Lake Shirley Management Plan

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1. Introduction

Lake Shirley, located in the Towns of Lunenburg and Shirley is a 354-acre waterbody that supports varied recreational and wildlife habitat uses. There is a large community of residential properties surrounding the lake as well as a popular campground both of which bring many people to enjoy and rely on this important water resource. The lake also supports a heathy fishery as well as a wide array of wildlife including bald eagles.

As a man-made waterbody, Lake Shirley is experiencing symptoms of eutrophication including nuisance weeds and algae growth. The rate and impact of eutrophication is exacerbated by development in the watershed as well as the presence of several non-native and invasive species.

The lake has been studied extensively including a Diagnostic/Feasibility study by Metcalf & Eddy in the late 1980's, a nutrient loading / dredging feasibility study in 1999 and numerous studies by lake management contractors including Geosyntec and Solitude Lake Management (formerly Aquatic Control Technology). The Lake Shirley Improvement Corporation (LSIC) is the governing body which oversees the lake and over the years LSIC members have taken a very active role in assessment and management activities.

This Lake Management Plan serves to document, formalize, organize and prioritize management activities on the lake moving forward. This document is intended to be a dynamic and "living" plan which will be updated as needed to include ongoing assessments of the lake's condition and experience garnered through on-going management activities at the lake and emerging techniques in lake management.

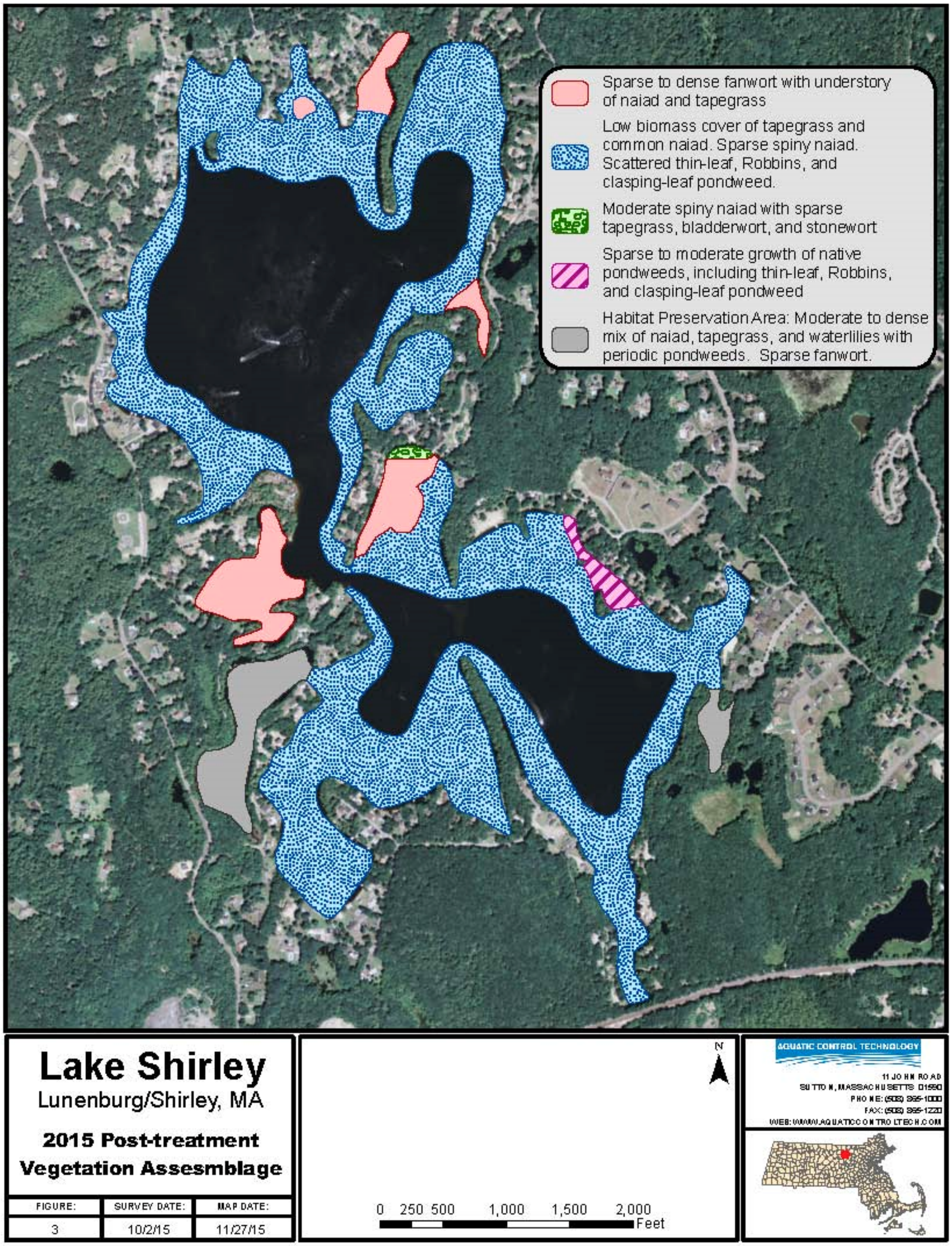
2. Identified Areas of Concern

The following sections identify specific areas of concern for Lake Shirley, encompassing both in-lake and watershed topics. These issues threaten the overall health and intended uses of the lake and will be the focus of lake management actions.

2.1. Nuisance & Non-Native Plant Growth

Since at least the 1970's, Lake Shirley has experienced nuisance growth of both non-native and native aquatic plants. The relatively shallow depth and gradually sloped shorelines of the lake create expansive littoral areas capable of supporting nuisance plant growth. The northern and central basin especially, which were originally grassy meadow prior to the damming of the Catacoonamug Brook in the mid 1800's, exhibits dense growth of aquatic plants. The deeper southern basin has a more limited assemblage of aquatic plants.

Of specific concern in Lake Shirley is the presence of non-native species including variable watermilfoil (*Myriophyllum heterophyllum*), Eurasian watermilfoil (*Myriophyllum spicatum*), fanwort (*Cabomba caroliniana*), curlyleaf pondweed (*Potamogeton crispus*) and spiny naiad (*Najas minor*). Several species of native plants can also problematic in the lake including tapegrass (*Vallisneria americana*) and bushy pondweed (*Najas flexilis*). In the most recent vegetation survey of the lake conducted by Solitude Lake Management in October of 2015, sixteen aquatic plant species were identified however past surveys had identified as many as 27 species. The map below shows the assemblage of aquatic plants in October 2015.

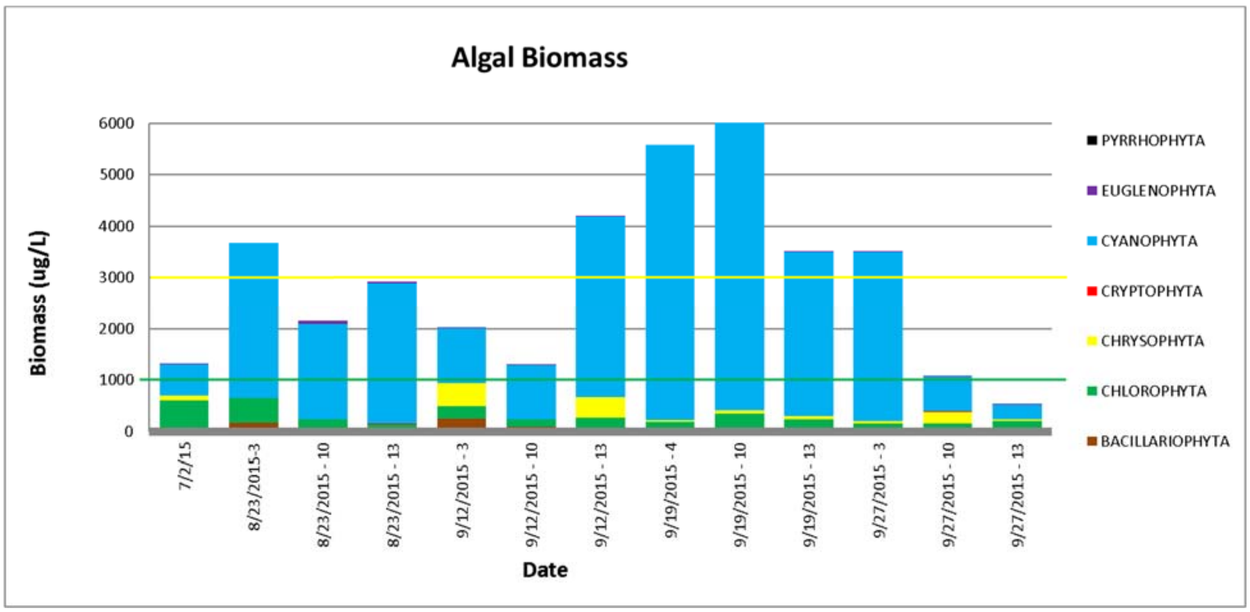


2.2. Nuisance Algal Blooms

Due to elevated levels of phosphorus, Lake Shirley has experienced periodic blooms of microscopic algae which have negatively impacted water clarity and recreational uses. In 2014, under guidelines established by the Massachusetts Department of Public Health, severe blooms of cyanobacteria (blue-green algae) closed the lake from late August until early October. In 2015, the water clarity stayed within desirable levels throughout the summer.

To maintain desirable water clarity at the lake in past years, treatments with copper sulfate have been used to reduce elevated algal density. Fluctuations in phosphorus levels and climatic patterns likely govern the severity and frequency of algal blooms, indicating that the lake may be at a transition point in terms of phosphorus loading. With increased awareness about the possible harmful effects of cyanobacterial blooms and the strict guidelines on recreation and algaecide treatment imposed by the MA DPH and the Massachusetts Department of Environmental Protection, monitoring and management of phosphorus levels and algal blooms will be a priority of management moving forward.

Past analysis of algae levels was intermittent and generally performed in response to the onset of nuisance conditions. In 2015, the LSIC contracted with Water Resource Services (WRS) and Dr. Ken Wagner to perform more regular testing of the lake's algae (identification & enumeration). The 2015 algal biomass data is summarized in the following table and the full report is included as Attachment A.



As seen in the above summary table and the attached report, although conditions were better in 2015 and no treatments were triggered, the algal population in Lake Shirley continues to be dominated by cyanobacteria species and algal biomass levels were often above the commonly held "level of concern" of 3,000 ug/l. Total cell levels for each sample are contained in the report, but the MA DPH threshold for cyanobacteria of 70,000 cells/ml was not exceeded.

2.3. Elevated Phosphorus Levels

Past studies and current conditions have clearly established that the lake is trending towards more eutrophic conditions, specifically in terms of elevated phosphorus. Phosphorus originates mainly from the watershed, but internal recycling of phosphorus from the lake sediment can also contribute to the annual load. The Metcalf & Eddy study minimalized internal sources of phosphorus from Lake Shirley and the BSC study did not address internal sources. Where the lake is clearly in a transition state, the contribution of internal loading should be re-visited in conjunction with watershed management activities.

Elevated phosphorus levels have a direct effect on the frequency and severity of algae growth and the ration of phosphorus to nitrogen is a primary factor in determining the prevalence of blue-green species (cyanobacteria) to other less problematic species. Addressing elevated phosphorus levels is a key to meeting the management objectives at Lake Shirley.

2.4. Watershed Monitoring and Management

Lake Shirley has a sizeable watershed area which directly impacts water quality and sedimentation in the lake. Continued monitoring and management of the nutrient, suspended solids and pollutant sources in the watershed is important for the long term health of the lake. Significant assessment work, most recently in the BSC study will provide the basis for this work moving forward.

2.5. Sedimentation

Sedimentation is a common concern for all lakes, especially impoundments. Sedimentation generally occurs over a long period of time, but prior studies have identified a significant amount of sediment in Lake Shirley, averaging 2-4 feet over of the lake and as much as 12-feet in some areas of the south basin. While removal of existing sediment is probably not feasible, especially lake-wide, minimizing additional sedimentation will help to slow the eutrophication process.

2.6. Dissolved Oxygen Depletion

In the deeper areas of the southern basin, there has been a trend towards more severe oxygen depletion during the period of summer stratification. Such depletion degrades fish habitat, increases internal recycling of phosphorus and generally increases the severity of eutrophication.

3. Management Goal/Objectives

The following goal/objectives have been established by the LSIC,

- Protect and enhance environmental resources.
- Manage aquatic vegetation within Lake Shirley in a manner that balances the aquatic habitat and recreational uses.
- Prevent the introduction of new invasive species.
- Manage nuisance algal blooms to maintain desirable water clarity and recreational uses; prevent closure of the lake due to cyanobacteria levels.
- Establish a regular water quality monitoring program to guide management actions and assist with long-term planning.
- Further monitor, assess and manage watershed sources of nutrients, solids and other pollutants for the long term health of the lake.

- Increase public education and involvement amongst the lake residents/users and the larger watershed community.

4. Existing Management Techniques

Many of the issues facing Lake Shirley are currently being managed through a variety of techniques including,

- Winter drawdown
- Herbicide treatment
- Algaecide treatment
- Vegetation and water quality monitoring

4.1. Winter Drawdown

Winter drawdown of Lake Shirley has been used for many years mainly to manage the growth of non-native and nuisance aquatic plant growth. Drawdown works by lowering the lake level in the winter months to expose the littoral sediments to drying and freezing. This was a major recommendation in the Metcalf & Eddy Diagnostic Feasibility study, which recommended an optimal drawdown of up to 9-feet. Due to impacts on residential private wells however, the drawdown has varied between 4 to 6 feet. The drawdown has worked well to control nuisance growth of milfoil and fanwort in the shallow margins of the lake, however, weather conditions are not always conducive to an effective drawdown every year and there are also significant populations of nuisance growth in deeper waters that are not affected. Additionally, there are some potentially problematic plants species in the lake that are not well controlled with drawdown, such as tapegrass and naiad.

4.2. Herbicide Treatment

Aquatic herbicide treatment has been used at Lake Shirley to control nuisance aquatic plant growth since 2006. Specifically, the contact herbicide Reward (diquat) has been used annually to control an initial, severe predominance of Eurasian watermilfoil, but in recent years has been more focused on controlling curlyleaf pondweed, spiny naiad and tapegrass. Populations of fanwort have fluctuated from year to year but have not been managed with herbicide due mainly to the costlier approach and herbicide required.

4.3. Algaecide Treatment

Treatment with copper sulfate has historically been used at Lake Shirley to reduce algae levels and maintain water clarity and desirable recreational conditions. LSIC monitoring of water clarity using a standard Secchi disk has been used to establish the need to treating the lake with copper sulfate. When the water clarity drops below 5-feet or if there is a rapid loss of water clarity, treatment is scheduled and performed.

4.4. Vegetation and Water Quality Monitoring

Annual surveys of the lake's vegetation are conducted as part of the on-going management program. Specifically, a pre-management survey is conducted in early June to establish areas in need of herbicide treatment and a follow-up post treatment survey is conducted in September or early October to document both non-native and native vegetation and assess the results of the treatment program.

Additionally, third-party surveys had been conducted annually through 2013, in the later summer period using a more quantitative data point methodology.

5. Evaluation of Management Options

There are many in-lake management options available for the issues identified in Lake Shirley. Regular evaluation of these and any emerging options and their feasibility for Lake Shirley is an important aspect of the management plan. Existing options were initially evaluated in the Metcalf & Eddy Diagnostic Feasibility study and later updated in the BSC study and by the LSIC's lake management contractors. The following a brief discussion of the available options available for Lake Shirley.

A more detailed evaluation of these and other management techniques can be found in the "Final Generic Environmental Impact Report on Eutrophication and Aquatic Plant Management in Massachusetts" (MA GEIR) and the accompanying "Practical Guide to Lake Management in Massachusetts". These documents can be found at http://www.mass.gov/eea/agencies/dcr/water-res-protection/lakes-and-ponds/eutrophication-and-aquatic-plant-management.html

5.1. Drawdown

Drawdown is a relatively inexpensive and effective technique for nuisance plant control in many lakes. Drawdown is already being used at Lake Shirley, but its effectiveness is limited by the depth of drawdown and by the variety of target plant species. Drawdown works well on variable milfoil, Eurasian milfoil, fanwort and curlyleaf pondweed. During favorable weather years, the drawdown has worked well on these species within the 6-foot drawdown zone, but significant populations have persisted beyond this depth. Additionally, the drawdown tolerant species, tapegrass and naiad have become increasing problematic. A deeper drawdown was recommended in the Metcalf & Eddy study, but further investigation and evaluation of private water supply wells will be needed.

5.2. Harvesting & Hydro-Raking

Neither of these mechanical techniques are recommended for control of aquatic plants that spread by fragmentation, such as milfoil and fanwort. Mechanical harvesting is analogous to "mowing the lawn" and generally provides less than seasonal control of plant species like those in Lake Shirley. Hydro-Raking is a more intensive removal technique which has been used previously at Lake Shirley. Although it is not recommended for use in controlling milfoil and fanwort, it may be useful for residential shoreline debris management and for removal of other plants species like tapegrass.

5.3. Dredging

Dredging was extensively evaluated in the BSC study and although it was determined that dredging would likely provide some control of both rooted plants and algae, the cost was prohibitive. It has become even more difficult and expensive to design, permit and conduct dredging projects, so a major dredging at Lake Shirley is unlikely. As further water quality and watershed assessments are conducted it may be possible that partial dredging could become an option.

5.4. Herbicide Treatment

The use of aquatic herbicides is a widely used, cost-effective technique to manage nuisance plant growth while minimizing disruption to the lake system and posing a negligible effect to non-target species and humans. Aquatic herbicides are closely regulated by the US Environmental Protection Agency, the MA Department of Agricultural Resources and the MA Department of Environmental

Protection. The choice of herbicides can allow for area and species selectivity while providing effective seasonal or longer periods of control. The table below lists the currently available herbicides available for use in lakes and ponds. Additional information on currently approved aquatic herbicides and algaecides can be found on the MA DAR's website at http://www.mass.gov/eea/agencies/dcr/water-res-protection/lakes-and-ponds/eutrophication-and-aquatic-plant-management.html

Active Ingredient	**Trade Names**	**Plants Controlled**	**Irrigation Restriction Label**
Copper (algaecides & herbicides)	Copper sulfate; K-Tea; Cutrine Plus; Captain; Komeen, Nautique	Algae – filamentous & microscopic; curlyleaf pondweed other submersed	None
Sodium Carbonate Peroxyhydrate	Phycomycin; GreenClean	Algae – filamentous & microscopic	None
Diquat	Reward	Milfoil & other submersed plants; duckweed & watermeal	3-5 days
Endothall	Aquathol K (herbicide); Hydrothol 191 (algaecide)	Pondweeds and algae	7-14 days
Fluridone	Sonar & generics	Watermeal, duckweed, milfoil, fanwort and other submersed plants	30-day min (often 60-90 days with multiple applications
Glyphosate	Rodeo & generics	Cattails, phragmites, purple loosestrife, waterlilies, etc.	None
2,4-D	Navigate	Milfoil, water chestnut, waterlilies	~ 30 days. If known uses are present, residue testing is required
Triclopyr	Renovate 3; Renovate OTF	Milfoil, purple loosestrife	180 days or required residue testing
Imazapyr	Habitat	Phragmites and mose emergent vegetation/lilies	Up to 120 days; requires residue testing
Imazamox	Clearcast	Pondweed, milfoil, hydrilla	Residue testing required
Flumioxazin	Clipper	Fanwort, milfoil, other submersed and floating plants (watermeal)	~5-days
Products Pending MA Department of Agricultural Resources (DAR) Registration			
Penoxsulam	Galleon	Hydrilla, milfoil, watermeal	Residue testing required
Bispyribac-sodium	Tradewind	Milfoil; hydrilla; some floating and emergent weeds	Extended; requires residue testing
Carfentrazone	Stingray	Floating & Emergent plants	Up to 14 days

5.5. Algaecide Treatment

Copper based algaecides have long been used to control nuisance algae blooms, even in drinking water reservoirs. Low doses of copper sulfate, applied at the onset of a bloom can work very well to prevent more severe condition from developing. While it is more desirable to address the underlying nutrient levels that support nuisance growth, copper algaecides provide an effective means to maintain desirable conditions for recreation and prevent possible dissolved oxygen fluctuations and fishkills. Chelated copper algaecides are also commonly used, but are generally impractical and too costly for use in large lakes. Peroxide based algaecides can be effective on certain types of algae, but are not reliable or cost effective at this time.

5.6. Benthic Barriers

Benthic barriers are designed to address very localized areas of nuisance plant growth. The barriers are placed on the bottom of the lake to block sunlight which prevents plants from growing and provides compression to kill existing plants. Cost and maintenance of benthic barriers can be very high. The use of benthic barriers to manage large areas of nuisance plant growth is not recommended, however the LSIC may wish to facilitate the use of benthic barriers by individual homeowners to manage growth within their swimming and boat dock areas.

5.7. Biological Controls

There are currently no proven or permittable biological control measures for the target plant species in Lake Shirley. General use bacterial and/or enzyme additives have provided some limited benefits in small ornamental ponds but are generally not scalable to larger waterbodies.

5.8. Aeration

Aeration will not provide direct control of nuisance plant growth. Aeration works by increasing the circulation and/or oxygenation of the water in the lake. While aeration can provide some benefit towards promoting the natural decomposition of organic material, the cost to implement such a technique on a waterbody like Lake Shirley would be prohibitive. Previous reports have not identified internal loading of phosphorus as a primary component of the annual loading to the lake, so aeration as a means to prevent oxygen depletion and internal recycling is not required.

5.9. Nutrient Inactivation

As the lake trends toward more eutrophic conditions and the likelihood of algae blooms that would potentially result in closure of the lake, the use of alum, either as an injection system at the inlet(s) or as an in-lake treatment, becomes more attractive. The use of alum was evaluated in the BSC study but was dismissed due to a perception of high cost and limited longevity of benefit. As alum has been used more widely in New England since that time, the use of this technique at Lake Shirley should be re-visited.

Alum works by chemically and physically stripping the water of phosphorus and rendering it biologically unavailable. While alum will not affect the growth of aquatic plants, it can have an immediate effect on the growth of nuisance algae.

5.10. Watershed Management

The BSC report evaluated watershed management options for Lake Shirley. These recommendations should be re-visited along with additional in-lake and watershed sampling and various BMPs pursued as appropriate.

5.11. Hand-Pulling/Diver Assisted Suction Harvesting

Manually and suction harvesting nuisance plant growth is best for very small, dense areas of growth or areas of very sparse growth over an acre or two. It is not a practical or cost effective technique to manage moderate or dense growth over large areas. Such a technique could be used to manage specific, localized areas of non-native growth in Lake Shirley once extents and densities have been reduced by other means.

6. Recommended Management Options

The following existing and new management options are recommended for Lake Shirley.

6.1. Current Activities to Be Continued

The following management activities currently being implemented at Lake Shirley will be continued with modifications as noted.

6.1.1. Drawdown

The current drawdown practice is providing a definite benefit in reducing nuisance plant growth and will be continued. As a deeper drawdown is likely to provide added benefit, but is currently limited by effects on private wells and further assessment is required. There may also be a benefit to varying the level of drawdown from year to year. The LSIC has established the following goals to further assess the practice of drawdown at Lake Shirley.

- Review drawdown assessments and recommendations in previous studies.
- Inventory number and location of shallow wells around the lake that have been or could be affected by a deeper drawdown (>6 feet).
- Investigate the feasibility of providing alternate water sources for the affected wells.
- Research current bathymetry data and assess the need for additional bathymetric surveys.
- Assess the outlet structure for lowering ability.
- Research and assess whether or not a variable depth drawdown is appropriate for Lake Shirley.

6.1.2. Chemical Treatment

Herbicide treatment will be continued for management of non-native variable milfoil, and curly leaf pondweed. Continued monitoring of fanwort will be used to determine if treatment will be necessary. Treatment of native plants will be governed by the following criteria and will be supplemented by individual homeowner use of benthic barriers. The following needs criteria will be used to determine need and areas of treatment: 1) invasive plant cover and biomass, 2) degree of recreational impairment, 3) degree of fish/wildlife habitat impairment, 4) potential for spread into non-infested areas of the lake. Specifically, treatment will be warranted for any area with non-native plants species, including variable watermilfoil, Eurasian watermilfoil and curlyleaf pondweed. Should the LSIC choose to embark upon treating fanwort in Lake Shirley, all areas of fanwort will warrant treatment. In terms of native vegetation, all areas not designated as habitat preservation areas will be subject to treatment if the percent bottom cover exceeds 10% and biomass (plant height) has reached or is expected to reach the upper half of the water column.

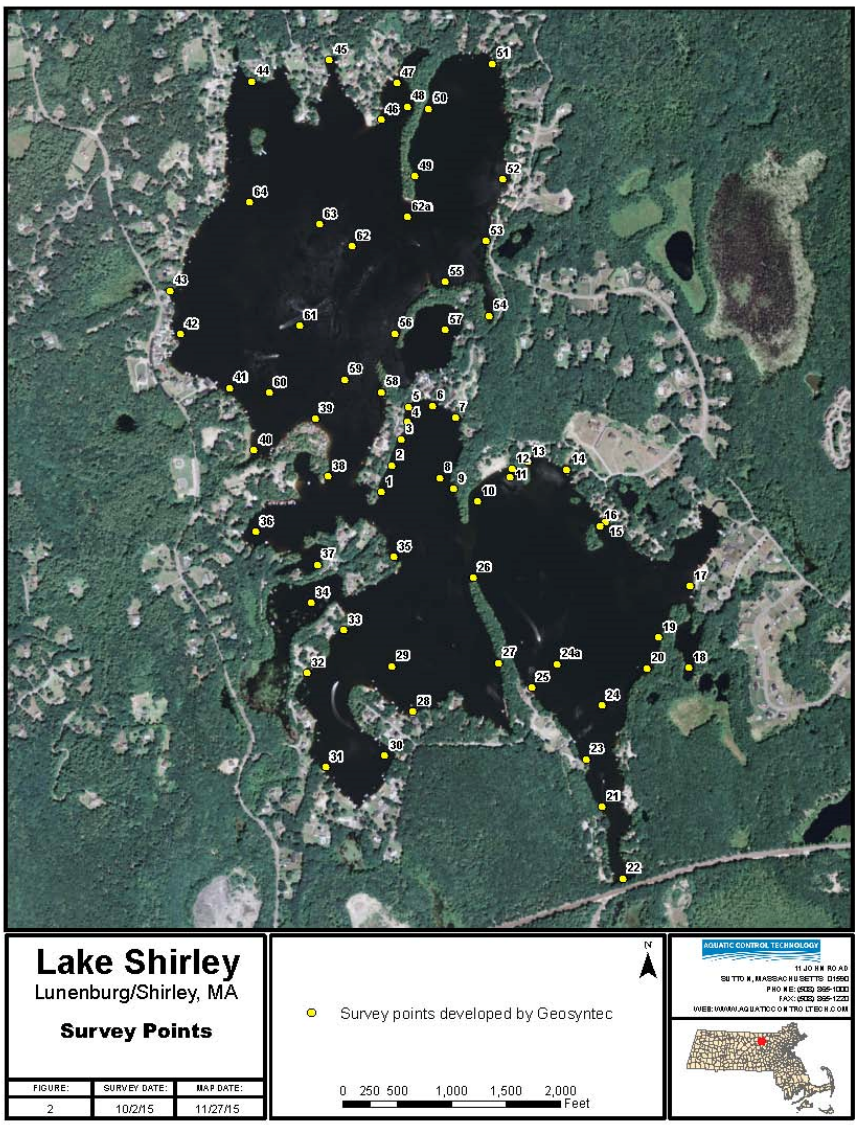
For the milfoil, curlyleaf pondweed and spiny naiad, treatment will be conducted with Reward (diquat) herbicide. Spot-Treatments of tapegrass, would require a low-dose of a liquid, copper chelate algaecide/herbicide (i.e. Captain/Nautique) in addition to Reward. Should fanwort be treated, the herbicide used will likely be either Sonar (fluridone) or Clipper (flumioxazin).

6.1.3. Algaecide Treatments

Copper sulfate shall be allowed when one or more of the following need criteria are met: 1) a reduction in water clarity below 5-feet, 2) algae composition is dominated by blue-green algae and cell counts exceed 30,000 cells per ml or more, 3) blue-green algae clumps become visually apparent on the water surface. The final decision to move forward with treatment will rest with the Conservation Agent, designated representatives of the LSIC Board of Directors and the lake management contractor.

6.1.4. Vegetation Monitoring

The vegetation in Lake Shirley will be surveyed on several occasions annually in order to document conditions and to help guide the management program. Past surveys of the lake have been conducted either as qualitative assemblage surveys or as more quantitative data points surveys. Moving forward, the spring and fall surveys will be conducted using both general assemblage and data point surveys. The data points will be the same ones as used in past reports from Geosyntec and as shown below.



6.1.5. Water Quality Monitoring

Beginning on May 1 and continuing through the recreational season until September 31, the LSIC will collect Secchi disk measurements at least weekly and more often as conditions dictate. Fourteen sampling stations were established in 2015 (see map below) and these station designations will be used moving forward. The number of stations may be curtailed under good conditions.

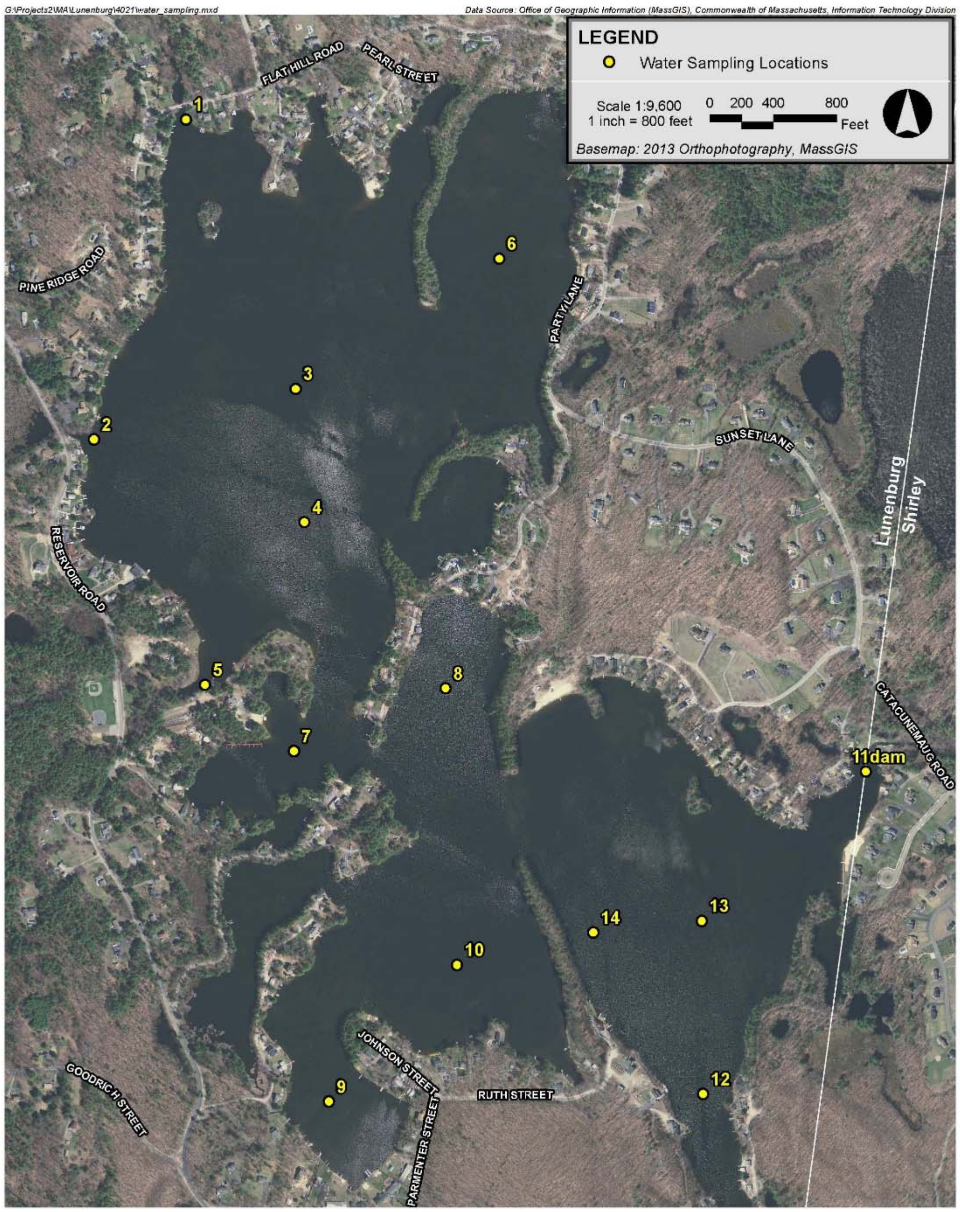


Figure 1
Water Sampling Locations

The LSIC has again contracted with Dr. Ken Wagner and WRS to perform sampling in the 2016 season. The following activities are planned.

- Storm water reconnaissance and sampling – Storm drainage areas will be evaluated in the field and storm water samplers will be set up, with water collected during the dry weather set up, again by the samplers in the first flush of the storm, then again on retrieval, giving a post-storm sample. Catacoonamug and Easter streams will be samples and up to 3 drainage systems that are suitable for this testing.
- In-lake water quality – The 3 basins of the lake will be sampled twice, once in spring and one in later summer. An integrated sample will be collected for the upper water layer and a grab sample will be collected from near the bottom if the site is stratified. Field analyses will include temperature, oxygen, pH, conductivity, turbidity and chlorophyll by fluorescence. Lab analyses will include forms of N and P.
- Sediment contribution – Surficial sediment will be sampled in 3 locations and tested for solids, organic content, and iron-bound P.
- Phytoplankton – Sample containers will be provided to the association to facilitate collection in each basin on a monthly basis. Samples provided to WRS will be assessed microscopically to identify major algae present.

Additional sampling will be conducted as deemed appropriate.

6.2. New/Enhanced Techniques

The following new or enhanced techniques will be used.

6.2.1. Benthic Barrier

In order to enhance the control of aquatic plants within high-use swimming and dock areas, the LSIC will support the purchase and use of benthic barriers by individual homeowners. This may require the filing of a permit with the Conservation Commission.

6.2.2. Nutrient Management

With increasing levels of phosphorus in Lake Shirley, the higher potential for nuisance algae blooms and stricter regulations governing recreation use and algaecide treatments, the need for preventative management in underscored. Along with watershed management, in-lake and tributary phosphorus reduction technologies are available. The LSIC along with its Lake Management Contractors will further investigate the use of these technologies, including alum, at Lake Shirley.

ATTACHMENT A – 2015 Algae Sampling Data from WRS

PHYTOPLA PHYTOPLANKTON DENSITY (CELLS/ML)

TAXON	Shirley ? 07/02/15	Shirley 3 08/23/15	Shirley 10 08/23/15	Shirley 13 08/23/15	Shirley 3 09/12/15	Shirley 10 09/12/15	Shirley 13 09/12/15	Shirley 4 09/19/15	Shirley 10 09/19/15	Shirley 13 09/19/15	Shirley 3 09/27/15	Shirley 10 09/27/15	Shirley 13 09/27/15
BACILLARIOPHYTA													
Centric Diatoms													
Acanthoceras	0	0	0	0	0	0	0	0	0	0	0	0	0
Actinocyclus	0	0	0	0	0	0	0	0	0	0	0	0	0
Aulacoseira	0	0	0	0	237	237	49	0	0	0	40	0	0
Cyclostephanos	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyclotella	317	33	0	0	0	0	0	0	0	0	0	36	20
Melosira	0	0	0	0	0	0	0	0	0	0	0	0	0
Stephanocyclus	0	0	0	0	0	0	0	0	0	0	0	0	0
Stephanodiscus	0	0	0	0	0	0	0	0	0	0	0	0	0
Urosolenia	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Centric Diatoms	0	0	0	0	0	0	0	0	0	0	0	0	0
Araphid Pennate Diatoms													
Asterionella	0	0	0	0	0	0	0	0	0	0	0	0	0
Diatoma	0	0	0	0	0	0	0	0	0	0	0	0	0
Fragilaria/related taxa	0	0	0	0	0	0	0	0	0	0	0	0	0
Meridion	0	0	0	0	0	0	0	0	0	0	0	0	0
Synedra	0	66	33	33	15	15	33	14	46	0	40	12	10
Tabellaria	49	0	0	0	0	0	0	14	0	0	0	0	0
Other Araphid Pennate Diatoms (S)	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Araphid Pennate Diatoms (L)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monoraphid Pennate Diatoms													
Achnanthidium/related taxa	0	66	66	33	0	0	0	0	0	0	0	0	0
Cocconeis	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Monoraphid Diatoms	0	0	0	0	0	0	0	0	0	0	0	0	0
Biraphid Pennate Diatoms													
Actinella	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphipleura	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphora	0	0	0	0	0	0	0	0	0	0	0	0	0
Bacillaria	0	0	0	0	0	0	0	0	0	0	0	0	0
Brachysira	0	0	0	0	0	0	0	0	0	0	0	0	0
Caloneis	0	0	0	0	0	0	0	0	0	0	0	0	0
Capartogramma	0	0	0	0	0	0	0	0	0	0	0	0	0
Craticula	0	0	0	0	0	0	0	0	0	0	0	0	0
Cymatopleura	0	0	0	0	0	0	0	0	0	0	0	0	0
Cymbella/related taxa	0	33	0	0	0	0	0	0	0	0	0	0	0
Cylindrotheca	0	0	0	0	0	0	0	0	0	0	0	0	0
Denticula	0	0	0	0	0	0	0	0	0	0	0	0	0
Diploneis	0	0	0	0	0	0	0	0	0	0	0	0	0
Entomoneis	0	0	0	0	0	0	0	0	0	0	0	0	0
Epithemia	0	0	0	0	0	0	0	0	0	0	0	0	0
Eunotia	0	0	0	0	0	0	0	0	0	0	13	12	0
Frustulia	0	0	0	0	0	0	0	0	0	0	0	0	0

TAXON	Shirley ? 07/02/15	Shirley 3 08/23/15	Shirley 10 08/23/15	Shirley 13 08/23/15	Shirley 3 09/12/15	Shirley 10 09/12/15	Shirley 13 09/12/15	Shirley 4 09/19/15	Shirley 10 09/19/15	Shirley 13 09/19/15	Shirley 3 09/27/15	Shirley 10 09/27/15	Shirley 13 09/27/15
Gomphonema/related taxa	0	0	0	0	0	0	0	0	0	0	0	0	0
Gyrosigma	0	0	0	0	0	0	0	0	0	0	0	0	0
Hantzschia	0	0	0	0	0	0	0	0	0	0	0	0	0
Mastogloia	0	0	0	0	0	0	0	0	0	0	0	0	0
Navicula/related taxa	0	0	0	0	15	0	0	0	23	15	0	0	10
Neidium	0	0	0	0	0	0	0	0	0	0	0	0	0
Nitzschia	0	0	0	0	15	15	0	0	0	0	0	0	0
Pinnularia	0	0	0	0	15	0	0	0	0	0	0	0	0
Pleurosigma	0	0	0	0	0	0	0	0	0	0	0	0	0
Rhoicosphenia	0	0	0	0	0	0	0	0	0	0	0	0	0
Rhopalodia	0	0	0	0	0	0	0	0	0	0	0	0	0
Stauroneis	0	0	0	0	0	0	0	0	0	0	0	0	0
Stenopterobia	0	0	0	0	0	0	0	0	0	0	0	0	0
Surirella	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Biraphid Pennate Diatoms (S)	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Biraphid Pennate Diatoms (L)	0	0	0	0	0	0	0	0	0	0	0	0	0
CHLOROPHYTA													
Flagellated Chlorophytes													
Carteria	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlamydomonas	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlorogonium	0	0	0	0	0	0	0	0	0	0	0	0	0
Coccomonas	0	0	0	0	0	0	0	0	0	0	0	0	0
Eudorina	0	0	0	0	0	0	0	0	0	0	0	0	0
Gonium	0	0	0	0	0	0	0	0	0	0	0	0	0
Lobomonas	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandorina	0	0	0	0	0	0	0	0	0	0	0	0	0
Pascherina	0	0	0	0	0	0	0	0	0	0	0	0	0
Phacotus	0	0	0	0	0	0	0	0	0	0	0	0	0
Platydorina	0	0	0	0	0	0	0	0	0	0	0	0	0
Polytomella	0	0	0	0	0	0	0	0	0	0	0	0	0
Pyramimonas	0	0	0	0	0	0	0	0	0	0	0	0	0
Pyrobotrys	0	0	0	0	0	0	0	0	0	0	0	0	0
Spondylomorum	0	0	0	0	0	0	0	0	0	0	0	0	0
Tetraselmis	0	0	0	0	0	0	0	0	0	0	0	0	0
Volvox	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Flagellated Greens	0	0	0	0	0	0	0	0	0	0	0	0	0
Coccoid/Colonial Chlorophytes													
Actinastrum	0	0	0	0	0	0	0	0	0	0	0	0	0
Ankistrodesmus	24	33	66	33	89	89	33	70	160	178	67	120	30
Botryococcus	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlorella	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlorococcum	0	0	0	0	0	0	0	0	0	0	0	0	0
Closteriopsis	0	0	0	0	0	0	0	0	0	0	0	0	0
Coelastrum	293	0	198	0	0	0	0	112	0	89	133	96	40
Crucigenia	390	264	132	132	118	59	65	56	91	118	53	192	808
Dactylococcus	0	0	0	0	0	0	0	0	0	0	0	0	0
Dictyosphaerium	0	0	0	0	0	0	0	112	0	0	53	0	0
Echinosphaerella	0	0	0	0	0	0	0	0	0	0	0	0	0

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Elakatothrix	49	132	198	66	30	30	65	84	365	118	53	24	30
Franceia	0	0	0	0	0	0	0	0	0	0	0	0	0
Gloeocystis	0	0	0	0	0	0	0	0	0	0	0	0	0
Golenkinia	0	0	0	0	0	0	0	0	0	0	0	0	10
Kirchneriella	195	0	0	0	0	0	0	0	0	0	0	0	40
Lagerheimia	0	0	0	0	0	0	0	0	0	0	0	0	0
Micractinium	0	0	0	0	0	0	0	0	0	0	0	0	0
Monoraphidium	0	0	0	0	0	0	0	0	0	0	0	0	0
Oocystis	390	396	132	132	118	59	65	56	91	118	53	0	40
Pachycladella	0	0	0	0	0	0	0	0	0	0	0	0	0
Paulschulzia	293	0	0	0	0	0	0	0	0	0	0	0	0
Pediastrum	195	0	0	0	0	0	0	0	0	0	0	0	81
Polyedriopsis	0	0	0	0	0	0	0	0	0	0	0	0	0
Quadrigula	0	0	132	0	0	0	0	0	91	0	0	0	40
Radiococcus	0	0	0	0	0	0	0	0	0	0	0	0	0
Scenedesmus	0	0	66	0	237	118	65	28	46	59	53	144	81
Schroederia	24	0	0	0	0	0	0	0	0	0	0	0	0
Selenastrum	0	0	0	0	0	0	0	0	0	0	0	0	0
Sorastrum	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerocystis	0	0	0	0	0	0	0	0	0	0	0	288	121
Tetraedron	24	0	33	0	0	0	0	0	23	15	0	0	0
Tetrallantos	0	0	0	0	0	0	0	0	0	0	0	0	0
Tetrastrum	0	0	0	0	0	0	0	0	0	0	0	0	0
Treubaria	0	0	0	0	0	0	0	0	0	0	0	0	0
Trochiscia	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Coccoid Green Cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Elongated Green Cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Filamentous Chlorophytes													
Aphanochaete	0	0	0	0	0	0	0	0	0	0	0	0	0
Bulbochaete	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetophora	0	0	0	0	0	0	0	0	0	0	0	0	0
Cladophora	0	0	0	0	0	0	0	0	0	0	0	0	0
Draparnaldia	0	0	0	0	0	0	0	0	0	0	0	0	0
Geminella/Gloeotila	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrodictyon	0	0	0	0	0	0	0	0	0	0	0	0	0
Microspora	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedogonium	0	0	0	0	0	0	0	0	0	0	0	0	0
Pithophora	0	0	0	0	0	0	0	0	0	0	0	0	0
Rhizoclonium	0	0	0	0	0	0	0	0	0	0	0	0	0
Stichococcus	0	0	0	0	592	355	261	112	274	237	53	48	40
Stigeoclonium	0	0	0	0	0	0	0	0	0	0	0	0	0
Ulothrix	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Filamentous Greens	0	0	0	0	0	0	0	0	0	0	0	0	0
Desmids													
Actinotaenium	0	0	0	0	0	0	0	0	0	0	0	0	0
Bambusina	0	0	0	0	0	0	0	0	0	0	0	0	0
Closterium	0	33	0	0	0	0	0	0	23	15	0	0	0
Cosmarium	0	0	0	0	0	0	0	0	0	0	0	0	0

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Cosmocladium/Heimansia	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylindrocystis	0	0	0	0	0	0	0	0	0	0	0	0	0
Desmidium	0	0	0	0	0	0	0	0	0	0	0	0	0
Euastrum	0	0	0	0	0	0	0	0	0	0	0	0	0
Gonatozygon	0	0	0	0	0	0	0	0	0	0	0	0	0
Hyalotheca	0	0	0	0	0	0	0	0	0	0	0	0	0
Micrasterias	0	0	0	0	0	0	0	0	0	0	0	0	0
Mougeotia/Debarya	0	0	0	0	0	0	0	0	0	0	0	0	0
Netrium	0	0	0	0	0	0	0	0	0	0	0	0	0
Octacanthium	24	0	0	0	44	15	310	168	46	30	27	12	10
Penium	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleurotaenium/related taxa	0	0	0	0	0	0	0	0	0	0	0	0	0
Roya	0	0	0	0	0	0	0	0	0	0	0	0	0
Spinocosmarium	0	0	0	0	0	0	0	0	0	0	0	0	0
Spirogyra	0	0	0	0	0	0	0	0	0	0	0	0	0
Spirotaenia	0	0	0	0	0	0	0	0	0	0	0	0	0
Staurastrum	0	0	0	0	0	0	0	0	0	0	0	0	0
Staurodesmus	24	231	33	66	30	15	65	14	0	0	0	0	0
Teilingia/related taxa	0	0	0	0	0	0	0	0	0	0	0	0	0
Tetmemorus	0	0	0	0	0	0	0	0	0	0	0	0	0
Triploceras	0	0	0	0	0	0	0	0	0	0	0	0	0
Xanthidium	0	0	0	0	0	0	0	0	0	0	0	0	0
Zygnema/Zygnemopsis	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Desmids	0	0	0	0	0	0	0	0	0	0	0	0	0
CHRYSOPHYTA													
Flagellated Classic Chrysophytes													
Bicosoeca	0	0	0	0	0	0	0	0	0	0	0	0	0
Chromulina	0	0	0	0	0	0	0	0	0	0	0	48	0
Chrysamoeba	0	0	0	0	0	0	0	0	0	0	0	0	0
Chrysococcus	0	0	0	0	0	0	0	0	0	0	0	0	0
Chrysosphaerella	0	0	0	0	0	0	0	0	0	0	0	0	0
Dinobryon	24	0	0	0	148	0	130	14	23	15	13	72	10
Epipyxis	0	0	0	0	0	0	0	0	0	0	0	0	0
Kephyrion/Pseudokephyrion	0	0	0	0	0	0	0	0	0	0	0	0	0
Mallomonas	0	0	0	0	0	0	0	0	0	15	13	12	0
Ochromonas	0	0	0	0	0	0	0	0	0	0	0	0	0
Spiniferomonas	0	0	0	0	0	0	0	0	0	0	0	0	0
Synura	0	0	0	0	0	0	0	0	0	0	0	0	0
Uroglena	0	0	0	0	0	0	0	0	0	0	0	0	0
Uroglenopsis	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Flagellated Goldens	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Motile Classic Chrysophytes													
Bitrichia	0	0	0	0	0	0	0	0	0	0	0	0	0
Chrysopyxis/Derepyxis	0	0	0	0	0	0	0	0	0	0	0	0	0
Lygynion/Kybotion	0	0	0	0	0	0	0	0	0	0	0	0	0
Rhizochrysis	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Non-Motile Classic Goldens	0	0	0	0	0	0	0	0	0	0	0	0	0

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Haptophytes													
Chrysochromulina	0	0	0	0	0	0	0	0	0	0	0	0	0
Prymnesium	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Haptophytes	0	0	0	0	0	0	0	0	0	0	0	0	0
Tribophytes/Eustigmatophytes													
Centritractus	0	0	0	0	0	0	0	0	0	0	0	12	10
Chlorobotrys	0	0	0	0	0	0	0	0	0	0	0	0	0
Ellipsoidion	0	0	0	0	0	0	0	0	0	0	0	0	0
Isthmochloron	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiocytium	0	0	0	0	15	0	0	0	0	0	0	0	10
Polygoniochloris	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudostaurastrum	24	0	0	0	0	0	0	0	0	0	0	0	0
Pseudotetraedron	0	0	0	0	0	0	0	0	0	0	0	0	0
Tribonema	0	0	0	0	0	0	0	0	0	0	0	0	0
Vaucheria	0	0	0	0	0	0	0	0	0	0	0	0	0
Vischeria	0	0	0	0	0	0	0	0	0	0	0	0	0
Mischococcoid taxa	0	0	0	0	0	0	0	0	0	0	0	0	0
Chloramoeboid taxa	0	0	0	0	0	0	0	0	0	0	0	0	0
Rhizochlorid taxa	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterogloeolid taxa	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Tribophytes	0	0	0	0	0	0	0	0	0	0	0	0	0
Raphidophytes													
Gonyostomum and related taxa	0	0	0	0	0	0	0	0	0	0	0	0	0
CRYPTOPHYTA													
Chilomonas	0	0	0	0	0	0	0	0	0	0	0	0	0
Chroomonas	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptomonas	24	66	0	33	15	15	16	14	23	15	13	36	20
Pyrenomonas	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Cryptomonads	0	0	0	0	0	0	0	0	0	0	0	0	0
CYANOPHYTA													
Unicellular and Colonial Forms													
Aphanocapsa	1464	0	0	0	0	0	0	0	1140	0	0	720	808
Aphanothece	0	0	0	0	0	0	0	0	0	0	0	0	0
Chroococcus	0	0	0	0	0	0	0	0	0	0	0	0	0
Coelosphaerium	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyanodictyon	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyanothece	0	0	0	0	0	0	0	0	0	0	0	0	0
Dactylococcopsis	0	0	0	0	0	0	0	0	0	0	0	0	0
Gomphosphaeria	0	1980	0	0	0	0	0	560	0	0	0	0	0
Johannesbaptistia	0	0	0	0	0	0	0	0	0	0	0	0	0
Merismopedia	0	0	0	0	0	0	0	0	0	0	0	0	0
Microcystis	0	0	0	0	0	0	0	2100	0	0	0	0	0
Radiocystis	0	0	0	0	0	0	0	0	0	0	0	0	0
Rhabdoderma	0	0	0	0	0	0	0	0	0	0	0	0	0
Rhabdogloea	0	0	0	0	0	0	0	0	0	0	0	0	0
Snowella	0	0	0	0	0	0	0	0	0	0	0	0	0

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Synechococcus/Cyanobium	0	0	0	0	0	0	0	0	0	0	0	0	0
Woronichinia	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Coccoid Bluegreens	0	0	0	0	0	0	0	0	0	0	0	0	0
Filamentous Nitrogen Fixers													
Anabaena	2928	3960	2475	3630	5328	5328	17604	26600	28272	15984	16492	3360	1414
Anabaenopsis	0	0	0	0	0	0	0	0	0	0	0	0	0
Aphanizomenon	0	0	0	0	0	0	0	0	0	0	0	0	0
Calothrix/Rivularia	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylindrospermopsis	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylindrospermum	0	0	0	0	0	0	0	0	0	0	0	0	0
Gloeotrichia	0	0	0	0	0	0	0	0	0	0	0	0	0
Hapalosiphon	0	0	0	0	0	0	0	0	0	0	0	0	0
Nodularia	0	0	0	0	0	0	0	0	0	0	0	0	0
Nostoc	0	0	0	0	0	0	0	0	0	0	0	0	0
Scytonema	0	0	0	0	0	0	0	0	0	0	0	0	0
Stigonema	0	0	0	0	0	0	0	0	0	0	0	0	0
Tolypothrix	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Filamentous Bluegreens (L)	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Filamentous Bluegreens (S)	0	0	0	0	0	0	0	0	0	0	0	0	0
Filamentous Non-Nitrogen Fixers													
Arthrospira/Spirulina	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnothrix	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyngbya	0	0	0	0	0	0	0	0	0	0	0	0	0
Oscillatoria	0	0	0	0	0	0	0	0	0	0	0	0	0
Phormidium	0	0	0	0	0	0	0	0	0	0	0	0	0
Planktolyngbya	0	0	0	0	0	0	0	0	0	0	0	0	0
Planktothrix	0	0	0	0	0	0	0	0	0	0	0	0	0
Plectonema	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudanabaena	0	594	528	396	0	0	0	0	0	0	0	0	0
Other Filamentous Bluegreens (L)	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Filamentous Bluegreens (S)	0	0	0	0	0	0	0	0	0	0	0	0	0
EUGLENOPHYTA													
Euglena	0	0	0	0	0	0	0	0	0	0	0	0	0
Eutreptia	0	0	0	0	0	0	0	0	0	0	0	0	0
Lepocinclis	0	0	0	0	0	0	0	0	0	0	0	0	0
Phacus	24	0	0	0	0	0	0	0	0	0	0	0	0
Trachelomonas	0	0	66	33	15	15	16	0	0	15	13	12	10
Strombomonas	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Euglenoids	0	0	0	0	0	0	0	0	0	0	0	0	0
PYRRHOPHYTA													
Ceratium	0	0	0	0	0	0	0	0	0	0	0	0	0
Cystodinium	0	0	0	0	0	0	0	0	0	0	0	0	0
Gymnodinium	0	0	0	0	0	0	0	0	0	0	0	0	0
Hemidinium	0	0	0	0	0	0	0	0	0	0	0	0	0
Peridinium	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Dinoflagellates (L)	0	0	0	0	0	0	0	0	0	0	0	0	0

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Other Dinoflagellates (S)	0	0	0	0	0	0	0	0	0	0	0	0	0
DENSITY (CELLS/ML) SUMMARY													
BACILLARIOPHYTA	**366**	**198**	**99**	**66**	**296**	**266.4**	**81.5**	**28**	**68.4**	**14.8**	**93.1**	**60**	**40.4**
Centric Diatoms	317.2	33	0	0	236.8	236.8	48.9	0	0	0	39.9	36	20.2
Araphid Pennate Diatoms	48.8	66	33	33	14.8	14.8	32.6	28	45.6	0	39.9	12	10.1
Monoraphid Pennate Diatoms	0	66	66	33	0	0	0	0	0	0	0	0	0
Biraphid Pennate Diatoms	0	33	0	0	44.4	14.8	0	0	22.8	14.8	13.3	12	10.1
CHLOROPHYTA	**1927.6**	**1089**	**990**	**429**	**1258**	**740**	**929.1**	**812**	**1208.4**	**976.8**	**545.3**	**924**	**1373.6**
Flagellated Chlorophytes	0	0	0	0	0	0	0	0	0	0	0	0	0
Coccoid/Colonial Chlorophytes	1878.8	825	957	363	592	355.2	293.4	518	866.4	695.6	465.5	864	1323.1
Filamentous Chlorophytes	0	0	0	0	592	355.2	260.8	112	273.6	236.8	53.2	48	40.4
Desmids	48.8	264	33	66	74	29.6	374.9	182	68.4	44.4	26.6	12	10.1
CHRYSOPHYTA	**48.8**	**0**	**0**	**0**	**162.8**	**0**	**130.4**	**14**	**22.8**	**29.6**	**26.6**	**144**	**30.3**
Flagellated Classic Chrysophytes	24.4	0	0	0	148	0	130.4	14	22.8	29.6	26.6	132	10.1
Non-Motile Classic Chrysophytes	0	0	0	0	0	0	0	0	0	0	0	0	0
Haptophytes	0	0	0	0	0	0	0	0	0	0	0	0	0
Tribophytes/Eustigmatophytes	24.4	0	0	0	14.8	0	0	0	0	0	0	12	20.2
Raphidophytes	0	0	0	0	0	0	0	0	0	0	0	0	0
CRYPTOPHYTA	**24.4**	**66**	**0**	**33**	**14.8**	**14.8**	**16.3**	**14**	**22.8**	**14.8**	**13.3**	**36**	**20.2**
CYANOPHYTA	**4392**	**6534**	**3003**	**4026**	**5328**	**5328**	**17604**	**29260**	**29412**	**15984**	**16492**	**4080**	**2222**
Unicellular and Colonial Forms	1464	1980	0	0	0	0	0	2660	1140	0	0	720	808
Filamentous Nitrogen Fixers	2928	3960	2475	3630	5328	5328	17604	26600	28272	15984	16492	3360	1414
Filamentous Non-Nitrogen Fixers	0	594	528	396	0	0	0	0	0	0	0	0	0
EUGLENOPHYTA	**24.4**	**0**	**66**	**33**	**14.8**	**14.8**	**16.3**	**0**	**0**	**14.8**	**13.3**	**12**	**10.1**
PYRRHOPHYTA	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL	**6783.2**	**7887**	**4158**	**4587**	**7074.4**	**6364**	**18777.6**	**30128**	**30734.4**	**17034.8**	**17183.6**	**5256**	**3696.6**
CELL DIVERSITY	**0.82**	**0.67**	**0.68**	**0.39**	**0.47**	**0.33**	**0.16**	**0.23**	**0.19**	**0.16**	**0.12**	**0.62**	**0.79**
CELL EVENNESS	**0.63**	**0.58**	**0.59**	**0.38**	**0.38**	**0.29**	**0.14**	**0.19**	**0.15**	**0.13**	**0.10**	**0.48**	**0.58**
NUMBER OF TAXA													
BACILLARIOPHYTA	**2**	**4**	**2**	**2**	**5**	**3**	**2**	**2**	**2**	**1**	**3**	**3**	**3**
Centric Diatoms	**1**	1	0	0	1	1	1	0	0	0	1	1	1
Araphid Pennate Diatoms	**1**	1	1	1	1	1	1	2	1	0	1	1	1
Monoraphid Pennate Diatoms	**0**	1	1	1	0	0	0	0	0	0	0	0	0
Biraphid Pennate Diatoms	**0**	1	0	0	3	1	0	0	1	1	1	1	1
CHLOROPHYTA	**12**	**6**	**9**	**5**	**8**	**8**	**8**	**10**	**10**	**10**	**9**	**8**	**13**
Flagellated Chlorophytes	**0**	0	0	0	0	0	0	0	0	0	0	0	0
Coccoid/Colonial Chlorophytes	**10**	4	8	4	5	5	5	7	7	7	7	6	11
Filamentous Chlorophytes	**0**	0	0	0	1	1	1	1	1	1	1	1	1
Desmids	**2**	2	1	1	2	2	2	2	2	2	1	1	1
CHRYSOPHYTA	**2**	**0**	**0**	**0**	**2**	**0**	**1**	**1**	**1**	**2**	**2**	**4**	**3**
Flagellated Classic Chrysophytes	**1**	0	0	0	1	0	1	1	1	2	2	3	1
Non-Motile Classic Chrysophytes	**0**	0	0	0	0	0	0	0	0	0	0	0	0
Haptophytes	**0**	0	0	0	0	0	0	0	0	0	0	0	0
Tribophytes/Eustigmatophytes	**1**	0	0	0	1	0	0	0	0	0	0	1	2
Raphidophytes	**0**	0	0	0	0	0	0	0	0	0	0	0	0
CRYPTOPHYTA	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
CYANOPHYTA	**2**	**3**	**2**	**2**	**1**	**1**	**1**	**3**	**2**	**1**	**1**	**2**	**2**

TAXON	Shirley ? 07/02/15	Shirley 3 08/23/15	Shirley 10 08/23/15	Shirley 13 08/23/15	Shirley 3 09/12/15	Shirley 10 09/12/15	Shirley 13 09/12/15	Shirley 4 09/19/15	Shirley 10 09/19/15	Shirley 13 09/19/15	Shirley 3 09/27/15	Shirley 10 09/27/15	Shirley 13 09/27/15
Unicellular and Colonial Forms	1	1	0	0	0	0	0	2	1	0	0	1	1
Filamentous Nitrogen Fixers	1	1	1	1	1	1	1	1	1	1	1	1	1
Filamentous Non-Nitrogen Fixers	0	1	1	1	0	0	0	0	0	0	0	0	0
EUGLENOPHYTA	**1**	**0**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**1**	**1**
PYRRHOPHYTA	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL	**20**	**14**	**14**	**11**	**18**	**14**	**14**	**17**	**16**	**16**	**17**	**19**	**23**

PHYTOPLA PHYTOPLANKTON BIOMASS (UG/L)

TAXON	Shirley ? 07/02/15	Shirley 3 08/23/15	Shirley 10 08/23/15	Shirley 13 08/23/15	Shirley 3 09/12/15	Shirley 10 09/12/15	Shirley 13 09/12/15	Shirley 4 09/19/15	Shirley 10 09/19/15	Shirley 13 09/19/15	Shirley 3 09/27/15	Shirley 10 09/27/15	Shirley 13 09/27/15
BACILLARIOPHYTA													
Centric Diatoms													
Acanthoceras	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Actinocyclus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aulacoseira	0.0	0.0	0.0	0.0	71.0	71.0	14.7	0.0	0.0	0.0	12.0	0.0	0.0
Cyclostephanos	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cyclotella	31.7	82.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	2.0
Melosira	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stephanocyclus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stephanodiscus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Urosolenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Centric Diatoms	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Araphid Pennate Diatoms													
Asterionella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diatoma	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fragilaria/related taxa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meridion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Synedra	0.0	52.8	26.4	26.4	11.8	11.8	26.1	11.2	36.5	0.0	31.9	9.6	8.1
Tabellaria	39.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	0.0	0.0
Other Araphid Pennate Diatoms (S)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Araphid Pennate Diatoms (L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monoraphid Pennate Diatoms													
Achnanthidium/related taxa	0.0	6.6	6.6	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cocconeis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Monoraphid Diatoms	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Biraphid Pennate Diatoms													
Actinella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amphipleura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amphora	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bacillaria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brachysira	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Caloneis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capartogramma	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Craticula	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cymatopleura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cymbella/related taxa	0.0	33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylindrotheca	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denticula	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diploneis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Entomoneis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Epithemia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eunotia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3	12.0	0.0
Frustulia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TAXON	Shirley ? 07/02/15	Shirley 3 08/23/15	Shirley 10 08/23/15	Shirley 13 08/23/15	Shirley 3 09/12/15	Shirley 10 09/12/15	Shirley 13 09/12/15	Shirley 4 09/19/15	Shirley 10 09/19/15	Shirley 13 09/19/15	Shirley 3 09/27/15	Shirley 10 09/27/15	Shirley 13 09/27/15
Gomphonema/related taxa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gyrosigma	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hantzschia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mastogloia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Navicula/related taxa	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0	11.4	7.4	0.0	0.0	5.1
Neidium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nitzschia	0.0	0.0	0.0	0.0	11.8	11.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pinnularia	0.0	0.0	0.0	0.0	148.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pleurosigma	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rhoicosphenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rhopalodia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stauroneis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stenopterobia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Surirella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Biraphid Pennate Diatoms (S)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Biraphid Pennate Diatoms (L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHLOROPHYTA													
Flagellated Chlorophytes													
Carteria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chlamydomonas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chlorogonium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coccomonas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eudorina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gonium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lobomonas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pandorina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pascherina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phacotus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Platydorina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Polytomella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pyramichlamys	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pyrobotrys	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spondylomorum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetraselmis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volvox	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Flagellated Greens	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coccoid/Colonial Chlorophytes													
Actinastrum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ankistrodesmus	2.4	3.3	6.6	3.3	8.9	8.9	3.3	7.0	16.0	17.8	6.7	12.0	3.0
Botryococcus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chlorella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chlorococcum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Closteriopsis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coelastrum	58.6	0.0	39.6	0.0	0.0	0.0	0.0	22.4	0.0	17.8	26.6	19.2	8.1
Crucigenia	39.0	26.4	13.2	13.2	11.8	5.9	6.5	5.6	9.1	11.8	5.3	19.2	80.8
Dactylococcus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dictyosphaerium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	0.0	0.0	5.3	0.0	0.0
Echinosphaerella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TAXON	Shirley ? 07/02/15	Shirley 3 08/23/15	Shirley 10 08/23/15	Shirley 13 08/23/15	Shirley 3 09/12/15	Shirley 10 09/12/15	Shirley 13 09/12/15	Shirley 4 09/19/15	Shirley 10 09/19/15	Shirley 13 09/19/15	Shirley 3 09/27/15	Shirley 10 09/27/15	Shirley 13 09/27/15
Elakatothrix	4.9	13.2	19.8	6.6	3.0	3.0	6.5	8.4	36.5	11.8	5.3	2.4	3.0
Franceia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gloeocystis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Golenkinia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Kirchneriella	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0
Lagerheimia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Micractinium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monoraphidium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oocystis	156.2	158.4	52.8	52.8	47.4	23.7	26.1	22.4	36.5	47.4	21.3	0.0	16.2
Pachycladella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Paulschulzia	117.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pediastrum	39.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2
Polyedriopsis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Quadrigula	0.0	0.0	26.4	0.0	0.0	0.0	0.0	0.0	18.2	0.0	0.0	0.0	8.1
Radiococcus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scenedesmus	0.0	0.0	6.6	0.0	23.7	11.8	6.5	2.8	4.6	5.9	5.3	14.4	8.1
Schroederia	61.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Selenastrum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sorastrum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sphaerocystis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.6	24.2
Tetraedron	14.6	0.0	19.8	0.0	0.0	0.0	0.0	0.0	13.7	8.9	0.0	0.0	0.0
Tetrallantos	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetrastrum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Treubaria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trochiscia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Coccoid Green Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Elongated Green Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Filamentous Chlorophytes													
Aphanochaete	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulbochaete	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chaetophora	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cladophora	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Draparnaldia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Geminella/Gloeotila	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hydrodictyon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Microspora	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oedogonium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pithophora	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rhizoclonium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stichococcus	0.0	0.0	0.0	0.0	118.4	71.0	52.2	22.4	54.7	47.4	10.6	9.6	8.1
Stigeoclonium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ulothrix	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Filamentous Greens	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desmids													
Actinotaenium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bambusina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Closterium	0.0	132.0	0.0	0.0	0.0	0.0	0.0	0.0	91.2	59.2	0.0	0.0	0.0
Cosmarium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TAXON	Shirley ? 07/02/15	Shirley 3 08/23/15	Shirley 10 08/23/15	Shirley 13 08/23/15	Shirley 3 09/12/15	Shirley 10 09/12/15	Shirley 13 09/12/15	Shirley 4 09/19/15	Shirley 10 09/19/15	Shirley 13 09/19/15	Shirley 3 09/27/15	Shirley 10 09/27/15	Shirley 13 09/27/15
Cosmocladium/Heimansia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylindrocystis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desmidium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Euastrum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gonatozygon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hyalotheca	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Micrasterias	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mougeotia/Debarya	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Netrium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Octacanthium	7.3	0.0	0.0	0.0	13.3	4.4	92.9	50.4	13.7	8.9	8.0	3.6	3.0
Penium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pleurotaenium/related taxa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roya	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spinocosmarium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spirogyra	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spirotaenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Staurastrum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Staurodesmus	14.6	138.6	19.8	39.6	17.8	8.9	39.1	8.4	0.0	0.0	0.0	0.0	0.0
Teilingia/related taxa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetmemorus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Triploceras	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Xanthidium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Zygnema/Zygnemopsis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Desmids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHRYSOPHYTA													
Flagellated Classic Chrysophytes													
Bicosoeca	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chromulina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0
Chrysamoeba	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chrysococcus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chrysosphaerella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dinobryon	73.2	0.0	0.0	0.0	444.0	0.0	391.2	42.0	68.4	44.4	39.9	216.0	30.3
Epipyxis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kephyrion/Pseudokephyrion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mallomonas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	6.7	6.0	0.0
Ochromonas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spiniferomonas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Synura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uroglena	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uroglenopsis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Flagellated Goldens	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Motile Classic Chrysophytes													
Bitrichia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chrysopyxis/Derepyxis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lygynion/Kybotion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rhizochrysis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Non-Motile Classic Goldens	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TAXON	Shirley ? 07/02/15	Shirley 3 08/23/15	Shirley 10 08/23/15	Shirley 13 08/23/15	Shirley 3 09/12/15	Shirley 10 09/12/15	Shirley 13 09/12/15	Shirley 4 09/19/15	Shirley 10 09/19/15	Shirley 13 09/19/15	Shirley 3 09/27/15	Shirley 10 09/27/15	Shirley 13 09/27/15
Haptophytes													
Chrysochromulina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prymnesium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Haptophytes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tribophytes/Eustigmatophytes													
Centritractus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.5
Chlorobotrys	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ellipsoidion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Isthmochloron	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ophiocytium	0.0	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Polygoniochloris	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pseudostaurastrum	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pseudotetraedron	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tribonema	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vaucheria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vischeria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mischococcoid taxa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chloramoeboid taxa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rhizochlorid taxa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heterogloeolid taxa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Tribophytes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Raphidophytes													
Gonyostomum and related taxa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CRYPTOPHYTA													
Chilomonas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chroomonas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cryptomonas	4.9	13.2	0.0	6.6	3.0	3.0	3.3	2.8	4.6	3.0	2.7	7.2	4.0
Pyrenomonas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Cryptomonads	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CYANOPHYTA													
Unicellular and Colonial Forms													
Aphanocapsa	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	0.0	0.0	7.2	8.1
Aphanothece	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chroococcus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coelosphaerium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cyanodictyon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cyanothece	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dactylococcopsis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gomphosphaeria	0.0	19.8	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0
Johannesbaptistia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Merismopedia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Microcystis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	0.0	0.0	0.0	0.0	0.0
Radiocystis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rhabdoderma	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rhabdogloea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Snowella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley
	?	3	10	13	3	10	13	4	10	13	3	10	13
TAXON	**07/02/15**	**08/23/15**	**08/23/15**	**08/23/15**	**09/12/15**	**09/12/15**	**09/12/15**	**09/19/15**	**09/19/15**	**09/19/15**	**09/27/15**	**09/27/15**	**09/27/15**
Synechococcus/Cyanobium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Woronichinia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Coccoid Bluegreens	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Filamentous Nitrogen Fixers													
Anabaena	585.6	2970.0	1838.1	2722.5	1065.6	1065.6	3520.8	5320.0	5654.4	3196.8	3298.4	672.0	282.8
Anabaenopsis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aphanizomenon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calothrix/Rivularia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylindrospermopsis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylindrospermum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gloeotrichia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hapalosiphon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nodularia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nostoc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scytonema	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stigonema	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tolypothrix	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Filamentous Bluegreens (L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Filamentous Bluegreens (S)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Filamentous Non-Nitrogen Fixers													
Arthrospira/Spirulina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Limnothrix	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lyngbya	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oscillatoria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phormidium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Planktolyngbya	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Planktothrix	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plectonema	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pseudanabaena	0.0	17.8	15.8	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Filamentous Bluegreens (L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Filamentous Bluegreens (S)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUGLENOPHYTA													
Euglena	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eutreptia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lepocinclis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phacus	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trachelomonas	0.0	0.0	66.0	33.0	14.8	14.8	16.3	0.0	0.0	14.8	13.3	12.0	10.1
Strombomonas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Euglenoids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYRRHOPHYTA													
Ceratium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cystodinium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gymnodinium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hemidinium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peridinium	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Dinoflagellates (L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley	Shirley
	?	**3**	**10**	**13**	**3**	**10**	**13**	**4**	**10**	**13**	**3**	**10**	**13**
TAXON	**07/02/15**	**08/23/15**	**08/23/15**	**08/23/15**	**09/12/15**	**09/12/15**	**09/12/15**	**09/19/15**	**09/19/15**	**09/19/15**	**09/27/15**	**09/27/15**	**09/27/15**
Other Dinoflagellates (S)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BIOMASS (UG/L) SUMMARY													
BACILLARIOPHYTA	**70.8**	**174.9**	**33.0**	**29.7**	**250.1**	**94.7**	**40.8**	**22.4**	**47.9**	**7.4**	**57.2**	**25.2**	**15.2**
Centric Diatoms	31.7	82.5	0.0	0.0	71.0	71.0	14.7	0.0	0.0	0.0	12.0	3.6	2.0
Araphid Pennate Diatoms	39.0	52.8	26.4	26.4	11.8	11.8	26.1	22.4	36.5	0.0	31.9	9.6	8.1
Monoraphid Pennate Diatoms	0.0	6.6	6.6	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Biraphid Pennate Diatoms	0.0	33.0	0.0	0.0	167.2	11.8	0.0	0.0	11.4	7.4	13.3	12.0	5.1
CHLOROPHYTA	**534.4**	**471.9**	**204.6**	**115.5**	**244.2**	**137.6**	**233.1**	**161.0**	**294.1**	**236.8**	**94.4**	**138.0**	**184.8**
Flagellated Chlorophytes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coccoid/Colonial Chlorophytes	512.4	201.3	184.8	75.9	94.7	53.3	48.9	79.8	134.5	121.4	75.8	124.8	173.7
Filamentous Chlorophytes	0.0	0.0	0.0	0.0	118.4	71.0	52.2	22.4	54.7	47.4	10.6	9.6	8.1
Desmids	22.0	270.6	19.8	39.6	31.1	13.3	132.0	58.8	104.9	68.1	8.0	3.6	3.0
CHRYSOPHYTA	**92.7**	**0.0**	**0.0**	**0.0**	**448.4**	**0.0**	**391.2**	**42.0**	**68.4**	**51.8**	**46.6**	**226.2**	**34.8**
Flagellated Classic Chrysophytes	73.2	0.0	0.0	0.0	444.0	0.0	391.2	42.0	68.4	51.8	46.6	224.4	30.3
Non-Motile Classic Chrysophytes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haptophytes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tribophytes/Eustigmatophytes	19.5	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	1.8	4.5
Raphidophytes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CRYPTOPHYTA	**4.9**	**13.2**	**0.0**	**6.6**	**3.0**	**3.0**	**3.3**	**2.8**	**4.6**	**3.0**	**2.7**	**7.2**	**4.0**
CYANOPHYTA	**600.2**	**3007.6**	**1853.9**	**2734.4**	**1065.6**	**1065.6**	**3520.8**	**5346.6**	**5665.8**	**3196.8**	**3298.4**	**679.2**	**290.9**
Unicellular and Colonial Forms	14.6	19.8	0.0	0.0	0.0	0.0	0.0	26.6	11.4	0.0	0.0	7.2	8.1
Filamentous Nitrogen Fixers	585.6	2970.0	1838.1	2722.5	1065.6	1065.6	3520.8	5320.0	5654.4	3196.8	3298.4	672.0	282.8
Filamentous Non-Nitrogen Fixers	0.0	17.8	15.8	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUGLENOPHYTA	**7.3**	**0.0**	**66.0**	**33.0**	**14.8**	**14.8**	**16.3**	**0.0**	**0.0**	**14.8**	**13.3**	**12.0**	**10.1**
PYRRHOPHYTA	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
TOTAL	**1310.3**	**3667.6**	**2157.5**	**2919.2**	**2026.1**	**1315.7**	**4205.4**	**5574.8**	**6080.8**	**3510.6**	**3512.5**	**1087.8**	**539.8**
BIOMASS DIVERSITY	**0.90**	**0.39**	**0.33**	**0.16**	**0.68**	**0.38**	**0.30**	**0.13**	**0.18**	**0.22**	**0.17**	**0.60**	**0.82**
BIOMASS EVENNESS	**0.69**	**0.34**	**0.29**	**0.16**	**0.54**	**0.33**	**0.26**	**0.11**	**0.15**	**0.19**	**0.13**	**0.47**	**0.60**

	7/2/15	8/23/15	8/23/15	8/23/15	9/12/15	9/12/15	9/12/15	9/19/15	9/19/15	9/19/15	9/27/15	9/27/15	9/27/15
BIOMASS (UG/L) SUMMARY													
BACILLARIOPHYTA	71	175	33	30	250	95	41	22	48	7	57	25	15
CHLOROPHYTA	534	472	205	116	244	138	233	161	294	237	94	138	185
CHRYSOPHYTA	93	0	0	0	448	0	391	42	68	52	47	226	35
CRYPTOPHYTA	5	13	0	7	3	3	3	3	5	3	3	7	4
CYANOPHYTA	600	3008	1854	2734	1066	1066	3521	5347	5666	3197	3298	679	291
EUGLENOPHYTA	7	0	66	33	15	15	16	0	0	15	13	12	10
PYRRHOPHYTA	0	0	0	0	0	0	0	0	0	0	0	0	0

TAXON	Shirley ? 07/02/15	Shirley 3 08/23/15	Shirley 10 08/23/15	Shirley 13 08/23/15	Shirley 3 09/12/15	Shirley 10 09/12/15	Shirley 13 09/12/15	Shirley 4 09/19/15	Shirley 10 09/19/15	Shirley 13 09/19/15	Shirley 3 09/27/15	Shirley 10 09/27/15	Shirley 13 09/27/15