	TOTAL											F14,
7/18/2009 15:30	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	1.62E-08													
7/18/2009 15:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	6.03	ug/L	TOTAL											
7/18/2009 15:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.2	m												
7/18/2009 15:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.015	mg/L	TOTAL											F15,
7/18/2009 15:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.017	mg/L	TOTAL											F14,F16,
7/18/2009 15:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.214	mg/L	TOTAL											F13,F14,

7/18/2009 15:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0139	mg/L	TOTAL											#VALUE!
7/18/2009 15:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	69.9	uS/cm												
7/18/2009 15:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	22.8	deg C												
7/18/2009 15:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	11	color units	TOTAL											F13,F14,
7/5/2009 14:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	1.66E-08													
7/5/2009 14:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	3.62	ug/L	TOTAL											
7/5/2009 14:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.93	m												
7/5/2009 14:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.009	mg/L	TOTAL											F15,F16,
7/5/2009 14:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.019	mg/L	TOTAL											F15,F16,
7/5/2009 14:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.214	mg/L	TOTAL											F15,
7/5/2009 14:00	Epilimnio	WATER C	LAB	UFI	PH	7.78	pH units								T				F14,
7/5/2009 14:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0106	mg/L	TOTAL											F13,
7/5/2009 14:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	81.79	uS/cm												
7/5/2009 14:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	22.2	deg C												
7/5/2009 14:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	11	color units	TOTAL											F15,
6/21/2009 15:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	2.63E-07													
6/21/2009 15:00	Epilimnio	WATER C	LAB	UFI	CALCIUM	16.19	mg/L	TOTAL											
6/21/2009 15:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	1.8	ug/L	TOTAL											
6/21/2009 15:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	4.8	m												
6/21/2009 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.005	mg/L	TOTAL											F15,F16,
6/21/2009 15:00	Bottom_S	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.00549	mg/L	TOTAL											F15,F16,
6/21/2009 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.011	mg/L	TOTAL											F15,F16,
6/21/2009 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.196444	mg/L	TOTAL											F15
6/21/2009 15:00	Epilimnio	WATER C	LAB	UFI	PH	6.58	pH units								T				F14,
6/21/2009 15:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0081	mg/L	TOTAL											
6/21/2009 15:00	Bottom_S	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0489	mg/L	TOTAL											
6/21/2009 15:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	108.9	uS/cm												
6/21/2009 15:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	20.6	deg C												
6/21/2009 15:00	Bottom_S	WATER C	IN-SITU		TEMPERATURE	19.4	deg C												
6/21/2009 15:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	12	color units	TOTAL											F15,F27,
10/4/2008 10:30	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	2.69E-08													
10/4/2008 10:30	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	21.86	ug/L	TOTAL											F15,
10/4/2008 10:30	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	2	m												
10/4/2008 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.02698	mg/L	TOTAL											F15,
10/4/2008 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.02583	mg/L	TOTAL											F14,
10/4/2008 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRITE	0.002135	mg/L	TOTAL											F14,F16,
10/4/2008 10:30	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.411584	mg/L	TOTAL											F14,
10/4/2008 10:30	Epilimnio	WATER C	LAB	UFI	PH	7.57	pH units								T				F14,
10/4/2008 10:30	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0305	mg/L	TOTAL											F24,
10/4/2008 10:30	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	105.4	uS/cm												
10/4/2008 10:30	Epilimnio	WATER C	IN-SITU		TEMPERATURE	16.7	deg C												
10/4/2008 10:30	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	11	color units	TOTAL											F14,F27,
9/21/2008 10:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	2.04E-08													
9/21/2008 10:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	24.26	ug/L	TOTAL											F15,
9/21/2008 10:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.75	m												
9/21/2008 10:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.0333	mg/L	TOTAL											F15
9/21/2008 10:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.008399	mg/L	TOTAL											F14,F16,
9/21/2008 10:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRITE	0.001	mg/L	TOTAL							U				F14,F22,
9/21/2008 10:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	1.030134	mg/L	TOTAL											F14,
9/21/2008 10:00	Epilimnio	WATER C	LAB	UFI	PH	7.69	pH units								T				F14,F27,
9/21/2008 10:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0331	mg/L	TOTAL											#VALUE!
9/21/2008 10:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	102.1	uS/cm												
9/21/2008 10:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	18.9	deg C												
9/21/2008 10:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	8	color units	TOTAL											F14,
9/7/2008 10:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	2.69E-08													
9/7/2008 10:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	18.25	ug/L	TOTAL											
9/7/2008 10:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.55	m												
9/7/2008 10:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.03004	mg/L	TOTAL											F15,
9/7/2008 10:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.003	mg/L	TOTAL							U				F14,F22,
9/7/2008 10:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRITE	0.001	mg/L	TOTAL							U				F14,F22,
9/7/2008 10:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.465288	mg/L	TOTAL											F14
9/7/2008 10:00	Epilimnio	WATER C	LAB	UFI	PH	7.57	pH units								T				F14,
9/7/2008 10:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0205	mg/L	TOTAL											
9/7/2008 10:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	115.7	uS/cm												
9/7/2008 10:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	23.3	deg C												
9/7/2008 10:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	7	color units	TOTAL											F14,
8/23/2008 15:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	2.24E-09													
8/23/2008 15:00	Epilimnio	WATER C	LAB	UFI	CALCIUM	15.15	mg/L	TOTAL											
8/23/2008 15:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	20.7	ug/L	TOTAL											
8/23/2008 15:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.85	m												
8/23/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.02564	mg/L	TOTAL											
8/23/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.003	mg/L	TOTAL							U				F14,F22,
8/23/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRITE	0.001	mg/L	TOTAL							U				F14,F22,
8/23/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.477076	mg/L	TOTAL											F14,
8/23/2008 15:00	Epilimnio	WATER C	LAB	UFI	PH	8.65	pH units								T				F14,
8/23/2008 15:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0255	mg/L	TOTAL											
8/23/2008 15:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	86.88	uS/cm												
8/23/2008 15:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	23.9	deg C												
8/23/2008 15:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	7	color units	TOTAL											F14,F27,
8/9/2008 15:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	3.02E-09													
8/9/2008 15:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	16.07	ug/L	TOTAL											
8/9/2008 15:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.95	m												
8/9/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.01534	mg/L	TOTAL											F23,
8/9/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.009865	mg/L	TOTAL											F14,F16,
8/9/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRITE	0.001	mg/L	TOTAL							U				F14,F22,
8/9/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.388907	mg/L	TOTAL											F14,
8/9/2008 15:00	Epilimnio	WATER C	LAB	UFI	PH	8.52	pH units								T				F14,
8/9/2008 15:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0138	mg/L	TOTAL											#VALUE!
8/9/2008 15:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	90.19	uS/cm												
8/9/2008 15:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	24.7	deg C												
8/9/2008 15:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	4	color units	TOTAL											F14,F16,F2
7/26/2008 16:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	1.17E-08													
7/26/2008 16:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	12.31	ug/L	TOTAL											
7/26/2008 16:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.55	m												
7/26/2008 16:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.05644	mg/L	TOTAL											F15,F23,
7/26/2008 16:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.003	mg/L	TOTAL							U				F14,F22,
7/26/2008 16:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRITE	0.001	mg/L	TOTAL							U				F14,F22,
7/26/2008 16:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.640482	mg/L	TOTAL											F14,
7/26/2008 16:00	Epilimnio	WATER C	LAB	UFI	PH	7.93	pH units								T				F14,
7/26/2008 16:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0195	mg/L	TOTAL											
7/26/2008 16:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	74.61	uS/cm												
7/26/2008 16:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	23.9	deg C												
7/26/2008 16:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR	7	color units	TOTAL											F14,
7/12/2008 15:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	7.24E-09													
7/12/2008 15:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	3.13	ug/L	TOTAL											
7/12/2008 15:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.25	m												
7/12/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.02862	mg/L	TOTAL											
7/12/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.083594	mg/L	TOTAL											F14,
7/12/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, NITRITE	0.003253	mg/L	TOTAL											F14,F16,
7/12/2008 15:00	Epilimnio	WATER C	LAB	UFI	NITROGEN, TOTAL	0.230282	mg/L	TOTAL											F14
7/12/2008 15:00	Epilimnio	WATER C	LAB	UFI	PH	8.14	pH units								T				F14,
7/12/2008 15:00	Epilimnio	WATER C	LAB	UFI	PHOSPHORUS, TOTAL	0.0099	mg/L	TOTAL											
7/12/2008 15:00	Epilimnio	WATER C	IN-SITU	UFI	SPECIFIC CONDUCTANCE	98.35	uS/cm												
7/12/2008 15:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	25	deg C												
7/12/2008 15:00	Epilimnio	WATER C	LAB	UFI	TRUE COLOR		color units	TOTAL											F19,
6/29/2008 11:15	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	2.88E-08													
6/29/2008 11:15	Epilimnio	WATER C	LAB	UFI	CALCIUM	11.27	mg/L	TOTAL											

6/29/2008 11:15	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	2.07	ug/L	TOTAL											F13,F29,
6/29/2008 11:15	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	4.7	m												
6/29/2008 11:15	Epilimnio	WATER CO	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.05564	mg/L	TOTAL											F15,
6/29/2008 11:15	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.003	mg/L	TOTAL							U				F14,F22,
6/29/2008 11:15	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRITE	0.001	mg/L	TOTAL							U				F14,F22,
6/29/2008 11:15	Epilimnio	WATER CO	LAB	UFI	NITROGEN, TOTAL	0.204164	mg/L	TOTAL											F14
6/29/2008 11:15	Epilimnio	WATER CO	LAB	UFI	PH	7.54	pH units								T				F14,
6/29/2008 11:15	Epilimnio	WATER CO	LAB	UFI	PHOSPHORUS, TOTAL	0.0097	mg/L	TOTAL											#VALUE!
6/29/2008 11:15	Epilimnio	WATER CO	IN-SITU	UFI	SPECIFIC CONDUCTANCE	114.8	uS/cm												
6/29/2008 11:15	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	22.8	deg C												
6/29/2008 11:15	Epilimnio	WATER CO	LAB	UFI	TRUE COLOR	6	color units	TOTAL											F14,F16,
9/6/2004 12:30	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	2.29E-09													
9/6/2004 12:30	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	16.6	ug/L	TOTAL											F1,
9/6/2004 12:30	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.95	m												
9/6/2004 12:30	Epilimnio	WATER CO	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.0186	mg/L	TOTAL											F1,F16
9/6/2004 12:30	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.005	mg/L	TOTAL							U				F1,F14,F22
9/6/2004 12:30	Epilimnio	WATER CO	LAB	UFI	NITROGEN, TOTAL	0.2729	mg/L	TOTAL											F1,
9/6/2004 12:30	Epilimnio	WATER CO	LAB	UFI	PH	8.64	pH units								T				F1,F14,
9/6/2004 12:30	Epilimnio	WATER CO	LAB	UFI	PHOSPHORUS, TOTAL	0.0227	mg/L	TOTAL											F1
9/6/2004 12:30	Epilimnio	WATER CO	IN-SITU	UFI	SPECIFIC CONDUCTANCE	105	uS/cm												F1,
9/6/2004 12:30	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	23.9	deg C												
9/6/2004 12:30	Epilimnio	WATER CO	LAB	UFI	TRUE COLOR	10	color units	TOTAL											F1,F14,
8/15/2004 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	4.90E-08													
8/15/2004 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	16.5	ug/L	TOTAL											F1,
8/15/2004 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.65	m												
8/15/2004 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.005	mg/L	TOTAL							U				F1,F22,
8/15/2004 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.005	mg/L	TOTAL							U				F1,F22,
8/15/2004 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, TOTAL	0.3235	mg/L	TOTAL											F1,
8/15/2004 0:00	Epilimnio	WATER CO	LAB	UFI	PH	7.31	pH units								T				F1,F14,
8/15/2004 0:00	Epilimnio	WATER CO	LAB	UFI	PHOSPHORUS, TOTAL	0.0336	mg/L	TOTAL											F1
8/15/2004 0:00	Epilimnio	WATER CO	IN-SITU	UFI	SPECIFIC CONDUCTANCE	108	uS/cm												F1,
8/15/2004 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	23.9	deg C												
8/15/2004 0:00	Epilimnio	WATER CO	LAB	UFI	TRUE COLOR	9	color units	TOTAL											F1,
8/1/2004 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	8.51E-08													
8/1/2004 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	10.5	ug/L	TOTAL											F1,
8/1/2004 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	2	m												
8/1/2004 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.022	mg/L	TOTAL											F1,
8/1/2004 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.0332	mg/L	TOTAL											F1,
8/1/2004 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, TOTAL	0.2171	mg/L	TOTAL											F1,
8/1/2004 0:00	Epilimnio	WATER CO	LAB	UFI	PH	7.07	pH units								T				F1,F14,
8/1/2004 0:00	Epilimnio	WATER CO	LAB	UFI	PHOSPHORUS, TOTAL	0.02	mg/L	TOTAL											F1,
8/1/2004 0:00	Epilimnio	WATER CO	IN-SITU	UFI	SPECIFIC CONDUCTANCE	111	uS/cm												F1,
8/1/2004 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	24.4	deg C												
8/1/2004 0:00	Epilimnio	WATER CO	LAB	UFI	TRUE COLOR	18	color units	TOTAL											F1,
7/11/2004 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	1.32E-07													
7/11/2004 0:00	Epilimnio	WATER CO	LAB	UFI	CALCIUM	17.9	mg/L	TOTAL											F1,
7/11/2004 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	6.1	ug/L	TOTAL											F1,
7/11/2004 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.75	m												
7/11/2004 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.005	mg/L	TOTAL							U				F1,F14,F22
7/11/2004 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.103	mg/L	TOTAL											F1,F14,
7/11/2004 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, TOTAL	1.1252	mg/L	TOTAL											F1,
7/11/2004 0:00	Epilimnio	WATER CO	LAB	UFI	PH	6.88	pH units								T				F1,F14,
7/11/2004 0:00	Epilimnio	WATER CO	LAB	UFI	PHOSPHORUS, TOTAL	0.004	mg/L	TOTAL											F1,
7/11/2004 0:00	Epilimnio	WATER CO	IN-SITU	UFI	SPECIFIC CONDUCTANCE	132	uS/cm												F1,
7/11/2004 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	23.9	deg C												
7/11/2004 0:00	Epilimnio	WATER CO	LAB	UFI	TRUE COLOR	16	color units	TOTAL											F1,F14,
9/14/2003 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	1.23E-08													
9/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	9.3	ug/L	TOTAL											F1,
9/14/2003 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.3	m												
9/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.0118	mg/L	TOTAL											F1,F16
9/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.005	mg/L	TOTAL							U				F1,F22,
9/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, TOTAL	0.4189	mg/L	TOTAL											F1,
9/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PH	7.91	pH units								T				F1,F14,
9/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PHOSPHORUS, TOTAL	0.0262	mg/L	TOTAL											F1
9/14/2003 0:00	Epilimnio	WATER CO	IN-SITU	UFI	SPECIFIC CONDUCTANCE	125	uS/cm												F1,
9/14/2003 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	22.2	deg C												
9/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	TRUE COLOR	5	color units	TOTAL											F1,F16,
9/6/2003 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	1.00E-08													
9/6/2003 0:00	Epilimnio	WATER CO	LAB	UFI	CALCIUM	17	mg/L	TOTAL											F1,
9/6/2003 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	25.2	ug/L	TOTAL											F1,
9/6/2003 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.7	m												
9/6/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.0428	mg/L	TOTAL											F1,
9/6/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.018	mg/L	TOTAL											F1,F16,
9/6/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, TOTAL	0.8772	mg/L	TOTAL											F1,
9/6/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PH	8	pH units								T				F1,F14,
9/6/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PHOSPHORUS, TOTAL	0.0305	mg/L	TOTAL											F1,
9/6/2003 0:00	Epilimnio	WATER CO	IN-SITU	UFI	SPECIFIC CONDUCTANCE	130.5	uS/cm												F1,
9/6/2003 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	21.1	deg C												
9/6/2003 0:00	Epilimnio	WATER CO	LAB	UFI	TRUE COLOR	9	color units	TOTAL											F1,
8/25/2003 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	9.77E-09													
8/25/2003 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	57.4	ug/L	TOTAL											F1,
8/25/2003 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.65	m												
8/25/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.0303	mg/L	TOTAL											F1,
8/25/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.0363	mg/L	TOTAL											F1,
8/25/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, TOTAL	0.4972	mg/L	TOTAL											F1,
8/25/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PH	8.01	pH units								T				F1,F14,
8/25/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PHOSPHORUS, TOTAL	0.0589	mg/L	TOTAL											F1,
8/25/2003 0:00	Epilimnio	WATER CO	IN-SITU	UFI	SPECIFIC CONDUCTANCE	127.2	uS/cm												F1,
8/25/2003 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	23.9	deg C												
8/25/2003 0:00	Epilimnio	WATER CO	LAB	UFI	TRUE COLOR	5	color units	TOTAL											F1,F16,
8/3/2003 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	1.74E-08													
8/3/2003 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	29.2	ug/L	TOTAL											F1,
8/3/2003 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.25	m												
8/3/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.0226	mg/L	TOTAL											F1
8/3/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.005	mg/L	TOTAL							U				F1,F22,
8/3/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, TOTAL	0.4644	mg/L	TOTAL											F1,
8/3/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PH	7.76	pH units								T				F1,F14,
8/3/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PHOSPHORUS, TOTAL	0.0331	mg/L	TOTAL											F1
8/3/2003 0:00	Epilimnio	WATER CO	IN-SITU	UFI	SPECIFIC CONDUCTANCE	129.4	uS/cm												F1,
8/3/2003 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	27.2	deg C												
8/3/2003 0:00	Epilimnio	WATER CO	LAB	UFI	TRUE COLOR	17	color units	TOTAL											F1,
7/14/2003 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	5.01E-09													
7/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	34.8	ug/L	TOTAL											F1,
7/14/2003 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.4	m												
7/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.005	mg/L	TOTAL							U				F1,F22,
7/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.005	mg/L	TOTAL							U				F1,F22,
7/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, TOTAL	0.3165	mg/L	TOTAL											F1,
7/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PH	8.3	pH units								T				F1,F14,
7/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PHOSPHORUS, TOTAL	0.0315	mg/L	TOTAL											F1,
7/14/2003 0:00	Epilimnio	WATER CO	IN-SITU	UFI	SPECIFIC CONDUCTANCE	120	uS/cm												F1,
7/14/2003 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	23.9	deg C												
7/14/2003 0:00	Epilimnio	WATER CO	LAB	UFI	TRUE COLOR	16	color units	TOTAL											F1,
6/22/2003 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	3.31E-08													
6/22/2003 0:00	Epilimnio	WATER CO	LAB	UFI	CALCIUM	16	mg/L	TOTAL											F1,
6/22/2003 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	4.5	ug/L	TOTAL											F1,
6/22/2003 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.45	m												
6/22/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, AMMONIA (AS N)	0.0567	mg/L	TOTAL											F1,F14,
6/22/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, NITRATE-NITRITE	0.005	mg/L	TOTAL							U				F1,F14,F22

6/22/2003 0:00	Epilimnio	WATER CO	LAB	UFI	NITROGEN, TOTAL	0.3959	mg/L	TOTAL											F1,
6/22/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PH	7.48	pH units								T				F1,F14,
6/22/2003 0:00	Epilimnio	WATER CO	LAB	UFI	PHOSPHORUS, TOTAL	0.0189	mg/L	TOTAL											F1,
6/22/2003 0:00	Epilimnio	WATER CO	IN-SITU	UFI	SPECIFIC CONDUCTANCE	125	uS/cm												F1,
6/22/2003 0:00	Epilimnio	WATER CO	LAB	UFI	TRUE COLOR	16	color unit	TOTAL											F1,F14,
8/20/2001 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	3.55E-09													
8/20/2001 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	33.09075	ug/L	TOTAL											
8/20/2001 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.25	m												
8/20/2001 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
8/20/2001 0:00	Epilimnio	WATER CO	LAB		PH	8.45	pH units								T				
8/20/2001 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.03356	mg/L	TOTAL											
8/20/2001 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	127	uS/cm												
8/20/2001 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	25	deg C												
8/20/2001 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	15	color unit	TOTAL											
7/23/2001 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	1.38E-07													
7/23/2001 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	4.16	ug/L	TOTAL											
7/23/2001 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.1	m												
7/23/2001 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
7/23/2001 0:00	Epilimnio	WATER CO	LAB		PH	6.86	pH units								T				
7/23/2001 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.00984	mg/L	TOTAL											
7/23/2001 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	124	uS/cm												
7/23/2001 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	23.88889	deg C												
7/23/2001 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	3	color unit	TOTAL											
7/8/2001 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	1.55E-08													
7/8/2001 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	4.43	ug/L	TOTAL											
7/8/2001 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.35	m												
7/8/2001 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
7/8/2001 0:00	Epilimnio	WATER CO	LAB		PH	7.81	pH units								T				
7/8/2001 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.01377	mg/L	TOTAL											
7/8/2001 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	126	uS/cm												
7/8/2001 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	22.22222	deg C												
7/8/2001 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	4	color unit	TOTAL											
6/25/2001 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	5.62E-08													
6/25/2001 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	3.4	ug/L	TOTAL											
6/25/2001 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.6	m												
6/25/2001 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
6/25/2001 0:00	Epilimnio	WATER CO	LAB		PH	7.25	pH units								T				
6/25/2001 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.01127	mg/L	TOTAL											
6/25/2001 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	126	uS/cm												
6/25/2001 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	25	deg C												
6/25/2001 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	5	color unit	TOTAL											
8/22/2000 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	7.59E-09													
8/22/2000 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	37.2	ug/L	TOTAL											
8/22/2000 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	0.95	m												
8/22/2000 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
8/22/2000 0:00	Epilimnio	WATER CO	LAB		PH	8.12	pH units								T				
8/22/2000 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.026	mg/L	TOTAL											
8/22/2000 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	125	uS/cm												
8/22/2000 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	23	deg C												
8/22/2000 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	8	color unit	TOTAL											
8/6/2000 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	3.09E-07													
8/6/2000 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	14.8	ug/L	TOTAL											
8/6/2000 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.75	m												
8/6/2000 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
8/6/2000 0:00	Epilimnio	WATER CO	LAB		PH	6.51	pH units								T				
8/6/2000 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.019	mg/L	TOTAL											
8/6/2000 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	128	uS/cm												
8/6/2000 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	24	deg C												
8/6/2000 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	7	color unit	TOTAL											
7/23/2000 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	1.26E-07													
7/23/2000 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	13.5	ug/L	TOTAL											
7/23/2000 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	2	m												
7/23/2000 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
7/23/2000 0:00	Epilimnio	WATER CO	LAB		PH	6.9	pH units								T				
7/23/2000 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.02	mg/L	TOTAL											
7/23/2000 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	125	uS/cm												
7/23/2000 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	24	deg C												
7/23/2000 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	7	color unit	TOTAL											
7/7/2000 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	1.55E-08													
7/7/2000 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	10	ug/L	TOTAL											
7/7/2000 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.05	m												
7/7/2000 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
7/7/2000 0:00	Epilimnio	WATER CO	LAB		PH	7.81	pH units								T				
7/7/2000 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.016	mg/L	TOTAL											
7/7/2000 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	125	uS/cm												
7/7/2000 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	24	deg C												
7/7/2000 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	7	color unit	TOTAL											
6/24/2000 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	2.75E-08													
6/24/2000 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	9.7	ug/L	TOTAL											
6/24/2000 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.45	m												
6/24/2000 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
6/24/2000 0:00	Epilimnio	WATER CO	LAB		PH	7.56	pH units								T				
6/24/2000 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.017	mg/L	TOTAL											
6/24/2000 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	125	uS/cm												
6/24/2000 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	24	deg C												
6/24/2000 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	12	color unit	TOTAL											
9/6/1999 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	6.31E-08													
9/6/1999 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	7.25	ug/L	TOTAL											
9/6/1999 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	2.275	m												
9/6/1999 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
9/6/1999 0:00	Epilimnio	WATER CO	LAB		PH	7.2	pH units								T				
9/6/1999 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.014	mg/L	TOTAL											
9/6/1999 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	127	uS/cm												
9/6/1999 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	25	deg C												
9/6/1999 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	5	color unit	TOTAL											
8/23/1999 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	9.33E-09													
8/23/1999 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	10.2	ug/L	TOTAL											
8/23/1999 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.65	m												
8/23/1999 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
8/23/1999 0:00	Epilimnio	WATER CO	LAB		PH	8.03	pH units								T				
8/23/1999 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.018	mg/L	TOTAL											
8/23/1999 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	128	uS/cm												
8/23/1999 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	25	deg C												
8/23/1999 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	8	color unit	TOTAL											
8/9/1999 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	1.78E-08													
8/9/1999 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	21.7	ug/L	TOTAL											
8/9/1999 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.525	m												
8/9/1999 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
8/9/1999 0:00	Epilimnio	WATER CO	LAB		PH	7.75	pH units								T				
8/9/1999 0:00	Epilimnio	WATER CO	LAB		PHOSPHORUS, TOTAL	0.031	mg/L	TOTAL											
8/9/1999 0:00	Epilimnio	WATER CO	IN-SITU		SPECIFIC CONDUCTANCE	126	uS/cm												
8/9/1999 0:00	Epilimnio	WATER CO	IN-SITU		TEMPERATURE	24	deg C												
8/9/1999 0:00	Epilimnio	WATER CO	LAB		TRUE COLOR	6	color unit	TOTAL											
7/26/1999 0:00	Epilimnio	WATER CO	LAB		ACIDITY, HYDROGEN ION (H+)	4.17E-09													
7/26/1999 0:00	Epilimnio	WATER CO	LAB	UFI	CHLOROPHYLL A	0.51	ug/L	TOTAL											
7/26/1999 0:00	Secchi_Re	WATER CO	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.15	m												
7/26/1999 0:00	Epilimnio	WATER CO	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
7/26/1999 0:00	Epilimnio	WATER CO	LAB		PH	8.38	pH units								T				

7/26/1999 0:00	Epilimnio	WATER C	LAB		PHOSPHORUS, TOTAL	0.021	mg/L	TOTAL											
7/26/1999 0:00	Epilimnio	WATER C	IN-SITU		SPECIFIC CONDUCTANCE	123	uS/cm												
7/26/1999 0:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	27	deg C												
7/26/1999 0:00	Epilimnio	WATER C	LAB		TRUE COLOR	7	color unit	TOTAL											
7/6/1999 0:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	2.69E-08													
7/6/1999 0:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	0.39	ug/L	TOTAL											
7/6/1999 0:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	1.675	m												
7/6/1999 0:00	Epilimnio	WATER C	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
7/6/1999 0:00	Epilimnio	WATER C	LAB		PH	7.57	pH units								T				
7/6/1999 0:00	Epilimnio	WATER C	LAB		PHOSPHORUS, TOTAL	0.012	mg/L	TOTAL											
7/6/1999 0:00	Epilimnio	WATER C	IN-SITU		SPECIFIC CONDUCTANCE	124	uS/cm												
7/6/1999 0:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	27	deg C												
7/6/1999 0:00	Epilimnio	WATER C	LAB		TRUE COLOR	15	color unit	TOTAL											
6/22/1999 0:00	Epilimnio	WATER C	LAB		ACIDITY, HYDROGEN ION (H+)	4.07E-08													
6/22/1999 0:00	Epilimnio	WATER C	LAB	UFI	CHLOROPHYLL A	2.9	ug/L	TOTAL											
6/22/1999 0:00	Secchi_Re	WATER C	IN-SITU		DEPTH, SECCHI DISK DEPTH	3.35	m												
6/22/1999 0:00	Epilimnio	WATER C	LAB		NITROGEN, NITRATE-NITRITE	0.01	mg/L	TOTAL										Just nitrate (pre-200	
6/22/1999 0:00	Epilimnio	WATER C	LAB		PH	7.39	pH units								T				
6/22/1999 0:00	Epilimnio	WATER C	LAB		PHOSPHORUS, TOTAL	0.016	mg/L	TOTAL											
6/22/1999 0:00	Epilimnio	WATER C	IN-SITU		SPECIFIC CONDUCTANCE	125	uS/cm												
6/22/1999 0:00	Epilimnio	WATER C	IN-SITU		TEMPERATURE	26	deg C												
6/22/1999 0:00	Epilimnio	WATER C	LAB		TRUE COLOR	4	color unit	TOTAL											

CSLAP Data 2022

Test	Parameter	Result	Units	Sample Type	Site	Rep. Limit	Report Flag	Instrument	Method	Matrix	Date Collected	PQL	RDL
Chla_f	Raw Conc	20.87	ug/L	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	05-Jun-22		
Chla_f	Filtered Vol	100	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	05-Jun-22		
Chla_f	Extracted Vol	20	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	05-Jun-22		
Chla_f	Chla_f	4.17400000000000020	ug/L	Water Column	Hyde Lake Epi	0.2		Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	05-Jun-22	0.4	0.2
Cl-_L	Cl-_L	22.215	mgCl/L	Water Column	Hyde Lake Epi	0.5		Lachat2131	SM 4500 Cl– E-2011	Surface Water	05-Jun-22	1.4	0.5
Fluoroprobe	Fluoroprobe		ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	N/A	Surface Water	05-Jun-22	0.2	0.1
fp_%T	fp_%T	99.141	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	05-Jun-22	0.2	0.1
fp_BGA	fp_BGA	1.217	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	05-Jun-22	0.2	0.1
fp_Chla	fp_Chla	5.255	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	05-Jun-22	0.2	0.1
fp_CryptoA	fp_CryptoA	1.173	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	05-Jun-22	0.2	0.1
fp_DiatomA	fp_DiatomA	0.759	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	05-Jun-22	0.2	0.1
fp_GrnA	fp_GrnA	2.106	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	05-Jun-22	0.2	0.1
fp_Ylw	fp_Ylw	0.857	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	05-Jun-22	0.2	0.1
NOX	NOX	11.082	ugN/L	Water Column	Hyde Lake Epi	10	I	Lachat2065	SM 4500NO3-F-2011	Surface Water	05-Jun-22	30	10
pH_L	pH_L	7.34		Water Column	Hyde Lake Epi			Multimeter	SM 4500H+-B	Surface Water	05-Jun-22		
PtCo_n	PtCo_n	0	CU	Water Column	Hyde Lake Epi	1		Nessler Tubes	SM 2120B 2011	Surface Water	05-Jun-22	5	1
SC_L	SC_L	115.0	um/cm	Water Column	Hyde Lake Epi	10		Multimeter	SM 2510B-2011	Surface Water	05-Jun-22	10	10
TN	TN	339.049	ugN/L	Water Column	Hyde Lake Epi	30		Lachat2065	SM 4500N-C	Surface Water	05-Jun-22	90	30
tNH3	tNH3	96.783	ugN/L	Water Column	Hyde Lake Epi	15		Lachat2065	SM 4500NH3-H-2011	Surface Water	05-Jun-22	45	15
TP	TP	13.912	ugP/L	Water Column	Hyde Lake Epi	1.5		Lachat2131	SM 4500P-(F-H) 2011	Surface Water	05-Jun-22	4.5	1.5
Chla_f	Raw Conc	26.95	ug/L	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	18-Jun-22		
Chla_f	Filtered Vol	100	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	18-Jun-22		
Chla_f	Extracted Vol	20	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	18-Jun-22		
Chla_f	Chla_f	5.38999999999999980	ug/L	Water Column	Hyde Lake Epi	0.2		Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	18-Jun-22	0.4	0.2
Fluoroprobe	Fluoroprobe		ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	N/A	Surface Water	18-Jun-22	0.2	0.1
fp_%T	fp_%T	100	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	18-Jun-22	0.2	0.1
fp_BGA	fp_BGA	2.894	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	18-Jun-22	0.2	0.1
fp_Chla	fp_Chla	4.902	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	18-Jun-22	0.2	0.1
fp_CryptoA	fp_CryptoA	0.932	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	18-Jun-22	0.2	0.1

fp_DiatomA	fp_DiatomA	0.961	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	18-Jun-22	0.2	0.1
fp_GrnA	fp_GrnA	0.114	ug/L	Water Column	Hyde Lake Epi	0.1	I	Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	18-Jun-22	0.2	0.1
fp_Ylw	fp_Ylw	1.015	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	18-Jun-22	0.2	0.1
NOX	NOX	2.283	ugN/L	Water Column	Hyde Lake Epi	10	T	Lachat2065	SM 4500NO3-F-2011	Surface Water	18-Jun-22	30	10
pH_L	pH_L	7.87		Water Column	Hyde Lake Epi			Multimeter	SM 4500H+-B	Surface Water	18-Jun-22		
PtCo_n	PtCo_n	5	CU	Water Column	Hyde Lake Epi	1		Nessler Tubes	SM 2120B 2011	Surface Water	18-Jun-22	5	1
SC_L	SC_L	147.5	um/cm	Water Column	Hyde Lake Epi	10		Multimeter	SM 2510B-2011	Surface Water	18-Jun-22	10	10
TN	TN	647.874	ugN/L	Water Column	Hyde Lake Epi	30		Lachat2065	SM 4500N-C	Surface Water	18-Jun-22	90	30
tNH3	tNH3	92.411	ugN/L	Water Column	Hyde Lake Epi	10		Lachat2065	SM 4500NH3-H-2011	Surface Water	18-Jun-22	45	15
TP	TP	12.433	ugP/L	Water Column	Hyde Lake Epi	1.2		Lachat2131	SM 4500P-(F-H) 2011	Surface Water	18-Jun-22	3.6	1.2
Chla_f	Raw Conc	32.45	ug/L	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	04-Jul-22		
Chla_f	Filtered Vol	100	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	04-Jul-22		
Chla_f	Extracted Vol	20	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	04-Jul-22		
Chla_f	Chla_f	6.49000000000000060	ug/L	Water Column	Hyde Lake Epi	0.2		Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	04-Jul-22	0.4	0.2
Cl-_L	Cl-_L	21.607	mgCl/L	Water Column	Hyde Lake Epi	0.5		Lachat2131	SM 4500 Cl– E-2011	Surface Water	04-Jul-22	1.4	0.5
Fluoroprobe	Fluoroprobe		ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	N/A	Surface Water	04-Jul-22	0.2	0.1
fp_%T	fp_%T	100	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	04-Jul-22	0.2	0.1
fp_BGA	fp_BGA	4.94	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	04-Jul-22	0.2	0.1
fp_Chla	fp_Chla	7.271	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	04-Jul-22	0.2	0.1
fp_CryptoA	fp_CryptoA	1.436	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	04-Jul-22	0.2	0.1
fp_DiatomA	fp_DiatomA	0.886	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	04-Jul-22	0.2	0.1
fp_GrnA	fp_GrnA	0.007	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	04-Jul-22	0.2	0.1
fp_Ylw	fp_Ylw	0.75	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	04-Jul-22	0.2	0.1
NOX	NOX	11.753	ugN/L	Water Column	Hyde Lake Epi	10	I	Lachat2065	SM 4500NO3-F-2011	Surface Water	04-Jul-22	30	10
pH_L	pH_L	8.21		Water Column	Hyde Lake Epi			Multimeter	SM 4500H+-B	Surface Water	04-Jul-22		
PtCo_n	PtCo_n	5	CU	Water Column	Hyde Lake Epi	1		Nessler Tubes	SM 2120B 2011	Surface Water	04-Jul-22	5	1
SC_L	SC_L	153.5	um/cm	Water Column	Hyde Lake Epi	10		Multimeter	SM 2510B-2011	Surface Water	04-Jul-22	10	10
TN	TN	429.223	ugN/L	Water Column	Hyde Lake Epi	30		Lachat2065	SM 4500N-C	Surface Water	04-Jul-22	90	30
tNH3	tNH3	41.844	ugN/L	Water Column	Hyde Lake Epi	10		Lachat2065	SM 4500NH3-H-2011	Surface Water	04-Jul-22	30	10
TP	TP	14.147	ugP/L	Water Column	Hyde Lake Epi	1.2		Lachat2131	SM 4500P-(F-H) 2011	Surface Water	04-Jul-22	3.6	1.2
Chla_f	Raw Conc	43.88	ug/L	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	17-Jul-22		
Chla_f	Filtered Vol	100	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	17-Jul-22		

Chla_f	Extracted Vol	20	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	17-Jul-22		
Chla_f	Chla_f	8.77600000000000060	ug/L	Water Column	Hyde Lake Epi	0.2		Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	17-Jul-22	0.4	0.2
Fluoroprobe	Fluoroprobe		ug/L	Water Column	Hyde Lake Epi	0.1	J	Fluoroprobe	N/A	Surface Water	17-Jul-22	0.2	0.1
fp_%T	fp_%T	100	ug/L	Water Column	Hyde Lake Epi	0.1	J	Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	17-Jul-22	0.2	0.1
fp_BGA	fp_BGA	5.518	ug/L	Water Column	Hyde Lake Epi	0.1	J	Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	17-Jul-22	0.2	0.1
fp_Chla	fp_Chla	8.354	ug/L	Water Column	Hyde Lake Epi	0.1	J	Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	17-Jul-22	0.2	0.1
fp_CryptoA	fp_CryptoA	0.789	ug/L	Water Column	Hyde Lake Epi	0.1	J	Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	17-Jul-22	0.2	0.1
fp_DiatomA	fp_DiatomA	1.122	ug/L	Water Column	Hyde Lake Epi	0.1	J	Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	17-Jul-22	0.2	0.1
fp_GrnA	fp_GrnA	0.929	ug/L	Water Column	Hyde Lake Epi	0.1	J	Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	17-Jul-22	0.2	0.1
fp_Ylw	fp_Ylw	0.717	ug/L	Water Column	Hyde Lake Epi	0.1	J	Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	17-Jul-22	0.2	0.1
NOX	NOX	37.803	ugN/L	Water Column	Hyde Lake Epi	10		Lachat2065	SM 4500NO3-F-2011	Surface Water	17-Jul-22	30	10
pH_L	pH_L	8.52		Water Column	Hyde Lake Epi			Multimeter	SM 4500H+-B	Surface Water	17-Jul-22		
PtCo_n	PtCo_n	10	CU	Water Column	Hyde Lake Epi	1		Nessler Tubes	SM 2120B 2011	Surface Water	17-Jul-22	5	1
SC_L	SC_L	178.1	um/cm	Water Column	Hyde Lake Epi	10		Multimeter	SM 2510B-2011	Surface Water	17-Jul-22	10	10
TN	TN	623.764	ugN/L	Water Column	Hyde Lake Epi	30		Lachat2065	SM 4500N-C	Surface Water	17-Jul-22	90	30
tNH3	tNH3	31.654	ugN/L	Water Column	Hyde Lake Epi	10		Lachat2065	SM 4500NH3-H-2011	Surface Water	17-Jul-22	30	10
TP	TP	17.361	ugP/L	Water Column	Hyde Lake Epi	1.2		Lachat2131	SM 4500P-(F-H) 2011	Surface Water	17-Jul-22	3.6	1.2
Chla_f	Raw Conc	99.07	ug/L	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	31-Jul-22		
Chla_f	Filtered Vol	100	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	31-Jul-22		
Chla_f	Extracted Vol	20	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	31-Jul-22		
Chla_f	Chla_f	19.8139999999999860	ug/L	Water Column	Hyde Lake Epi	0.2		Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	31-Jul-22	0.4	0.2
Fluoroprobe	Fluoroprobe		ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	N/A	Surface Water	31-Jul-22	0.2	0.1
fp_%T	fp_%T	100	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	31-Jul-22	0.2	0.1
fp_BGA	fp_BGA	36.059	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	31-Jul-22	0.2	0.1
fp_Chla	fp_Chla	39.271	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	31-Jul-22	0.2	0.1
fp_CryptoA	fp_CryptoA	0	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	31-Jul-22	0.2	0.1
fp_DiatomA	fp_DiatomA	0.73	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	31-Jul-22	0.2	0.1
fp_GrnA	fp_GrnA	2.479	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	31-Jul-22	0.2	0.1
fp_Ylw	fp_Ylw	1.251	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	31-Jul-22	0.2	0.1

MC_T	MC_T	0.119	ug/L	Water Column	Hyde Lake Epi	0.3	T	CAAS	EPA Method 546	Surface Water	31-Jul-22	0.3	0.3
NOX	NOX	5.398	ugN/L	Water Column	Hyde Lake Epi	10	T	Lachat2065	SM 4500NO3-F-2011	Surface Water	31-Jul-22	30	10
pH_L	pH_L	7.75		Water Column	Hyde Lake Epi			Multimeter	SM 4500H+-B	Surface Water	31-Jul-22		
Phyto_Qual	Phyto_Qual	Microcystis, Dolichospermum, Woronichinia		Water Column	Hyde Lake Epi			Inverted Microscope	SM 10200F	Surface Water	31-Jul-22		
PtCo_n	PtCo_n	8	CU	Water Column	Hyde Lake Epi	1		Nessler Tubes	SM 2120B 2011	Surface Water	31-Jul-22	5	1
SC_L	SC_L	164.7	um/cm	Water Column	Hyde Lake Epi	10		Multimeter	SM 2510B-2011	Surface Water	31-Jul-22	10	10
TN	TN	540.173	ugN/L	Water Column	Hyde Lake Epi	30		Lachat2065	SM 4500N-C	Surface Water	31-Jul-22	90	30
tNH3	tNH3	24.466	ugN/L	Water Column	Hyde Lake Epi	10	I	Lachat2065	SM 4500NH3-H-2011	Surface Water	31-Jul-22	30	10
TP	TP	20.729	ugP/L	Water Column	Hyde Lake Epi	1.2		Lachat2131	SM 4500P-(F-H) 2011	Surface Water	31-Jul-22	3.6	1.2
Chla_f	Raw Conc	126.6	ug/L	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	14-Aug-22		
Chla_f	Filtered Vol	100	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	14-Aug-22		
Chla_f	Extracted Vol	20	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	14-Aug-22		
Chla_f	Chla_f	25.3199999999999980	ug/L	Water Column	Hyde Lake Epi	0.2		Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	14-Aug-22	0.4	0.2
Fluoroprobe	Fluoroprobe		ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	N/A	Surface Water	14-Aug-22	0.2	0.1
fp_%T	fp_%T	100	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	14-Aug-22	0.2	0.1
fp_BGA	fp_BGA	12.821	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	14-Aug-22	0.2	0.1
fp_Chla	fp_Chla	32.767	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	14-Aug-22	0.2	0.1
fp_CryptoA	fp_CryptoA	1.987	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	14-Aug-22	0.2	0.1
fp_DiatomA	fp_DiatomA	4.278	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	14-Aug-22	0.2	0.1
fp_GrnA	fp_GrnA	13.677	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	14-Aug-22	0.2	0.1
fp_Ylw	fp_Ylw	1.556	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	14-Aug-22	0.2	0.1
MC_T	MC_T	0.198	ug/L	Water Column	Hyde Lake Epi	0.3	T	CAAS	EPA Method 546	Surface Water	14-Aug-22	0.3	0.3
NOX	NOX	5.407	ugN/L	Water Column	Hyde Lake Epi	10	T	Lachat2065	SM 4500NO3-F-2011	Surface Water	14-Aug-22	30	10
pH_L	pH_L	8.00		Water Column	Hyde Lake Epi			Multimeter	SM 4500H+-B	Surface Water	14-Aug-22		
Phyto_Qual	Phyto_Qual	Woronichinia, Microcystis, Dolichospermum		Water Column	Hyde Lake Epi			Inverted Microscope	SM 10200F	Surface Water	14-Aug-22		
PtCo_n	PtCo_n	7	CU	Water Column	Hyde Lake Epi	1		Nessler Tubes	SM 2120B 2011	Surface Water	14-Aug-22	5	1
SC_L	SC_L	179.7	um/cm	Water Column	Hyde Lake Epi	10		Multimeter	SM 2510B-2011	Surface Water	14-Aug-22	10	10
TN	TN	538.207	ugN/L	Water Column	Hyde Lake Epi	30		Lachat2065	SM 4500N-C	Surface Water	14-Aug-22	90	30
tNH3	tNH3	22.724	ugN/L	Water Column	Hyde Lake Epi	10	I	Lachat2065	SM 4500NH3-H-2011	Surface Water	14-Aug-22	30	10
TP	TP	33.353	ugP/L	Water Column	Hyde Lake Epi	1.2		Lachat2131	SM 4500P-(F-H) 2011	Surface Water	14-Aug-22	3.6	1.2
Chla_f	Raw Conc	111.5	ug/L	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	28-Aug-22		
Chla_f	Filtered Vol	100.	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	28-Aug-22		

Chla_f	Extracted Vol	20.	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	28-Aug-22		
Chla_f	Chla_f	22.3000000000000000	ug/L	Water Column	Hyde Lake Epi	0.2		Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	28-Aug-22		
Fluoroprobe	Fluoroprobe		ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	N/A	Surface Water	28-Aug-22	0.2	0.1
fp_%T	fp_%T	93.224	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	28-Aug-22	0.2	0.1
fp_BGA	fp_BGA	36.569	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	28-Aug-22	0.2	0.1
fp_Chla	fp_Chla	39.107	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	28-Aug-22	0.2	0.1
fp_CryptoA	fp_CryptoA	2.537	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	28-Aug-22	0.2	0.1
fp_DiatomA	fp_DiatomA	0	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	28-Aug-22	0.2	0.1
fp_GrnA	fp_GrnA	0	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	28-Aug-22	0.2	0.1
fp_Ylw	fp_Ylw	3.427	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	28-Aug-22	0.2	0.1
MC_T	MC_T	0.9	ug/L	Water Column	Hyde Lake Epi	0.3	T	CAAS	EPA Method 546	Surface Water	28-Aug-22	0.3	0.3
NOX	NOX	0.845	ugN/L	Water Column	Hyde Lake Epi	10	T	Lachat2065	SM 4500NO3-F-2011	Surface Water	28-Aug-22	30	10
pH_L	pH_L	8.18		Water Column	Hyde Lake Epi			Multimeter	SM 4500H+-B	Surface Water	28-Aug-22		
Phyto_Qual	Phyto_Qual	Woronichinia, Dolichospermum, Fragilaria		Water Column	Hyde Lake Epi			Inverted Microscope	SM 10200F	Surface Water	28-Aug-22		
PtCo_n	PtCo_n	10.	CU	Water Column	Hyde Lake Epi	1		Nessler Tubes	SM 2120B 2011	Surface Water	28-Aug-22	5	1
SC_L	SC_L	111.1	um/cm	Water Column	Hyde Lake Epi	10		Multimeter	SM 2510B-2011	Surface Water	28-Aug-22	10	10
TN	TN	682.148	ugN/L	Water Column	Hyde Lake Epi	30		Lachat2065	SM 4500N-C	Surface Water	28-Aug-22	90	30
tNH3	tNH3	29.171	ugN/L	Water Column	Hyde Lake Epi	10	I	Lachat2065	SM 4500NH3-H-2011	Surface Water	28-Aug-22	30	10
TP	TP	32.557	ugP/L	Water Column	Hyde Lake Epi	1.2		Lachat2131	SM 4500P-(F-H) 2011	Surface Water	28-Aug-22	3.6	1.2
Chla_f	Raw Conc	105.4	ug/L	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	11-Sep-22		
Chla_f	Filtered Vol	100	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	11-Sep-22		
Chla_f	Extracted Vol	20	mL	Water Column	Hyde Lake Epi			Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	11-Sep-22		
Chla_f	Chla_f	21.0800000000000020	ug/L	Water Column	Hyde Lake Epi	0.2		Fluorometer	USEPA 445.0 Rev 1.2	Surface Water	11-Sep-22	0.4	0.2
Fluoroprobe	Fluoroprobe		ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	N/A	Surface Water	11-Sep-22	0.2	0.1
fp_%T	fp_%T	100	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	11-Sep-22	0.2	0.1
fp_BGA	fp_BGA	20.119	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	11-Sep-22	0.2	0.1
fp_Chla	fp_Chla	23.421	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	11-Sep-22	0.2	0.1
fp_CryptoA	fp_CryptoA	0	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	11-Sep-22	0.2	0.1
fp_DiatomA	fp_DiatomA	2.162	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	11-Sep-22	0.2	0.1

fp_GrnA	fp_GrnA	1.14	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	11-Sep-22	0.2	0.1
fp_Ylw	fp_Ylw	1.79	ug/L	Water Column	Hyde Lake Epi	0.1		Fluoroprobe	bbe Moldaenke FluoroProbe III	Surface Water	11-Sep-22	0.2	0.1
MC_T	MC_T	0.529	ug/L	Water Column	Hyde Lake Epi	0.3		CAAS	EPA Method 546	Surface Water	11-Sep-22	0.3	0.3
NOX	NOX	11.507	ugN/L	Water Column	Hyde Lake Epi	10	I	Lachat2065	SM 4500NO3-F-2011	Surface Water	11-Sep-22	30	10
pH_L	pH_L	8.69		Water Column	Hyde Lake Epi			Multimeter	SM 4500H+-B	Surface Water	11-Sep-22		
Phyto_Qual	Phyto_Qual	Woronichinia, Dolichospermum, Microcystis		Water Column	Hyde Lake Epi			Inverted Microscope	SM 10200F	Surface Water	11-Sep-22		
PtCo_n	PtCo_n	4.	CU	Water Column	Hyde Lake Epi	1		Nessler Tubes	SM 2120B 2011	Surface Water	11-Sep-22	5	1
SC_L	SC_L	136.8	um/cm	Water Column	Hyde Lake Epi	10		Multimeter	SM 2510B-2011	Surface Water	11-Sep-22	10	10
TN	TN	569.455	ugN/L	Water Column	Hyde Lake Epi	30		Lachat2065	SM 4500N-C	Surface Water	11-Sep-22	90	30
tNH3	tNH3	30.783	ugN/L	Water Column	Hyde Lake Epi	10		Lachat2065	SM 4500NH3-H-2011	Surface Water	11-Sep-22	30	10
TP	TP	20.975	ugP/L	Water Column	Hyde Lake Epi	1.2		Lachat2131	SM 4500P-(F-H) 2011	Surface Water	11-Sep-22	3.6	1.2

Upstate Freshwater Institute Collected Data 2021

HYDE LAKE DATA REPORT

Site Survey on 9/8/21

Field Crew: David Andrews & Monica Matt

Data Submitted to Karen Haswell, Save Hyde Lake Association/Preservation Alliance of Hyde Lake, on 11/5/21

Sites	Description	Coordinates
Site 1	Water collection and YSI profile site, historic CSLAP sampling site. 6 total meters deep	44.243, -75.833
Site 2	Southern end of lake, near outlet	44.23795, -75.840933
Site 3	Northern end of lake, near abandoned camp & fishing access/launch site	42.8347, -76.349233

Tab 1: Field

Section/Header	*Description*
YSI Manual Profile	
Depth	(meters)
Temp	Temperature (Celcius)
SC	Specific Conductance (uS/cm)
pH	(units)
DO.c	Dissolved Oxygen Concentration (mg/l)
DO.p	Dissolved Oxygen Percent Saturation
Chl-a	Chlorophyll-a concentration (mg/l)
Tn	Turbidity (NTU)
Secchi Disk Depth	
Site	Site measurement taken
SD	Secchi disk depth (meters)
Plant Community Assessment	
Site	Site community assessed
Overall	Overall density (Dense, Handful, Sparse, Trace)
Robbins Pondweed	Percentage of collected plants that were this species
Broadleaf Pondweed	Percentage of collected plants that were this species
Elodea	Percentage of collected plants that were this species
Bidens	Percentage of collected plants that were this species
Coontail	Percentage of collected plants that were this species
Eelgrass	Percentage of collected plants that were this species
Additional Comments	Additional macrophyte visual assessments of area (emergent plants, density of plants visible from boat)

Tab 2: Lab

TP	Total phosphorus (µgP/L)
TDP	Total dissolved phosphorus (µgP/L)
DO	Dissolved oxygen (mg/L)
Chl_a	Chlorophyll-a (µg/L)
NOx	Nitrate+nitrite (µgN/L)
tNH3	Total ammonia (µgN/L)
TN	Total nitrogen (µgN/L)
pH	negative log of the hydrogen ion concentration
Alk	Alkalinity (mgCaCO3/L)
Cl^-	Chloride (mgCl/L)
fp_BGA	Bluegreen algae concentration measured by Fluoroprobe (µg/L)
fp_Chla	Chlorophyll-a concentration measured by Fluoroprobe (µg/L)
fp_GrnA	Green algae concentration measured by Fluoroprobe (µg/L)
fp_DiatomA	Diatom concentration measured by Fluoroprobe (µg/L)
fp_CryptoA	Cryptophyte concentration measured by Fluoroprobe (µg/L)

Client ID	Field Duplicate	Sample Type	Depth (m)	Sampling Date	Sampling Time	TP (µgP/L)	TDP (µgP/L)	DO (mg/L)	Chl_a (µgChl/L)	NOx (µgN/L)	tNH3 (µgN/L)	TN (µgN/L)
Hyde 1	A	Grab	1.5	9/8/21	11:30	31.7	10.0	6.2	23.1	<lod	171.0	487.3
Hyde 1	B	Grab	1.5	9/8/21	11:49	28.8	9.3	6.0	23.2	<lod	120.9	451.7
Hyde 1		Grab	5.0	9/8/21	12:05	28.1	6.9	5.6	21.7	<lod	247.6	425.9
Field Blank		Grab		9/8/21	10:07	1.5	2.5	n/a	0.3	<lod	70.1	<lod

Client ID	Field Duplicate	Sample Type	Depth (m)	Sampling Date	Sampling Time	pH	Alk (mgCaCO3/L)	Cl^- (mgCl/L)	fp_BGA µg/L	fp_Chla µg/L	fp_GrnA µg/L	fp_DiatomA µg/L	fp_CryptoA µg/L
Hyde 1	A	Grab	1.5	9/8/21	11:30	7.3	51.7	22.0	19.0	24.1	0.1	4.6	0.3
Hyde 1	B	Grab	1.5	9/8/21	11:49	7.4	50.7	20.7	n/a	n/a	n/a	n/a	n/a
Hyde 1		Grab	5.0	9/8/21	12:05	6.9	50.7	21.3	n/a	n/a	n/a	n/a	n/a
Field Blank		Grab		9/8/21	10:07	4.6	<lod	<lod	n/a	n/a	n/a	n/a	n/a

Microscopy (qualitative)

Dolichospermum, Woronichinia, Coelosphaerium, Fragileria, Volvox, centric diatoms, Pediastrum, Euglenoids, Chlamydomonas

Appendix B

Upstate Freshwater Institute Collected Data 2021

HYDE LAKE DATA REPORT

Site Survey on 9/8/21

Field Crew: David Andrews & Monica Matt

Data Submitted to Karen Haswell, Save Hyde Lake Association/Preservation Alliance of Hyde Lake, on 11/5/21

Sites	Description	Coordinates
Site 1	Water collection and YSI profile site, historic CSLAP sampling site. 6 total meters deep	44.243, -75.833
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Depth	(meters)
Temp	Temperature (Celcius)
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pH	(units)
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DO.p	Dissolved Oxygen Percent Saturation
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SD	Secchi disk depth (meters)
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fp_DiatomA	Diatom concentration measured by Fluoroprobe (µg/L)
fp_CryptoA	Cryptophyte concentration measured by Fluoroprobe (µg/L)

YSI Manual Profile

Depth	Temp	SC	pH	DO.c	DO.p	Chl-a	Tn
0	22.23	175	7.23	6.67	76.6	12.5	5
1	22.2	175	7.25	6.63	76.1	3.2	5.1
2	22.22	175	7.25	6.63	76.1	4	5
3	22.22	175	7.23	6.5	74.8	3.1	5.3
4	22.14	176	7.24	6.31	72.5	3.3	4.8
5	22.15	175	7.22	6.3	72.3	2.8	5.4
5.7	22.1	177	7.18	5.2	62	2.9	3.5

Secchi Disk Depth

Site	SD
Site 1	1.65
Site 3	1.5

Plant Community Assessment

Site	Overall	Robbins P	Broadleaf	Elodea	Bidens	Coontail	Eelgrass	Additional Comments
Site 2	Dense	95	1	1	2	1	0	Yellow lilies on surface (Nuphar), Dense cattails (Typha)
Site 3	Dense	0	50	0	0	50	Trace	Eelgrass beds present in area

Preservation Alliance of Hyde Lake Collected YSI Data

Date	Day	Time	Barometric Pressure mmHg	WaterDepth (m)	WaterTemp(C) 0.5	WaterTemp(C) 1	WaterTemp(C) 1.5	WaterTemp(C) 2	WaterTemp(C) 2.5	WaterTemp(C) 3	WaterTemp(C) 3.5	WaterTemp(C) 4	WaterTemp(C) 4.5	WaterTemp(C) 5	WaterTemp(C) 5.5	WaterTemp(C) 6" FTB
6/24/2022	Wed	11AM	752.2	6.2	24.2	22.9	22.5	22.4	22.2	22	21.8	21.7	21.6	21.3	20.4	20.4
6/26/2022	Wed	1PM	751.9	6.2	24.2	23.3	22.7	22.4	22.2	22	21.8	21.7	21.6	21.4	20.3	20.3
6/29/2022	Wed	11AM	755.4	6	23.3	23.3	23.3	23.2	23.2	23.1	23.1	23	21.9	21.3	20.6	20.6
6/30/2022	Thurs	1PM	749.9	6	23.1	23.1	23.1	23.1	23.1	23	22.8	22.6	22.4	21.8	21	21
7/4/2022	Mon	10AM	756.1	6.2	23.1	23.2	23.2	23.3	23.3	23.3	23.2	23.2	23.2	22.6	21	21
7/6/2022	Wed	11AM	751.1	6.2	23.6	23.5	23.5	23.4	23.4	23.4	23.3	23.3	23.2	23.2	22.5	22.5
7/7/2022	Thurs	4PM	751.8	6	25.4	25.2	24.5	24.2	24	23.9	23.7	23.5	23.3	22.8	21.1	21.1
7/9/2022	Sat	1PM	755.3	6	24.5	24.5	24.5	24.5	24.4	24.4	24.4	24.3	23.7	22.5	21.1	21.1
7/13/2022	Wed	12PM	750.6	5.8	25	24.9	24.6	24.4	24.3	24.1	24	24	23.8	23.7	23.2	23.2
7/15/2022	Fri	12PM	756.6	5.8	24.9	24.9	24.7	24.6	24.6	24.5	24.3	24.1	24	23.8	22.3	22.3
7/17/2022	Sun	8AM	752.8	6.1	25	25.1	25.1	25	25	24.9	24.6	24.3	24.1	23.7	23	23
7/20/2022	Wed	5PM	742.2	6.3	27.1	26.9	26.7	26.6	26.5	26.3	26	25.7	24.6	24.2	23.6	23.6
7/24/2022	Sun	12PM	748	6.2	26.2	26.2	26.2	26.1	26.1	26.1	26.1	26.1	26.1	25.8	23.6	23.6
7/26/2022	Mon	5PM	748.8	6.2	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26	25.8	23.7	23.7
7/27/2022	Wed	11AM	750.3	6.2	25.2	25.2	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	24.5	24.5
7/29/2022	Fri	10AM	753.4	6.2	24.6	24.7	27.8	24.8	24.8	24.8	24.8	24.8	24.8	24.7	24.2	24.2
7/31/2022	Sun	10AM	755.5	6.2	24.9	24.9	24.8	24.8	24.8	24.8	24.8	24.7	24.7	24.7	24.6	24.6
8/2/2022	Tues	5PM	755.1	6.1	25.6	25.8	25.7	25.3	25.2	25.2	25.2	25.1	25.1	25	24.8	24.3
8/5/2022	Fri	4PM	754.8	6.1	27.1	25.9	25.5	25.3	25.2	25.1	25.1	25.1	25	25	24.6	24.2
8/8/2022	Mon	8AM	749.6	6.1	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.2	25.6	25.3	24.9	24.5
8/10/2022	Wed	11AM	750.1	6.1	25.4	25.4	25.5	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.2	24.6
8/12/2022	Fri	1PM	753.7	6.1	26.5	26.2	26	25.9	25.9	25.3	25.2	25.1	25.1	25	24.8	24.6
8/16/2022	Tues	11AM	753.7	6.1	24.7	24.8	24.7	24.6	24.5	24.5	24.5	24.4	24.4	24.4	24.3	24.3
8/18/2022	Thurs	4PM	748.2	6	25.3	25.2	25.1	24.7	24.7	24.6	24.6	24.5	24.5	24.4	24.4	24.3
8/20/2022	Sat	4PM	753.8	6.2	26.1	25.6	25.2	24.9	24.8	24.7	24.6	24.5	24.4	24.3	24	23.9
8/23/2022	Tues	11AM	746.2	6	25	24.7	24.7	24.7	24.7	24.6	24.6	24.6	24.4	24.3	24.1	24.1
8/26/2022	Fri	9AM	748.7	5.9	24.8	24.8	24.8	24.7	24.7	24.7	24.6	24.5	24.3	24.2	24.1	24.1
8/28/2022	Sun	9AM	755.2	6	24.2	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.2	24.1	24	23.9
8/30/2022	Tues	2PM	745.2	6.3	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.7	24.7	24.5	24.3	23.9
9/1/2022	Thurs	4PM	751.9	6.4	23.9	23.9	23.9	23.9	23.8	23.8	23.7	23.7	23.7	23.7	23.6	23.5
9/5/2022	Mon	9AM	755.2	6.2	22.2	22.3	22.4	22.4	22.4	22.5	22.5	22.5	22.5	22.5	22.1	22.1
9/7/2022	Wed	12PM	752	6	22.2	22.1	22	21.8	21.8	21.8	21.8	21.8	21.7	21.7	21.4	20.4
9/9/2022	Fri	11AM	753.5	6.2	22.4	22.4	22.4	22	21.8	21.7	21.7	21.7	21.7	21.7	21.6	20.3

Date	Day	Time	Barometric Pressure mmHg	% DO 0.5	% DO 1	% DO 1.5	% DO 2	% DO 2.5	% DO 3	% DO 3.5	% DO 4	% DO 4.5	% DO 5	% DO 5.5	% DO 6" FTB
6/24/2022	Wed	11AM	752.2	114.7	113.2	112.7	112.9	111.7	109.7	107.7	105.8	102.4	87.7	56.1	23.6
6/26/2022	Wed	1PM	751.9	114.4	114.8	115	114	113.6	112.1	109.1	106.2	105.2	88	55	20
6/29/2022	Wed	11AM	755.4	110.5	110.8	110.8	110.7	110.6	109.8	109.5	108	98.3	51.8	18.7	10.7
6/30/2022	Thurs	1PM	749.9	109.7	109.7	109.6	109.5	109.3	109	104.9	99.3	91.7	67	42.5	29.3
7/4/2022	Mon	10AM	756.1	107.4	106.7	106.4	106.1	106	105.5	105	104.7	104.6	60.4	21.3	4.6
7/6/2022	Wed	11AM	751.1	103	103	102.8	102.4	102.1	101.9	101	100.9	100.2	99.8	99.3	57.7
7/7/2022	Thurs	4PM	751.8	110.8	111.1	110.4	110.1	109.9	109.1	106.9	103.2	100.8	56.9	6.3	1.5
7/9/2022	Sat	1PM	755.3	115.4	115.5	115.6	115.4	115.1	114.3	113.8	113.8	82.7	32	6.4	3.3
7/13/2022	Wed	12PM	750.6	104.6	104.6	104.6	104.3	103	100.8	99.6	93.2	82	75.5	54.7	40.6
7/15/2022	Fri	12PM	756.6	115.9	116	114.4	113.8	112.7	108.1	94	95	90.4	75.5	26	3.5
7/17/2022	Sun	8AM	752.8	115.5	115.8	116	116.9	117.2	116	95.6	96.8	85.5	59.1	30	8.3
7/20/2022	Wed	5PM	742.2	117.2	117.1	116.5	115.9	115	114.1	112.9	110.7	80.5	45.5	18.3	5
7/24/2022	Sun	12PM	748	97.4	97.4	97.4	97.4	97.5	97.5	96.4	95.9	94.4	93	9.3	2.5
7/26/2022	Mon	5PM	748.8	101.6	101.5	101	101.1	99.5	99	97.5	96.4	96.2	66	33.1	3.6
7/27/2022	Wed	11AM	750.3	93	92.2	90.8	89.5	87.9	87.1	85.1	83.9	82.9	81.2	50.5	16
7/29/2022	Fri	10AM	753.4	86	85.4	85	84.6	84.9	85	85.1	84.9	82.7	43.5	11.2	4.2
7/31/2022	Sun	10AM	755.5	94.1	93.7	93.6	94	93.1	92.5	91.4	89.5	88.2	87.9	87.7	87.9
8/2/2022	Tues	5PM	755.1	114.3	115.2	109.6	109.6	107.5	104.3	99.2	96.7	91.4	75.7	54.1	9.9
8/5/2022	Fri	4PM	754.8	115.7	121.1	116.7	110.6	105.7	100.8	95.5	93.3	87.7	86.5	42.3	3.7
8/8/2022	Mon	8AM	749.6	108.5	107.1	106.7	105.6	105.3	104.9	103.5	90.1	70.6	54.3	33.9	4.8
8/10/2022	Wed	11AM	750.1	92.1	91.2	90.9	90.8	89.1	88	87.2	85.9	85.6	85.3	20.2	3.9
8/12/2022	Fri	1PM	753.7	99.2	98.3	97.7	96.1	96	90.4	91.2	91.1	87.3	86.3	46.2	2.6
8/16/2022	Tues	11AM	753.7	98.8	98.2	97.5	94.2	91.6	83.3	84	84.9	84.4	75	64.9	20.2
8/18/2022	Thurs	4PM	748.2	102.2	102.7	102.5	96.5	96.6	90.8	87.6	86.1	72.9	70.6	54.7	29.5
8/20/2022	Sat	4PM	753.8	112.2	114.9	115.2	113.5	105.7	100.4	97.2	94.4	93.6	80.2	2	2.1
8/23/2022	Tues	11AM	746.2	112.8	106.1	106.4	107	105.5	103	84.7	77.4	39.3	20.4	7.8	5.3
8/26/2022	Fri	9AM	748.7	115.3	115.8	112	110.6	109.2	104.3	97.1	92.4	48.1	31.6	9.2	8.5
8/28/2022	Sun	9AM	755.2	102.4	101.5	101	100.6	99.9	99.3	99	96.8	69.8	16.9	7.2	1.4
8/30/2022	Tues	2PM	745.2	101.9	102.6	102.4	101.2	100.4	99	98.1	97.9	97.7	77.4	38.3	18.9
9/1/2022	Thurs	4PM	751.9	100.4	100.1	99.2	95.6	88	84.7	83.2	82.6	82.1	80.3	75.5	68.2
9/5/2022	Mon	9AM	755.2	90.4	90	89.6	89.3	89.1	88.9	88.5	88.4	88	87.1	78.6	77.7
9/7/2022	Wed	12PM	752	106.4	106.8	103.2	97.1	95	93.3	92.5	91.8	91.8	93	81.7	81.5
9/9/2022	Fri	11AM	753.5	124.7	125.8	126.5	117.4	99.5	94.4	88.8	83.2	79.6	77.6	67.6	3.56

Date	Day	Time	Barometric Pressure mmHg	DO mgl 0.5	DO mgl 1	DO mgl 1.5	DO mgl 2	DO mgl 2.5	DO mgl 3	DO mgl 3.5	DO mgl 4	DO mgl 4.5	DO mgl 5	DO mgl 5.5	DO mgl 6" FTB
6/24/2022	Wed	11AM	752.2	9.63	9.81	9.88	9.88	9.88	9.84	9.57	9.34	9.28	7.78	4.62	1.76
6/26/2022	Wed	1PM	751.9	9.63	9.81	9.88	9.88	9.88	9.84	9.57	9.34	9.28	7.78	4.62	1.76
6/29/2022	Wed	11AM	755.4	9.43	9.45	9.46	9.45	9.45	9.4	9.38	9.28	8.64	4.59	1.66	0.96
6/30/2022	Thurs	1PM	749.9	9.4	9.4	9.38	9.37	9.36	9.33	9.03	8.6	7.95	5.88	3.83	2.61
7/4/2022	Mon	10AM	756.1	9.16	9.11	9.09	9.06	9.03	9	8.96	8.95	8.94	5.25	1.88	0.41
7/6/2022	Wed	11AM	751.1	8.75	8.75	8.74	8.72	8.69	8.68	8.61	8.61	8.56	8.53	8.49	4.98
7/7/2022	Thurs	4PM	751.8	9.1	9.13	9.25	9.25	9.25	9.21	9.04	8.79	8.61	4.92	0.56	0.14
7/9/2022	Sat	1PM	755.3	9.63	9.64	9.64	9.63	9.61	9.55	9.52	9.52	7.06	2.76	0.54	0.29
7/13/2022	Wed	12PM	750.6	8.64	8.67	8.72	8.71	8.63	8.45	8.37	7.86	6.92	6.36	4.65	3.26
7/15/2022	Fri	12PM	756.6	9.59	9.61	9.51	9.47	9.37	9.02	8.68	7.98	7.61	6.38	2.24	0.29
7/17/2022	Sun	8AM	752.8	9.54	9.56	9.58	9.67	9.67	9.6	7.98	8.12	7.19	5	2.57	0.72
7/20/2022	Wed	5PM	742.2	9.35	9.35	9.34	9.3	9.25	9.22	9.16	9.02	6.58	3.75	1.55	0.18
7/24/2022	Sun	12PM	748	7.88	7.88	7.88	7.89	7.9	7.9	7.83	7.8	7.56	7.49	0.75	0.21
7/26/2022	Mon	5PM	748.8	8.24	8.21	8.19	8.19	8.09	8.05	8.04	7.85	7.79	5.4	2.35	0.28
7/27/2022	Wed	11AM	750.3	7.64	7.6	7.48	7.37	7.25	7.18	7.01	6.92	6.83	6.69	4.16	1.39
7/29/2022	Fri	10AM	753.4	7.15	7.09	7.05	7.02	7.05	7.05	7.05	7.04	6.86	3.62	0.94	0.35
7/31/2022	Sun	10AM	755.5	7.77	7.76	7.75	7.78	7.72	7.68	7.58	7.43	7.34	7.31	7.29	7.29
8/2/2022	Tues	5PM	755.1	9.33	9.39	8.99	9.02	8.84	8.59	8.18	7.97	7.56	6.28	4.5	0.83
8/5/2022	Fri	4PM	754.8	9.28	9.95	9.54	9.08	8.7	8.3	7.86	7.69	7.24	7.14	3.52	0.31
8/8/2022	Mon	8AM	749.6	8.71	8.61	8.56	8.49	8.47	8.44	8.33	7.22	5.76	4.38	2.81	0.43
8/10/2022	Wed	11AM	750.1	7.55	7.47	7.44	7.43	7.28	7.19	7.12	7.01	6.99	6.97	1.75	0.33
8/12/2022	Fri	1PM	753.7	8	7.95	7.92	7.81	7.81	7.44	7.51	7.5	7.2	7.12	4.24	0.23
8/16/2022	Tues	11AM	753.7	8.18	8.15	8.1	7.84	7.64	6.96	7.01	7.09	7.05	6.24	5.43	1.7
8/18/2022	Thurs	4PM	748.2	8.41	8.47	8.48	8.01	8.03	7.55	7.3	7.19	6.08	5.89	4.58	2.46
8/20/2022	Sat	4PM	753.8	9.09	9.38	9.5	9.39	8.77	8.35	8.1	7.88	7.82	6.71	0.16	0.17
8/23/2022	Tues	11AM	746.2	9.37	8.81	8.86	8.9	8.76	8.57	7.04	6.45	3.49	1.71	0.65	0.46
8/26/2022	Fri	9AM	748.7	9.58	9.61	9.29	9.19	9.08	8.7	8.06	7.7	3.69	2.65	0.77	0.76
8/28/2022	Sun	9AM	755.2	8.58	8.5	8.46	8.42	8.36	8.31	8.29	8.11	5.85	1.42	0.6	0.12
8/30/2022	Tues	2PM	745.2	8.45	8.51	8.47	8.39	8.34	8.22	8.14	8.13	8.12	6.46	3.17	1.59
9/1/2022	Thurs	4PM	751.9	8.46	8.43	8.36	8.09	7.45	7.16	7.03	6.99	6.95	6.72	6.41	5.8
9/5/2022	Mon	9AM	755.2	7.85	7.81	7.78	7.74	7.72	7.7	7.66	7.66	7.62	7.55	6.84	6.78
9/7/2022	Wed	12PM	752	9.27	9.34	9.04	8.52	8.34	8.19	8.13	8.07	8.07	8.2	7.22	7.21
9/9/2022	Fri	11AM	753.5	10.84	10.93	11.01	10.26	8.71	8.28	7.8	7.32	7	6.82	5.98	2.99

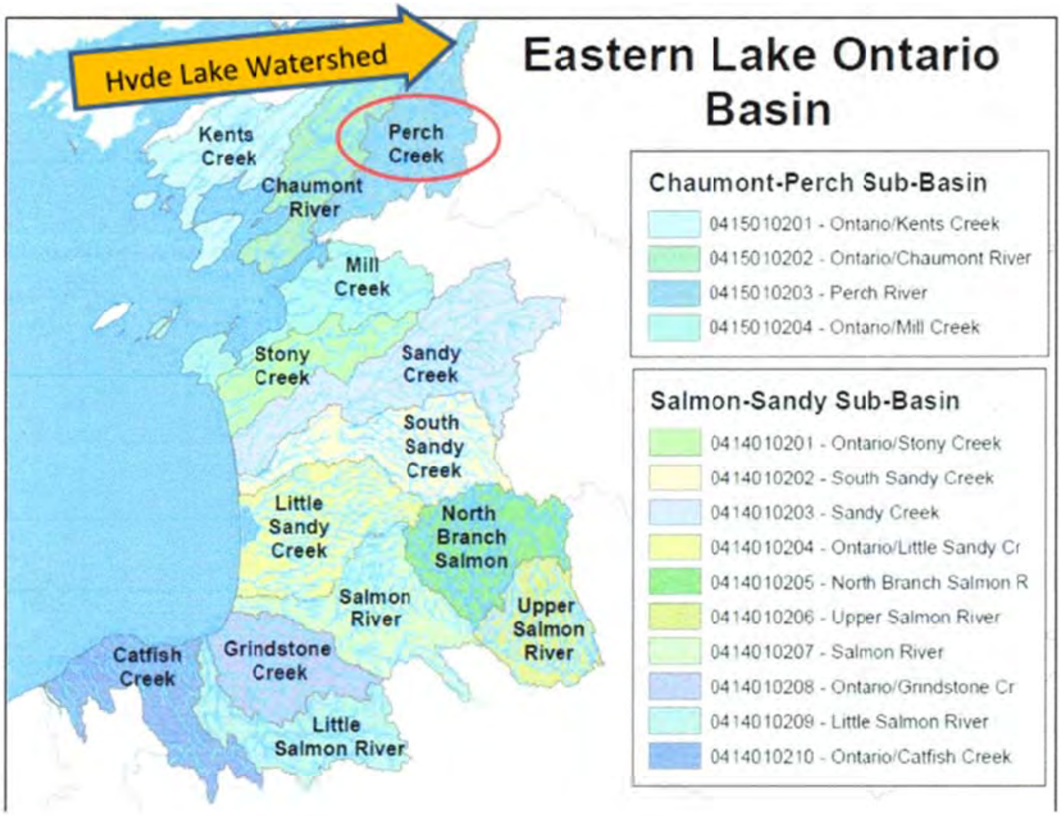
Date	Day	Time	Barometric Pressure mmHg	AirTemp (C)	Wind	Waves	Rainfall
6/24/2022	Wed	11AM	752.2	27-32	Calm	Calm	None
6/26/2022	Wed	1PM	751.9	27-32	Mod	Mod	None
6/29/2022	Wed	11AM	755.4	21-27	Mod	Mod	None
6/30/2022	Thurs	1PM	749.9	21-27	Mod	Mod	None
7/4/2022	Mon	10AM	756.1	15-21	Calm	Calm	None
7/6/2022	Wed	11AM	751.1	21-27	Mod	Calm	None
7/7/2022	Thurs	4PM	751.8	21-27	Mod	Calm	None
7/9/2022	Sat	1PM	755.3	21-27	Mod	Mod	None
7/13/2022	Wed	12PM	750.6	21-27	Calm	Calm	None
7/15/2022	Fri	12PM	756.6	21-27	Calm	Calm	None
7/17/2022	Sun	8AM	752.8	21-27	Calm	Calm	None
7/20/2022	Wed	5PM	742.2	27-32	High	Mod	Mod
7/24/2022	Sun	12PM	748	21-27	Mod	Mod	None
7/26/2022	Mon	5PM	748.8	27-32	High	High	Light
7/27/2022	Wed	11AM	750.3	15-21	High	Very High	Light
7/29/2022	Fri	10AM	753.4	21-27	Mod	Mod	None
7/31/2022	Sun	10AM	755.5	21-27	Calm	Calm	None
8/2/2022	Tues	5PM	755.1	27-32	High	High	Light
8/5/2022	Fri	4PM	754.8	27-32	Mod	Mod	Mod
8/8/2022	Mon	8AM	749.6	27-32	High	High	Light
8/10/2022	Wed	11AM	750.1	15-21	Calm	Calm	None
8/12/2022	Fri	1PM	753.7	15-21	Mod	Mod	None
8/16/2022	Tues	11AM	753.7	15-21	Mod	Mod	None
8/18/2022	Thurs	4PM	748.2	21-27	Mod	Mod	None
8/20/2022	Sat	4PM	753.8	21-27	Mod	Mod	None
8/23/2022	Tues	11AM	746.2	27-32	High	Mod	Mod
8/26/2022	Fri	9AM	748.7	27-32	Mod	Mod	Mod
8/28/2022	Sun	9AM	755.2	21-27	Mod	Mod	Light
8/30/2022	Tues	2PM	745.2	27-32	High	Very High	Heavy
9/1/2022	Thurs	4PM	751.9	21-27	Mod	Mod	Heavy
9/5/2022	Mon	9AM	755.2	15-21	Mod	Mod	Light
9/7/2022	Wed	12PM	752	15-21	High	High	None
9/9/2022	Fri	11AM	753.5	15-21	Mod	Calm	None

Appendix C: Various properties of common soils found within the Hyde Lake watershed

Symbol	Name	Characteristics	Soil Suitability Limitations for Septic Tanks	Soil Suitability Limitations for Dwellings without Basements
InB	Insula	Shallow to very shallow, well/ excessively drained soils	Severe; depth to bedrock	Severe; depth to bedrock
IoB	Insula	Shallow, well drained soils	Severe; depth to bedrock	Severe; depth to bedrock
MtB	Millsite	Moderately deep, well/ excessively drained soils	Severe; depth to bedrock	Moderate; depth to bedrock
MuE	Millsite	Moderately deep, well/ excessively drained soils	Severe; slope, depth to bedrock	Severe; slope, depth to bedrock
Sh	Shaker	Very deep, poorly/ somewhat poorly drained soils	Severe; wetness	Severe; wetness
Ru	Ruse	Shallow, poorly/ very poorly drained soils	Severe; depth to bedrock, ponding	Severe; depth to bedrock, ponding
MxC	Muskellunge	Very/ moderately deep soils	Severe; wetness	Severe; wetness
Cd	Carlisle	Very deep, very poorly drained soils	Severe; ponding	Severe; ponding
Ma	Madalin	Very deep, poorly/ very poorly drained soils	Severe, wetness	Severe; wetness

(1) For a full list of different soil types see, https://cugir.library.cornell.edu/catalog/cugir-007907

Appendix D: Location of Hyde Lake watershed in relation to the Perch River watershed and Lake Ontario (Provided by PAHL).



Perch River Watershed
(0415010203)

Water Index Number	Waterbody Segment	Category
Ont 18	Perch River and tribs (0303 0040)	UnAssessed
Ont 18 P390	Perch Lake (0303 0041)	UnAssessed
Ont 18 P390 1	Hyde Creek and tribs (0303 0042)	UnAssessed
Ont 18 P390 1 P391	Hyde Lake (0303 0043)	MinorImpacts