

Goodnow Flow Questions and Answers, 2015 CSLAP

Q1. What is the condition of our lake this year?

A1. Water quality conditions in Goodnow Flow were close to normal in 2015; algae levels were slightly lower than usual, but phosphorus readings and plant coverage was higher. Recreational assessments continue to be favorable.

Q2. Is there anything new that showed up in the testing this year?

A2. The chloride sampling results are typical of lakes with minor to moderate biological impacts from road salt runoff.

Q3. How does the condition of our lake this year compare with other lakes in the area?

A3. Goodnow Flow had slightly lower water clarity, but lower nutrient levels and similar algae levels, than other Adirondack lakes. As with most Adirondack lakes, no shoreline blooms have been reported. Aquatic plant coverage was probably comparable to the plant coverage in many nearby lakes.

Q4. Are there any trends in our lake's condition?

A4. Aquatic plant coverage has increased slightly over the last decade in Goodnow Flow. It is not known if this is due to native or exotic plants. Nitrogen levels (in several forms) have decreased slightly in recent years

Q5. Should we be concerned about the condition of our lake? Are we close to a tipping point?

A5. Water quality conditions continue to be favorable in the lake, and there is no evidence that the lake is particularly susceptible to shoreline algae blooms or new invasive species. Lake residents should be on the lookout for any lake changes that might be associated with the slight increase in plant coverage.

Q6. Are any actions indicated, based on the trends and this year's results?

A6. Individual stewardship activities such as pumping your septic system, growing a buffer of native plants next to the water bodies, and reducing erosion from shoreline properties and runoff into the lake will help to maintain lake health by reducing nutrient and sediment loading to the lake. Visiting boats should be inspected to reduce the risk of new invasive species, since nearby lakes harbor several invasive plants not presently found in the lake.

Lake Use				
	PWL	Average Year	2015	Primary issue
Potable Water				Not applicable
Swimming				Not applicable
Recreation				High nutrients
Aquatic Life				Road Salt
Aesthetics				Invasive plants
Habitat				Invasive plants
Fish Consumption				

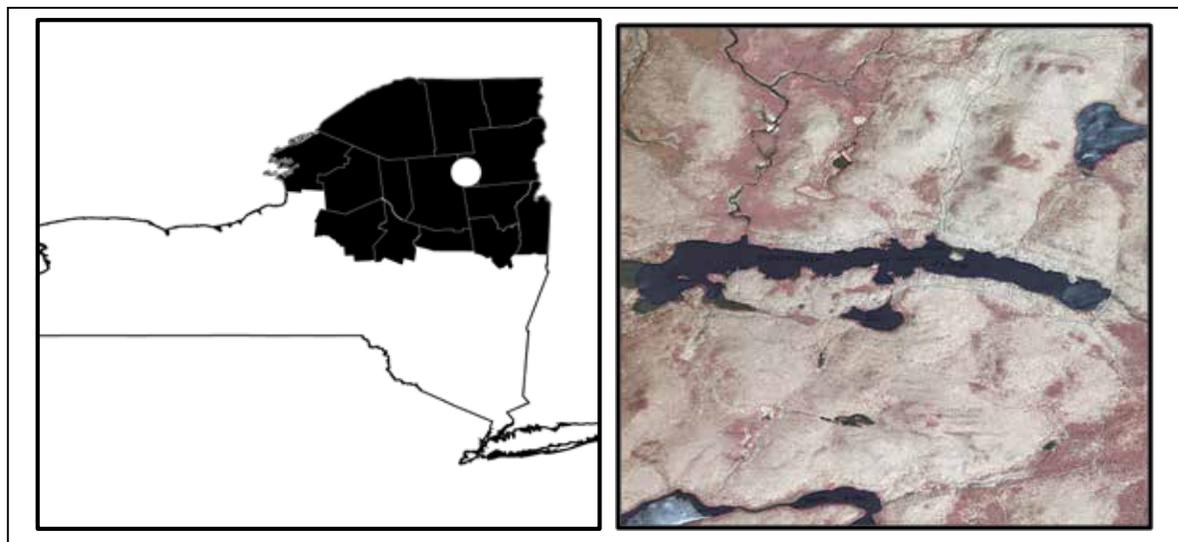
Supported / Good
 Threatened / Fair
 Stressed / Poor
 Impaired
 Not Known

CSLAP 2015 Lake Water Quality Summary: Goodnow Flow

General Lake Information

Location	Town of Newcomb
County	Essex
Basin	Upper Hudson River
Size	137.3 hectares (339.1 acres)
Lake Origins	Augmented by 25ft by 350ft earthen dam
Watershed Area	6,583 hectares (16,260 acres)
Retention Time	0.06 years
Mean Depth	1.9 meters
Sounding Depth	4.7 meters
Public Access?	no
Major Tributaries	West Branch Goodnow River, unnamed tribs
Lake Tributary To...	Goodnow Flow Outlet/Goodnow River to Hudson River
WQ Classification	C(T) (non-contact recreation = boating, angling)
Lake Outlet Latitude	43.914
Lake Outlet Longitude	-74.187
Sampling Years	1986-1990, 1993, 1997-2000, 2007-2012, 2014-2015
2015 Samplers	Bill and Andrea James
Main Contact	Bill James

Lake Map



Background

Goodnow Flow is a 339 acre, class C(T) lake found in the Town of Newcomb in Essex County, in the Adirondacks region of New York State. It was first sampled as part of CSLAP in 1986.

It is one of nine CSLAP lakes among the more than 515 lakes and ponds found in Essex County, and one of 32 CSLAP lakes among the more than 1370 lakes and ponds in the Upper Hudson River drainage basin.

Lake Uses

Goodnow Flow is a Class C lake; this means that the best intended use for the lake is for non-contact recreation—boating, angling, and aesthetics, although it is assumed that the lake also supports contact recreation—swimming and bathing. The lake is used by lake residents and visitors for a variety of recreational purposes, although there is a 10 horsepower limit on boats and most boating is passive.

The state does not stock Goodnow Flow. It is not known if private stocking efforts occur at Goodnow Flow.

General statewide fishing regulations are applicable in Goodnow Flow. In addition, open season on trout runs from the April 1st to October 15th, with a daily take limit of five, and with no more than five brook trout under eight inches. There is no minimum length. The open season on sunfish and yellow perch lasts all year long, with no size or take limits.

Historical Water Quality Data

CSLAP sampling was conducted on Goodnow Flow each year from 1986-1990, 1993, 1997-2000, 2007-2012, and in 2014 to 2015. The CSLAP reports for each of the past several years can be found on the NYSFOLA website at <http://nysfola.mylaketown.com>. The 2014 CSLAP report and scorecard for Goodnow Flow can also be found on the NYSDEC web page at <http://www.dec.ny.gov/lands/77872.html>.

Goodnow Flow has not been sampled as part of any significant regional or statewide monitoring programs. It is not known if monitoring has been conducted to support local resource management efforts, such as fish stocking.

Lake Association and Management History

Goodnow Flow is served by the Goodnow Flow Association, which has been involved in a variety of lake management activities, related mostly to the maintenance of the dam. In anticipation of the new NYSDEC dam safety regulations, the local community is contemplating the creation of a special dam taxing district. The association serves 250 homes.

The lake association has also instituted a number of watershed protection actions, including septic education, voluntary leach field and dye testing, lawn fertilization and pesticides limits (voluntary), voluntary maintenance of shoreline vegetation, discouraging waterfowl feeding, promoting cleaning of boat props before entering and leaving the lake, and posting invasive species (zebra mussel and exotic plant) signage.

It is not known if the Goodnow Flow Association maintains a website. However, the lake association maintains a Facebook page at <http://www.facebook.com/pages/Goodnow-Flow-Association/105657412854896>.

Summary of 2015 CSLAP Sampling Results

Evaluation of 2015 Annual Results Relative to 1986-2014

The summer (mid-June through mid-September) average readings are compared to historical averages for all CSLAP sampling seasons in the “Lake Condition Summary” table, and are compared to individual historical CSLAP sampling seasons in the “Long Term Data Plots – Goodnow Flow” section in Appendix C.

Evaluation of Eutrophication Indicators

Algae levels were slightly lower than normal in 2015, but phosphorus readings were slightly higher than normal in 2015, and water clarity was close to normal. None of these indicators has exhibited any long-term trends, although water clarity and algae levels have decreased slightly since the early 2000s, and phosphorus readings have increased slightly since the late 1980s. However, none of these changes are statistically significant; this suggests that these small changes are within the normal range of variability for the lake.

Lake productivity usually increases slightly during the summer (June through September), as manifested by decreasing water clarity and increasing algae and phosphorus readings. Productivity then typically decreases in October. The rise in productivity was apparent only later in the summer of 2015, although water clarity did not change much over this period.

The lake can be characterized as *mesotrophic*, based on water clarity, total phosphorus, and chlorophyll *a* readings (all typical of *mesotrophic* lakes). The trophic state index (TSI) evaluation suggests that each of the trophic indicators is “internally consistent” and is in the expected range (given the readings for the other indicators). However, in some years, phosphorus readings are often much lower than expected given the algae and clarity readings; this suggests that small increases in nutrients may lead to large increases in algae. Overall trophic conditions are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Potable Water Indicators

Surface algae levels are probably too low during most of the summer to trigger any impacts from taste and odor compounds or dangerous chlorinated compounds associated with excessive algae. However, even if algae levels could create some problems, the lake does not serve as a potable water supply. Potable water conditions, at least as measurable through CSLAP, are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Limnological Indicators

Each of the limnological indicators (NO_x, NH₄, TN, pH, conductivity, color and calcium) readings were close to normal in 2015. With the exception of a slight increase in conductivity,

none of these indicators has exhibited any clear long-term trends since the mid-1980s. The nitrogen indicators have decreased slightly in recent years.

Chloride levels in the 2015 samples, collected for the first time through CSLAP and cited in Appendix A, were approximately 20 mg/l. These values fall within the “moderate” road salt runoff levels cited by the New Hampshire DES. These readings are well below the state potable water quality standard of 250 mg/l and within than the range of values found in most NYS lakes. These readings suggest a moderate likelihood of biological impacts from road salt. Additional data will help to determine if these represent normal readings for the lake.

Overall limnological conditions are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Biological Condition

The fluoroprobe screening samples analyzed by SUNY ESF indicated low total algae levels and low levels of blue green algae in the last two years, and no shoreline blooms have been reported. The open water algae samples were composed of a mix of algae species, particularly green algae and diatoms.

The CSLAP macrophyte surveys show very high diversity in the aquatic plant community, and identified 38 different aquatic plant species at the lake, including two protected plant species (*Myriophyllum farwellii*, Farwell’s watermilfoil, and *Scheuchzeria palustris*, pod grass, and two exotic plant species (*Lythrum salicaria*, purple loosestrife, and *Najas minor*, brittle naiad). The modified floristic quality index (FQI) rating for the lake indicates “excellent” quality of the aquatic plant community.

There is only limited information about the fish community; two coldwater fish species have been reported.

Biological conditions in the lake are summarized in the Lake Scorecard and Lake Condition Summary Table.

Evaluation of Lake Perception

Aquatic plant coverage was slightly higher than normal in the last three years of CSLAP sampling, and there has been a slight long-term trend toward increasing plant coverage in the lake since the early 1990s (which may be more favorable, given the lack of invasive plants in the lake). Water quality assessments were slightly more favorable than normal in 2015, despite water clarity that was close to normal. Recreational assessments are usually stable over the course of the summer, and seasonal stability was also apparent in 2015. Overall lake perception is summarized in the Lake Scorecard.

Evaluation of Local Climate Change

Air and water temperature readings were close to normal in 2015, although there has been a slight increase in water temperatures over the last decade.

Evaluation of Algal Toxins

Algal toxin levels can vary significantly within blooms and from shoreline to lake, and the absence of toxins in a sample does not indicate safe swimming conditions. Fluoroprobe readings have been below the levels indicating susceptibility for harmful algal blooms (HABs) over the last few years. Algal toxin levels have been low to undetectable in the open water; no shoreline blooms have been reported through CSLAP.

Lake Condition Summary

Category	Indicator	Min	Annual Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Eutrophication Indicators	Water Clarity	1.25	2.10	3.50	2.08	Mesotrophic	Within Normal Range	No Change
	Chlorophyll <i>a</i>	0.20	7.50	29.60	4.70	Mesotrophic	Within Normal Range	No Change
	Total Phosphorus	0.002	0.012	0.033	0.016	Mesotrophic	Higher than Normal	No Change
Potable Water Indicators	Hypolimnetic Ammonia							
	Hypolimnetic Arsenic							
	Hypolimnetic Iron							
	Hypolimnetic Manganese							
Limnological Indicators	Hypolimnetic Phosphorus							
	Nitrate + Nitrite	0.00	0.04	0.31	0.03	Low NOx	Within Normal Range	No Change
	Ammonia	0.01	0.03	0.12	0.04	Low Ammonia	Within Normal Range	No Change
	Total Nitrogen	0.25	0.45	0.86	0.39	Low Total Nitrogen	Within Normal Range	No Change
	pH	6.04	7.35	8.74	7.36	Circumneutral	Within Normal Range	No Change
	Specific Conductance	12	33	59	28	Softwater	Within Normal Range	Decreasing Slightly
	True Color	20	44	104	41	Intermediate Color	Within Normal Range	No Change
	Calcium	3.1	4.1	5.8	4.4	Not Susceptible to Zebra Mussels	Within Normal Range	No Change
Lake Perception	WQ Assessment	1	2.9	3	2.5	Definite Algal Greenness	More Favorable Than Normal	No Change
	Aquatic Plant Coverage	1	2.8	3	3.0	Surface Plant Growth	Greater Coverage than Normal	Decreasing Coverage
	Recreational Assessment	1	2.0	3	2.0	Excellent	Within Normal Range	No Change
Biological Condition	Phytoplankton					Open water-low blue green algae biomass	Not known	Not known
	Macrophytes					High quality of the aquatic plant community	Not known	Not known
	Zooplankton					Not sampled through CSLAP	Not known	Not known
	Macroinvertebrates					Not sampled through CSLAP	Not known	Not known
	Fish					Coldwater fishery	Not known	Not known
	Invasive Species					Purple loosestrife and brittle naiad	Not known	Not known
Local Climate Change	Air Temperature	5	21.5	34	24.0		Within Normal Range	No Change
	Water Temperature	11	20.5	29	21.8		Within Normal Range	No Change

Category	Indicator	Min	Annual Avg	Max	2015 Avg	Classification	2015 Change?	Long-term Change?
Harmful Algal Blooms	Open Water Phycocyanin	0	7	28	6	No readings indicate high risk of BGA	Not known	Not known
	Open Water FP Chl.a	0	1	3	1	No readings indicate high algae levels	Not known	Not known
	Open Water FP BG Chl.a	0	0	1	0	No readings indicate high BGA levels	Not known	Not known
	Open Water Microcystis	<DL	0.2	0.5	<DL	Mostly undetectable open water MC-LR	Not known	Not known
	Open Water Anatoxin a	<DL	<DL	<DL	<DL	Open water Anatoxin-a consistently not detectable	Not known	Not known
	Shoreline Phycocyanin					No shoreline blooms sampled for PC	Not known	Not known
	Shoreline FP Chl.a					No shoreline blooms sampled for FP	Not known	Not known
	Shoreline FP BG Chl.a					No shoreline blooms sampled for FP	Not known	Not known
	Shoreline Microcystis					No shoreline bloom MC-LR data	Not known	Not known
	Shoreline Anatoxin a					No shoreline bloom anatoxin data	Not known	Not known

Evaluation of Lake Condition Impacts to Lake Uses

The 2007 NYSDEC Priority Waterbody Listings (PWL) for the Upper Hudson River drainage basin indicate that Goodnow Flow has “no use impairments”. The PWL listing for the lake can be found in Appendix B.

Potable Water (Drinking Water)

The CSLAP dataset at Goodnow Flow, including water chemistry data, physical measurements, and volunteer samplers’ perception data, is inadequate to evaluate the use of the lake for potable water, and the lake is not classified for this purpose. The limited CSLAP data indicate that the unofficial use of lake for potable water at times may be impacted by excessive algae or dissolved organic matter in some years.

Public Bathing

The CSLAP dataset at Goodnow Flow, including water chemistry data, physical measurements, and volunteer samplers’ perception data, suggests that public bathing, if conducted at a public swimming beach, would be fully supported, although this use may be *threatened* by low water clarity readings that occasionally fall below the levels needed to support aesthetically suitable and safe swimming conditions. It should be noted that the lake is not classified for public bathing. Additional information about bacteria levels is needed to determine if pathogens impact swimming.

Recreation (Swimming and Non-Contact Uses)

The CSLAP dataset on Goodnow Flow, including water chemistry data, physical measurements, and volunteer samplers’ perception data, suggest that recreation should be fully supported, although the lake may be threatened by the presence of occasionally elevated nutrient levels.

Aquatic Life

The CSLAP dataset on Goodnow Flow, including water chemistry data and physical measurements, suggest that aquatic life may be *threatened* by road salt runoff. Additional data are needed to evaluate the food and habitat conditions for aquatic organisms in the lake.

Aesthetics and Habitat

The CSLAP dataset on Goodnow Flow, including volunteer samplers' perception data, suggest that aesthetics should be fully supported, although both aesthetics and habitat may at times be threatened by excessive weeds and the presence of brittle naiad, an exotic plant.

Fish Consumption

There is no fish consumption advisory on Goodnow Flow.

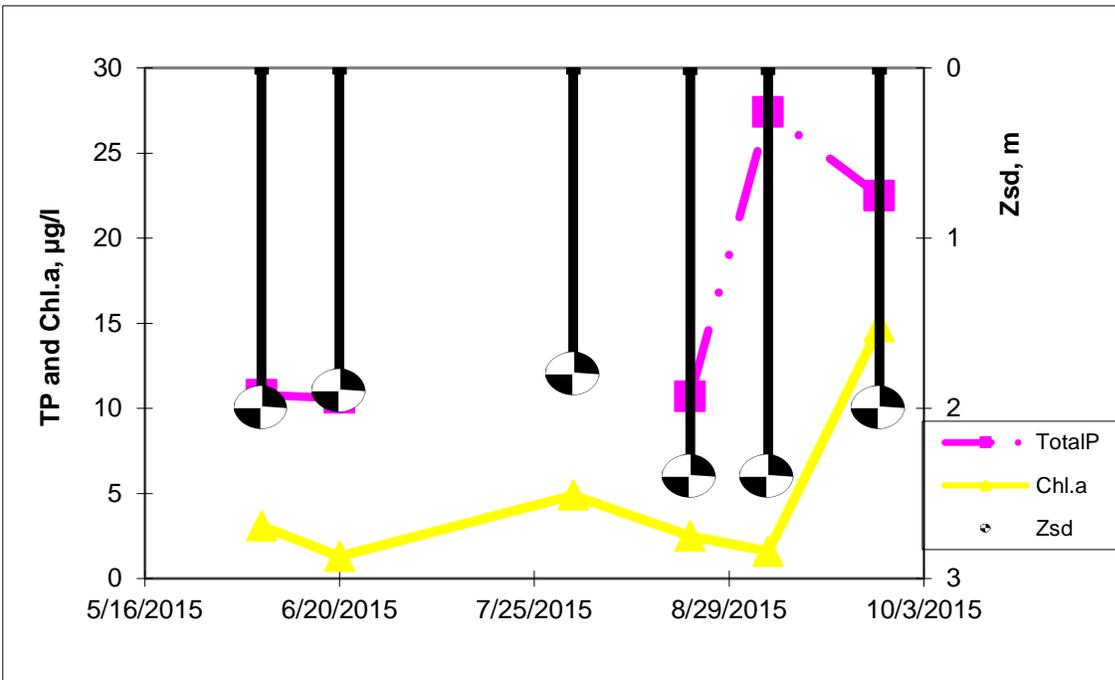
Additional Comments and Recommendations

The lake association should continue to be vigilant in the search for invasive plant species, and lake residents should reported and avoid contact with any shoreline algae blooms. The long term (slight) increase in phosphorus readings may indicate a change in land use or runoff patterns around the lake; this might warrant some additional investigation.

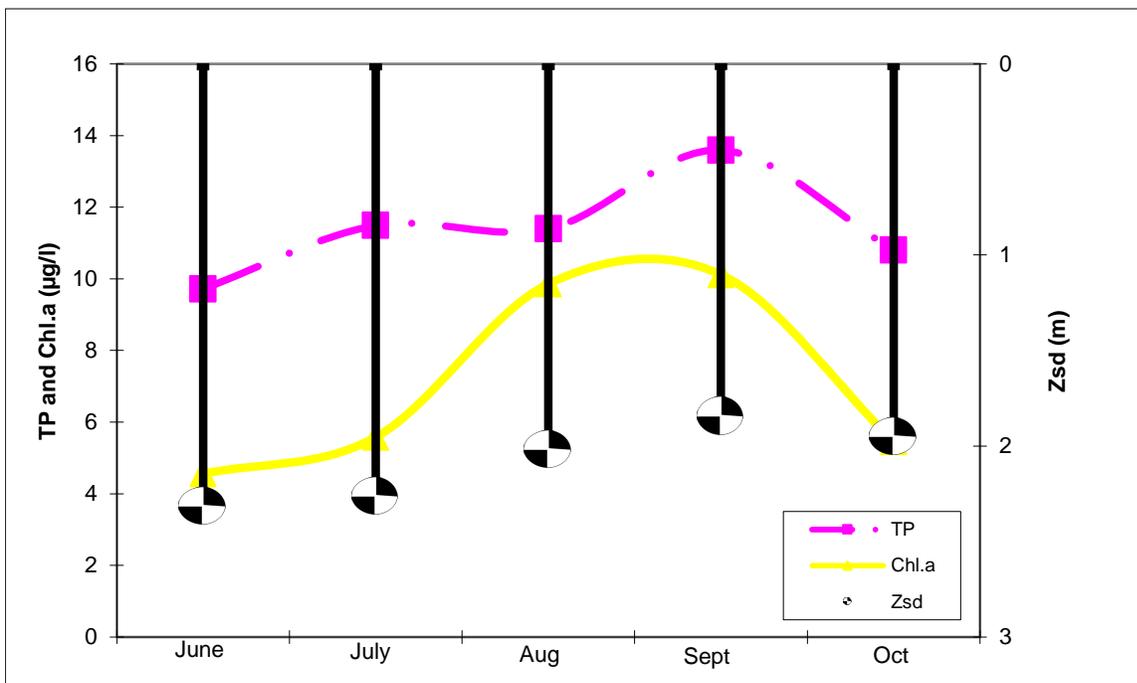
Aquatic Plant IDs-2015

None submitted for identification.

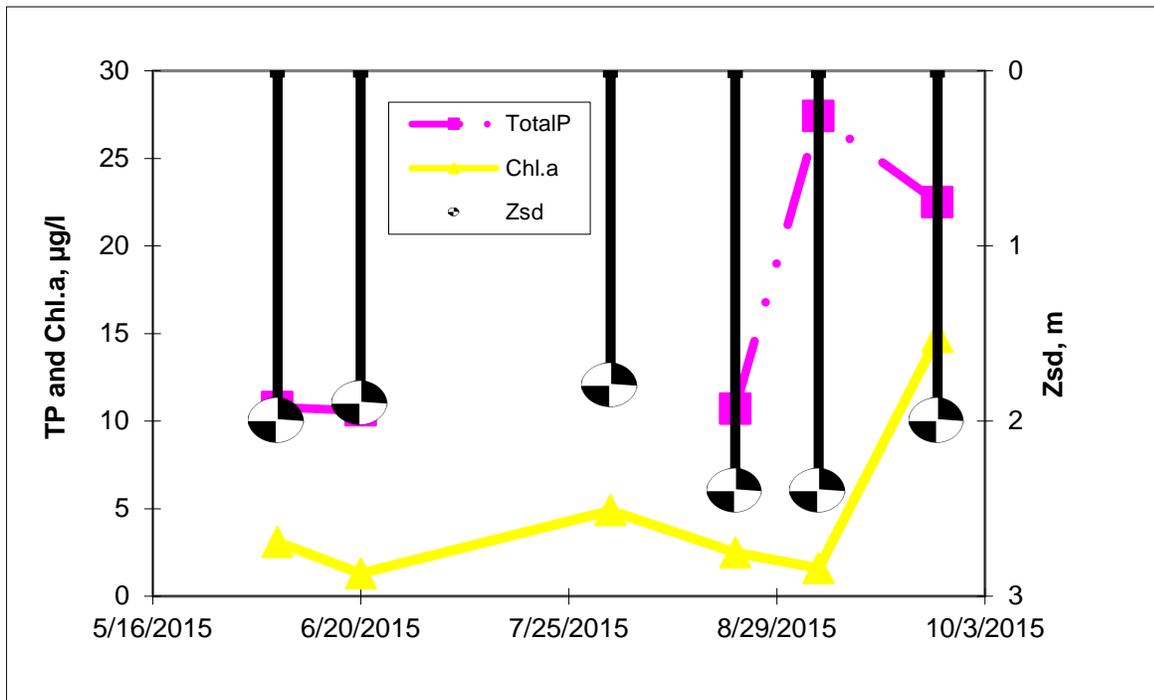
Time Series: Trophic Indicators, 2015



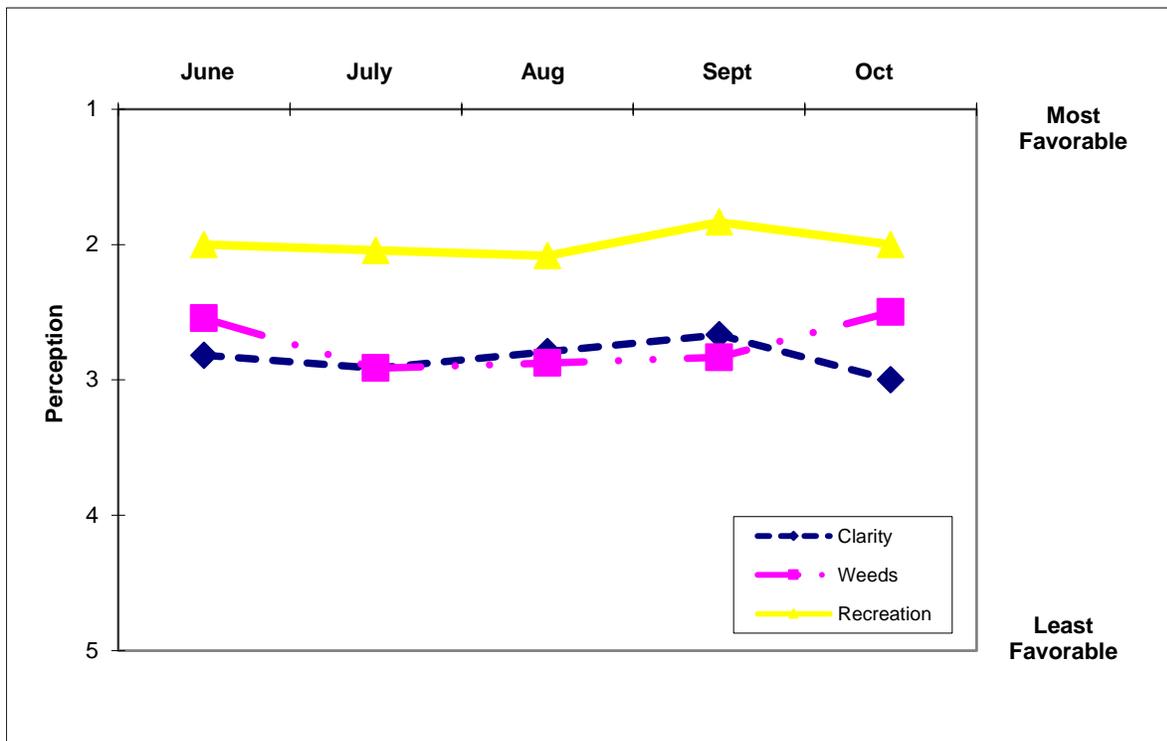
Time Series: Trophic Indicators, Typical Year (1986-2015)



Time Series: Lake Perception Indicators, 2015



Time Series: Lake Perception Indicators, Typical Year (1986-2015)



Appendix A- CSLAP Water Quality Sampling Results for Goodnow Flow

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
9	Goodnow F	6/26/1986		3.25	1.5	0.013	0.03				40	7.61	31		2.81	
9	Goodnow F	7/2/1986		2.50	1.5	0.014	0.03				35	8.10	32		2.15	
9	Goodnow F	7/9/1986		1.88	1.5	0.016	0.03				50	7.11	33		2.89	
9	Goodnow F	7/16/1986		2.00	1.5	0.012	0.03				50	7.27	31			
9	Goodnow F	7/23/1986	4.0	2.00	1.5	0.013	0.03				60	7.19	30		3.26	
9	Goodnow F	7/31/1986	4.0	2.00	1.5	0.012	0.03				55	7.24	30		4.59	
9	Goodnow F	8/7/1986	4.0	2.00	1.5	0.011	0.03				65	8.04	33		2.66	
9	Goodnow F	8/14/1986	3.5	2.00	1.5	0.011	0.03				65	7.35	51		3.63	
9	Goodnow F	8/20/1986	4.0	2.50	1.5	0.010	0.03				60	7.85	34			
9	Goodnow F	8/28/1986	4.0	1.50	1.5	0.011	0.03				65	7.67	33			
9	Goodnow F	9/4/1986	3.5	2.00	1.5	0.009	0.03				65					
9	Goodnow F	9/11/1986	3.0	2.00	1.5	0.012	0.03					6.65	35			
9	Goodnow F	9/18/1986	3.0	2.00	1.5	0.011	0.03				60	7.23	35		14.80	
9	Goodnow F	9/24/1986	4.0	2.00	1.5	0.011	0.03				55				22.20	
9	Goodnow F	10/2/1986	4.0	2.00	1.5	0.011	0.03				60	7.40	33		1.70	
9	Goodnow F	6/20/1987	3.5	2.13	1.5	0.007	0.14				50	7.63	34		4.30	
9	Goodnow F	7/5/1987			1.5	0.013	0.15				50	6.89	34		3.30	
9	Goodnow F	7/19/1987	4.0	2.70	1.5	0.002	0.10				50	6.04	35		17.50	
9	Goodnow F	8/2/1987	4.0	2.20	1.5	0.010					51	7.20	36		16.30	
9	Goodnow F	8/10/1987	4.0	2.13	1.5	0.013	0.06				55	6.70	37		17.20	
9	Goodnow F	8/16/1987	3.8	2.35	1.5	0.015					42	6.93	38		29.60	
9	Goodnow F	8/30/1987	3.8	1.80	1.5	0.011	0.03				45	7.31	37			
9	Goodnow F	9/4/1987	5.5	1.30	1.5	0.018					36	7.50	35		26.00	
9	Goodnow F	9/12/1987	5.2	1.75	1.5	0.015	0.01				40	7.18	39		21.00	
9	Goodnow F	9/16/1987	4.0	2.00	1.5	0.014	0.06				39	7.32	48		13.00	
9	Goodnow F	9/23/1987	4.0	2.00	1.5	0.012	0.26				55	6.96	46			
9	Goodnow F	6/19/1988	3.0	2.38	1.5	0.011	0.18				22				3.48	
9	Goodnow F	7/4/1988	5.8	2.75	1.5	0.012	0.11				20	7.70	40		4.51	
9	Goodnow F	7/24/1988	4.8	2.80	1.5	0.009	0.03				25	7.97	59		7.03	
9	Goodnow F	8/1/1988	5.8	2.80	1.5	0.007	0.02				24	7.84	42		3.54	
9	Goodnow F	8/6/1988	5.8	2.75	1.5	0.009	0.01				35	7.66	45		9.91	
9	Goodnow F	8/15/1988	5.0	2.45	1.5	0.009	0.01				30	8.47	44		5.77	
9	Goodnow F	8/21/1988	3.0	1.55	1.5	0.006	0.01				37	7.66	43		5.77	
9	Goodnow F	8/29/1988	3.0	1.63	1.5	0.011	0.06				33	7.67	53		10.60	
9	Goodnow F	9/5/1988	4.2	1.65	1.5	0.008	0.06				30	7.55	49		9.44	
9	Goodnow F	9/25/1988	5.0	2.25	1.5	0.013	0.19				30	7.72	48		11.60	
9	Goodnow F	7/4/1989	3.3	2.13	1.5	0.008	0.09				27	6.71	34		4.87	
9	Goodnow F	7/18/1989	3.3	2.63	1.5	0.010	0.07				35	7.18	36		4.81	
9	Goodnow F	7/25/1989	3.5	2.13	1.5	0.012	0.07				30	7.80	35		4.58	
9	Goodnow F	8/8/1989	3.8	1.88	1.5	0.011	0.03				40	7.72	38		9.16	
9	Goodnow F	8/15/1989	3.5	1.88	1.5	0.013	0.03				52	7.80	38		15.70	
9	Goodnow F	8/29/1989	3.5	1.63	1.5	0.010	0.02				60	7.61	39		15.90	
9	Goodnow F	9/4/1989	3.5	1.38	1.5	0.016	0.03				55	7.35	38		11.00	
9	Goodnow F	7/2/1990	3.3	2.19	1.5	0.020	0.15				30	7.24	32		17.40	
9	Goodnow F	7/17/1990	3.3	2.63	1.5	0.010	0.01				27	7.57	34		6.66	
9	Goodnow F	7/31/1990	3.4	2.75	1.5	0.015	0.07				34	7.66	35		2.11	
9	Goodnow F	8/14/1990	4.1	2.05	1.5	0.008	0.06				35	6.76	36		5.31	
9	Goodnow F	8/21/1990	3.4	2.20	1.5	0.012	0.05				45	7.57	36		6.77	
9	Goodnow F	8/27/1990	3.4	1.85	1.5	0.010	0.05				50	7.56	36		4.52	
9	Goodnow F	9/3/1990	3.2	1.95	1.5	0.018	0.04				50	7.33	36		4.92	
9	Goodnow F	9/23/1990	3.2	2.05	1.5	0.010	0.05				45	7.56	38		2.85	
9	Goodnow F	7/6/1993	4.0	2.38	1.5	0.008	0.01				27	6.88	31		3.44	
9	Goodnow F	7/26/1993	4.9	2.50	1.5	0.008	0.01				27	6.91	32		3.02	
9	Goodnow F	8/24/1993	4.0	2.13	1.5	0.009	0.01				28	6.79	36		16.80	
9	Goodnow F	9/19/1993	4.0	1.63	1.5	0.012	0.01				30	7.19	37		13.00	
9	Goodnow F	6/1/1997	5.0	3.50	1.5	0.010	0.16				20	6.74	42		3.90	
9	Goodnow F	6/15/1997	4.5	2.50	1.5	0.015	0.08				20	7.24	29		4.42	
9	Goodnow F	6/30/1997	4.5	1.85	1.5	0.010	0.03				25	6.46	31		3.06	
9	Goodnow F	7/13/1997	4.5	2.13	1.5	0.011	0.03				30	7.09	33		2.91	
9	Goodnow F	7/27/1997	4.5	2.50	1.5	0.013	0.02				35	6.94	34		6.44	
9	Goodnow F	8/11/1997	4.5	2.38	1.5	0.010	0.01				28	7.73	36		8.54	
9	Goodnow F	8/24/1997	4.5	2.63	1.5	0.011	0.01				33	7.86	35		11.50	
9	Goodnow F	9/6/1997	4.5	1.75	1.5	0.014	0.01				28	7.55	35		11.20	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
9	Goodnow F	6/21/1998	4.5	2.00	1.5		0.01				65	6.93	23		4.52	
9	Goodnow F	7/5/1998	4.5	1.50	1.5		0.01				58	6.50	29		7.90	
9	Goodnow F	7/20/1998	4.5	1.80	1.5		0.01				58	7.29	30		5.65	
9	Goodnow F	8/2/1998	4.5	1.95	1.5		0.01				55	7.05	32		9.86	
9	Goodnow F	8/15/1998	4.5	1.95	1.5						42	6.97	33		15.40	
9	Goodnow F	8/30/1998	4.5	2.00	1.5	0.012					60	6.72	35		8.65	
9	Goodnow F	9/13/1998	4.5	2.00	1.5	0.012					55	7.53	41		8.70	
9	Goodnow F	10/4/1998	4.5	2.00	1.5	0.010					55	7.03	35		4.45	
9	Goodnow F	6/6/1999	4.0	3.45	1.5	0.008	0.31				26	7.57	31		2.15	
9	Goodnow F	6/19/1999	4.5	2.50	1.5	0.008	0.01				27	7.36	32		3.44	
9	Goodnow F	7/4/1999	4.5	2.88	1.5	0.013	0.01				27	7.26	34		2.98	
9	Goodnow F	7/18/1999	4.5	3.13	1.5	0.014	0.01				33	7.40	34		6.75	
9	Goodnow F	7/31/1999	4.5	2.50	1.5	0.008	0.01				26	7.08	26		8.15	
9	Goodnow F	8/15/1999	4.5	2.50	1.5	0.010	0.01				23	7.27	40		9.95	
9	Goodnow F	8/29/1999	4.5	2.00	1.5	0.012	0.01				22	8.03	37		8.20	
9	Goodnow F	9/19/1999		1.75	1.5	0.013	0.01				28	7.63	36		5.10	
9	Goodnow F	5/27/2000	4.5	1.50	1.5	0.014	0.05				50	7.03	26		5.60	
9	Goodnow F	6/18/2000	4.5	2.63	1.5	0.010	0.01				31	8.13	31		3.78	
9	Goodnow F	6/30/2000		2.38	1.5	0.009	0.03				43	7.10	31		4.28	
9	Goodnow F	7/2/2000	4.5	2.38	1.5	0.010	0.03				32	7.17	32		3.84	
9	Goodnow F	7/17/2000	4.5	2.88	1.5	0.014	0.03				43	6.80	30		6.60	
9	Goodnow F	8/13/2000		1.88	1.5	0.012	0.01				44	6.65	31		16.40	
9	Goodnow F	9/3/2000	4.5	2.13	1.5	0.011	0.01				55	7.84	32		15.60	
9	Goodnow F	9/16/2000	4.5	1.90	1.5	0.018	0.01				45	7.33	34		11.40	
9	Goodnow F	5/27/2006	5.0	1.25	1.5	0.008	0.04	0.02	0.36	105.31	56	7.00	25	5.2	6.06	
9	Goodnow F	6/11/2006	5.0	1.95	1.5	0.009	0.06	0.06			33	7.31	28		1.53	
9	Goodnow F	6/24/2006	4.9	2.95	1.5	0.008	0.05	0.03			45	7.07	29		1.91	
9	Goodnow F	7/8/2006	4.9	1.75	1.5	0.014	0.08	0.03	0.71	108.87	92	6.90	22		14.60	
9	Goodnow F	7/29/2006	4.9	2.00	1.5	0.011	0.02	0.12	0.56	115.44	104	7.64	22	4.1	4.77	
9	Goodnow F	8/12/2006	4.9	1.75		0.012	0.04	0.08	0.73	132.28	62	7.09	24		4.65	
9	Goodnow F	9/2/2006	4.8	1.80	1.5	0.015	0.06	0.02	0.80	119.23	36	7.55	25		9.67	
9	Goodnow F	7/4/2007	4.8	2.20	1.5	0.014	0.03	0.02	0.46	73.52	41	7.67	26		4.32	
9	Goodnow F	7/27/2007	4.9	2.15	1.5	0.011	0.01	0.01	0.86	168.45	36	7.96	32		1.55	
9	Goodnow F	8/4/2007	4.8	2.35	1.5	0.012	0.00	0.01	0.58	111.42	41	7.92	36		4.99	
9	Goodnow F	8/18/2007	4.8	1.85	1.5	0.013	0.02	0.05	0.72	125.13	39	8.53	26		16.17	
9	Goodnow F	9/2/2007				0.011	0.01	0.01	0.60	118.79	31	7.69	29	5.4	6.78	
9	Goodnow F	10/4/2007	4.7	1.85	1.5	0.011	0.01	0.01	0.76	146.79	27	7.52	36		10.21	
9	Goodnow F	6/1/2008	4.7	2.25	1.5	0.003	0.04	0.03	0.29	190.22	23	6.97	36	5.8	2.73	
9	Goodnow F	6/14/2008	4.7	1.85	1.5	0.012	0.00	0.01	0.33	63.57	31	7.37	24		12.23	
9	Goodnow F	7/7/2008	4.7	2.43	1.5	0.011	0.02	0.03	0.42	88.83	33	7.52	34		4.35	
9	Goodnow F	7/17/2008	4.6	2.25	1.5	0.011	0.05	0.02	0.28	57.90	31	7.47	21		4.86	
9	Goodnow F	8/9/2008	4.5	1.25	1.5	0.014	0.04	0.02	0.36	58.97	83	7.00	12	3.3	6.43	
9	Goodnow F	8/24/2008	4.5	1.75	1.5	0.006	0.00	0.02	0.40	159.25	68	7.53	27		4.36	
9	Goodnow F	9/7/2008	4.6	1.55	1.5	0.011	0.01	0.03	0.34	69.02	54	7.59	29		5.11	
9	Goodnow F	9/21/2008	4.5	1.80	1.5	0.004	0.01	0.02	0.36	219.35	43	7.95	29		11.01	
9	Goodnow F	06/19/2009	4.3	2.40	1.5	0.018	0.02	0.03	0.28	34.11	59	6.62	20	3.1	10.46	
9	Goodnow F	06/27/2009	4.5	1.95	1.5	0.004	0.01	0.01	0.25	143.58	43	7.15	24		24.02	
9	Goodnow F	07/18/2009	4.5	2.65	1.5	0.003	0.01	0.01	0.28	208.62	47	7.38	30		4.96	
9	Goodnow F	08/02/2009	4.5	1.68	1.5	0.013	0.01	0.01	0.31	51.22	54	7.87	24		10.78	
9	Goodnow F	08/23/2009	4.5		1.5	0.015	0.01	0.01	0.30	44.89	64	8.74	23		23.10	
9	Goodnow F	09/05/2009	4.5	1.95	1.5	0.013	0.02	0.01	0.41	68.33	73	7.75	29		8.40	
9	Goodnow F	09/26/2009	4.5	2.50	1.5	0.014	0.01	0.01	0.32	49.58	69	7.32	26		5.38	
9	Goodnow F	5/29/2010		2.15	1.5	0.011	0.01	0.07			26	7.88	27	3.9	0.20	
9	Goodnow F	6/13/2010	4.5	2.25	1.5	0.002	0.03	0.05	0.45	408.83	35	6.97	30		3.10	
9	Goodnow F	7/5/2010	4.2	1.65	1.5	0.022	0.07	0.03	0.40	40.93	75	6.68	30		8.50	
9	Goodnow F	7/24/2010	4.5	1.65	1.5	0.003	0.01	0.05	0.29	227.07	51	7.73	46		5.70	
9	Goodnow F	8/6/2010	4.4	1.85	1.5	0.014	0.01	0.10	0.46	71.97	57	7.99	46	3.9	4.60	
9	Goodnow F	9/5/2010	4.5	1.75	1.5	0.015	0.01	0.02	0.50	72.99	43	6.70	37		8.80	
9	Goodnow F	9/14/2010	4.4	1.55	1.5	0.015	0.05	0.06	0.51	76.62	40	6.58	35		7.00	
9	Goodnow F	6/10/2011	4.5	1.95	1.5											
9	Goodnow F	6/26/2011	4.5	1.55	1.5	0.010	0.05	0.05	0.39	82.66	53	6.99	32	3.1	1.70	
9	Goodnow F	7/10/2011				0.012	0.03	0.04	0.38	71.31	52	7.47	26		3.60	
9	Goodnow F	7/24/2011	4.3	1.85	1.5	0.011	0.04	0.03	0.41	83.27	46	6.80	29		2.80	
9	Goodnow F	8/6/2011	4.3	1.95	1.5	0.020	0.02	0.02	0.39	42.16	60	7.67	29			
9	Goodnow F	8/27/2011	4.5	1.95	1.5	0.018	0.02	0.05	0.51	61.77	48	7.88	28	4.4	14.50	
9	Goodnow F	9/10/2011	4.4		1.5	0.010	0.02	0.03	0.42	93.56	61	6.74	30		1.30	

LNum	PName	Date	Zbot	Zsd	Zsamp	Tot.P	NO3	NH4	TDN	TN/TP	TColor	pH	Cond25	Ca	Chl.a	Cl
9	Goodnow F	6/10/2012	4.5		1.5	0.013	0.08	0.04	0.33	56.02	43	7.87	29	3.7	2.10	
9	Goodnow F	6/23/2012	4.4	2.35	1.5	0.012	0.06	0.05	0.81	153.05	44	8.35	29		2.50	
9	Goodnow F	7/8/2012	4.5	1.95	1.5	0.051	0.04	0.05	0.64	27.40	45	8.10	33		2.80	
9	Goodnow F	8/12/2012	4.5	1.75	1.5	0.019	0.02	0.02	0.45	52.45	39	7.31	32		10.20	
9	Goodnow F	9/15/2012	4.5	2.15	1.5	0.033	0.01	0.04	0.55	36.34	41	7.43	32		3.90	
9	Goodnow F	5/31/2014	4.5	2.18	1.5	0.011	0.10	0.04	0.36	74.84	43	6.96	26	3.2	0.20	
9	Goodnow F	6/14/2014	4.5	1.65	1.5	0.012			0.43	79.57	55	6.98	26		2.50	
9	Goodnow F	7/5/2014	4.5	1.65	1.5	0.013	0.03	0.08	0.38	63.19	48	6.50	26		5.80	
9	Goodnow F	8/6/2014	4.0	1.95	1.5	0.010			0.37	80.38	46	6.70	31		4.90	
9	Goodnow F	8/23/2014		2.05	1.5	0.008			0.31	83.98	47	7.02	30	4.1	4.70	
9	Goodnow F	9/29/2014	4.0	2.25	1.5	0.015			0.39	59.48	39	7.67	33		7.80	
9	Goodnow F	6/6/2015	3.8	2.00	1.5	0.011	0.07	0.03	0.29	26.57	37	6.55	25	3.8	3.10	
9	Goodnow F	6/20/2015	4.3	1.90	1.5	0.011			0.38	35.47	55	7.93	22		1.30	
9	Goodnow F	8/1/2015	4.5	1.80	1.5		0.02	0.04	0.54		46	7.18	32		4.90	19.8
9	Goodnow F	8/22/2015	4.5	2.40	1.5	0.011			0.44	41.40	41	7.42	28		2.50	
9	Goodnow F	9/5/2015	4.2	2.40	1.5	0.027	0.00	0.04	0.26	9.56	35	7.70	29	5.0	1.60	
9	Goodnow F	9/25/2015	4.5	2.00	1.5	0.023			0.44	19.69	30	7.37	35		14.80	

LNum	PName	Date	Zsamp	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB-form	Shore HAB	
9	Goodnow F	6/26/1986	epi	20	19																
9	Goodnow F	7/2/1986	epi	15	20																
9	Goodnow F	7/9/1986	epi	23	22																
9	Goodnow F	7/16/1986	epi	16	11																
9	Goodnow F	7/23/1986	epi	19	16																
9	Goodnow F	7/31/1986	epi	17	19																
9	Goodnow F	8/7/1986	epi	20	19																
9	Goodnow F	8/14/1986	epi	15	18																
9	Goodnow F	8/20/1986	epi	16	18																
9	Goodnow F	8/28/1986	epi	8	14																
9	Goodnow F	9/4/1986	epi	12	16																
9	Goodnow F	9/11/1986	epi	16	15																
9	Goodnow F	9/18/1986	epi	5	12																
9	Goodnow F	9/24/1986	epi	22	12																
9	Goodnow F	10/2/1986	epi	14																	
9	Goodnow F	6/20/1987	epi																		
9	Goodnow F	7/19/1987	epi	26	23																
9	Goodnow F	8/2/1987	epi	25	22																
9	Goodnow F	8/10/1987	epi	19	21																
9	Goodnow F	8/16/1987	epi	34	24																
9	Goodnow F	8/30/1987	epi	23	19																
9	Goodnow F	9/4/1987	epi	14	13																
9	Goodnow F	9/12/1987	epi	11	18																
9	Goodnow F	9/16/1987	epi	12	16																
9	Goodnow F	9/23/1987	epi	14	15																
9	Goodnow F	6/19/1988	epi	29	17																
9	Goodnow F	7/4/1988	epi	25	20																
9	Goodnow F	7/24/1988	epi	21	24																
9	Goodnow F	8/1/1988	epi	20	25																
9	Goodnow F	8/6/1988	epi	22	26																
9	Goodnow F	8/15/1988	epi	30	27																
9	Goodnow F	8/21/1988	epi	23	21																
9	Goodnow F	8/29/1988	epi	16	19																
9	Goodnow F	9/5/1988	epi	15	18																
9	Goodnow F	9/25/1988	epi	18	16																
9	Goodnow F	7/4/1989	epi	27	24																
9	Goodnow F	7/18/1989	epi	28	23																
9	Goodnow F	7/25/1989	epi	30	25																
9	Goodnow F	8/8/1989	epi	20	21																
9	Goodnow F	8/15/1989	epi	23	22																
9	Goodnow F	8/29/1989	epi	25	19																
9	Goodnow F	9/4/1989	epi	22	18																
9	Goodnow F	7/2/1990	epi	29	21																

LNum	PName	Date	Zsamp	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB-form	Shore HAB
9	Goodnow F	7/17/1990	epi	24	22															
9	Goodnow F	7/31/1990	epi	21	23															
9	Goodnow F	8/14/1990	epi	23	20															
9	Goodnow F	8/21/1990	epi	22	20															
9	Goodnow F	8/27/1990	epi	24	23															
9	Goodnow F	9/3/1990	epi	18	21															
9	Goodnow F	9/23/1990	epi	9	12															
9	Goodnow F	7/6/1993	epi	27	24	2	2	2												
9	Goodnow F	7/26/1993	epi	20	20	2	2	1	0											
9	Goodnow F	8/24/1993	epi	21	21	2	3	2	5											
9	Goodnow F	9/19/1993	epi	10	13	1	3	1	5											
9	Goodnow F	6/1/1997	epi	15	15	3	1	2	5											
9	Goodnow F	6/15/1997	epi	20	18	3	2	2	1											
9	Goodnow F	6/30/1997	epi	28	24	3	2	2												
9	Goodnow F	7/13/1997	epi	26	24	3	3	2	1											
9	Goodnow F	7/27/1997	epi	21	23	3	3	3	15											
9	Goodnow F	8/11/1997	epi	23	24	3	3	3	1											
9	Goodnow F	8/24/1997	epi	21	21	3	3	3	1											
9	Goodnow F	9/6/1997	epi	21	19	3	3	3	15											
9	Goodnow F	6/21/1998	epi	24	21	3	2	2	1											
9	Goodnow F	7/5/1998	epi	20	22	3	3	2	1											
9	Goodnow F	7/20/1998	epi	26	25	3	3	2	1											
9	Goodnow F	8/2/1998	epi	26	22	3	3	2	1											
9	Goodnow F	8/15/1998	epi	26	24	3	3	3	1											
9	Goodnow F	8/30/1998	epi	19	22	3	3	3	1											
9	Goodnow F	9/13/1998	epi	21	18															
9	Goodnow F	10/4/1998	epi	15	13	3	2	2	1											
9	Goodnow F	6/6/1999	epi	22	21	3	3	2	1											
9	Goodnow F	6/19/1999	epi	20	22	3	3	2	1											
9	Goodnow F	7/4/1999	epi	31	26	3	3	2	1											
9	Goodnow F	7/18/1999	epi	27	25	3	3	2	1											
9	Goodnow F	7/31/1999	epi	33	27	3	3	2	1											
9	Goodnow F	8/15/1999	epi	24	22	3	3	2	1											
9	Goodnow F	8/29/1999	epi	25	22	3	3	2	1											
9	Goodnow F	9/19/1999	epi	20	16	3	3	2	1											
9	Goodnow F	5/27/2000	epi	15	15	3	1	2	15											
9	Goodnow F	6/18/2000	epi	15	19	3	2	2	15											
9	Goodnow F	6/30/2000	epi	26		3	3	2												
9	Goodnow F	7/2/2000	epi	27	23	3	3	2	1											
9	Goodnow F	7/17/2000	epi	24	22	3	3	2	15											
9	Goodnow F	8/13/2000	epi	24	22	3	3	2	1											
9	Goodnow F	9/3/2000	epi	22	23	3	3	2	1											
9	Goodnow F	9/16/2000	epi	14	18	3	3	2	15											
9	Goodnow F	5/27/2006	epi	20	15	3	1	2	15											
9	Goodnow F	6/11/2006	epi	12	16	3	3	2	15											
9	Goodnow F	6/24/2006	epi	27	23	3	3	2	1											
9	Goodnow F	7/8/2006	epi	22	22	3	3	2	0											
9	Goodnow F	7/29/2006	epi	25	23	3	3	2	1											
9	Goodnow F	8/12/2006	epi	21	22	3	3	2	1											
9	Goodnow F	9/2/2006	epi	16	19	3	3	2	15											
9	Goodnow F	7/4/2007	epi	21	20	3	3	2	1											
9	Goodnow F	7/27/2007	epi	26	24	3	3	2	1											
9	Goodnow F	8/4/2007	epi	22	25															
9	Goodnow F	8/18/2007	epi	15	20	3	3	2	15											
9	Goodnow F	10/4/2007	epi	26	19	3	3	2	1											
9	Goodnow F	6/1/2008	epi	13	16	2	1	2	15											
9	Goodnow F	6/14/2008	epi	27	24	2	2	2	1											
9	Goodnow F	7/7/2008	epi	32	25	3	3	2	0											
9	Goodnow F	7/17/2008	epi	26	25	3	3	2	1											
9	Goodnow F	8/9/2008	epi	26	20	3	3	2	1											
9	Goodnow F	8/24/2008	epi	24	22	3	3	2	18											

LNum	PName	Date	Zsamp	TAir	TH20	QA	QB	QC	QD	QF	QG	AQ-PC	AQ-Chla	MC-LR	Ana-a	Cylin	FP-Chl	FP-BG	HAB-form	Shore HAB
9	Goodnow F	9/21/2008	epi	22	18	3	3	2	1											
9	Goodnow F	06/19/2009	epi	24	20	3	3	2	1											
9	Goodnow F	06/27/2009	epi	26	23	3	3	2	5											
9	Goodnow F	07/18/2009	epi	24	22	3	3	3	18											
9	Goodnow F	08/02/2009	epi	20	22	3	3	2	15											
9	Goodnow F	08/23/2009	epi	26	25	3	3	2	1											
9	Goodnow F	09/05/2009	epi	24	21	3	3	2	1			27.6								
9	Goodnow F	09/26/2009	epi	20	17	3	3	2	1			24.7								
9	Goodnow F	5/29/2010	epi	26	23	3	3	2	1	0	0									
9	Goodnow F	6/13/2010	epi	21	18	3	3	2	1	0	0									
9	Goodnow F	7/5/2010	epi	26	22	3	3	2	0	0	0									
9	Goodnow F	7/24/2010	epi	27	24	3	3	2	1	0	0									
9	Goodnow F	8/6/2010	epi	21	23	3	3	2	1	0	0									
9	Goodnow F	9/5/2010	epi	18	23	3	3	2	15	0	0									
9	Goodnow F	9/14/2010	epi	16	16	3	3	2	1	0	0									
9	Goodnow F	6/10/2011	epi	28	29	3	3	2	1	0	0									
9	Goodnow F	6/26/2011	epi	22	20	3	2	2	5	0	0	6.20	4.90							
9	Goodnow F	7/10/2011	epi									6.00	4.20							
9	Goodnow F	7/24/2011	epi	17	22	3	3	2	0	0	0	12.00	5.30							
9	Goodnow F	8/6/2011	epi	28	25	3	3	2	1	0	0	19.50	7.10							
9	Goodnow F	8/27/2011	epi	27	22	3	3	2	1	0	0	5.50	4.00							
9	Goodnow F	9/10/2011	epi	23	20	3	3	1	0	0	0	5.40	4.60							
9	Goodnow F	6/10/2012	epi	28	22	2	3	2		0	0	3.10	0.40	<0.30	<0.328		0.80	0.10	FI	
9	Goodnow F	6/23/2012	epi	25	25	3	3	2	0	0	0	2.30	0.40	<0.30	<0.328		1.70	0.50	I	
9	Goodnow F	7/8/2012	epi	24	25	3	3	2	1	0	0	2.30	0.40	<0.30	<0.328		1.70	0.90	I	
9	Goodnow F	8/12/2012	epi	28	22	3	3	2	0	0	0	5.00	1.10	0.48	<0.552		2.78	1.48	I	
9	Goodnow F	9/15/2012	epi	14	19	3	3	2	1	0	0	3.00	0.60	0.51	<3.299		1.22	0.44		
9	Goodnow F	5/31/2014	epi	21	19							0.05	1.20	<1.83	<0.17	<0.001	0.30	0.00	I	I
9	Goodnow F	6/14/2014	epi	16	18	3	3	2	15	0	0	1.80	0.30	<0.47	<0.44	<0.002	0.80	0.00	I	I
9	Goodnow F	7/5/2014	epi	25	23	3	3	2	1	0	0	1.20	0.40	<0.40	<0.21	<0.003	0.90	0.00	I	I
9	Goodnow F	8/6/2014	epi	22	22	3	3	2	1	0	0	8.10	0.30	<0.64	<0.03	<0.001	0.80	0.00	I	I
9	Goodnow F	8/23/2014	epi	21	21	3	3	2	1	0	0	3.40	0.30	<0.64	<0.03	<0.001	1.20	0.00	I	I
9	Goodnow F	9/29/2014	epi	18	17	3	3	2	0	0	0	2.10	0.20	<0.73	<0.06	<0.001	0.70	0.10	I	I
9	Goodnow F	6/6/2015	epi	22	19	2	3	2	0	0	0	9.60	0.60	<0.55	<0.018	<0.139	1.00	0.00	I	
9	Goodnow F	6/20/2015	epi	25	20	3	3	2	5	0	0	7.20	0.50	<0.86	<0.008	<0.046	1.20	0.00	I	
9	Goodnow F	8/1/2015	epi	23	24	3	3	2	1	0	0	2.69	0.47	<0.18	<0.002	<0.009	1.70	0.00	I	I
9	Goodnow F	8/22/2015	epi	27	25	2	3	2	1	0	0			<0.49	<0.031	<0.028	0.40	0.00	I	I
9	Goodnow F	9/5/2015	epi	27	24	2	3	2	0	0	0	9.70	0.60	<0.30	<0.007	<0.035	2.00	0.30	I	I
9	Goodnow F	9/25/2015	epi	20	19	3	3	2	0	0	0	2.80	0.50	<0.30	<0.007	<0.035	0.40	0.00	I	I

Legend Information

<i>Indicator</i>	<i>Description</i>	<i>Detection Limit</i>	<i>Standard (S) / Criteria (C)</i>
General Information			
Lnum	lake number (unique to CSLAP)		
Lname	name of lake (as it appears in the Gazetteer of NYS Lakes)		
Date	sampling date		
Field Parameters			
Zbot	lake depth at sampling point, meters (m)		
Zsd	Secchi disk transparency or clarity	0.1m	1.2m (C)
Zsamp	water sample depth (m) (epi = epilimnion or surface; bot = bottom)	0.1m	none
Tair	air temperature (C)	-10C	none
TH20	water temperature (C)	-10C	none
Laboratory Parameters			
Tot.P	total phosphorus (mg/l)	0.003 mg/l	0.020 mg/l (C)
NOx	nitrate + nitrite (mg/l)	0.01 mg/l	10 mg/l NO3 (S), 2 mg/l NO2 (S)
NH4	total ammonia (mg/l)	0.01 mg/l	2 mg/l NH4 (S)
TN	total nitrogen (mg/l)	0.01 mg/l	none
TN/TP	nitrogen to phosphorus (molar) ratio, = (TKN + NOx)*2.2/TP		none
TCOLOR	true (filtered) color (ptu, platinum color units)	1 ptu	none
pH	powers of hydrogen (S.U., standard pH units)	0.1 S.U.	6.5, 8.5 S.U. (S)
Cond25	specific conductance, corrected to 25C (umho/cm)	1 umho/cm	none
Ca, Cl	calcium, chloride (mg/l)	1 mg/l	none
Chl.a	chlorophyll a (ug/l)	0.01 ug/l	none
Fe	iron (mg/l)	0.1 mg/l	1.0 mg/l (S)
Mn	manganese (mg/l)	0.01 mg/l	0.3 mg/l (S)
As	arsenic (ug/l)	1 ug/l	10 ug/l (S)
AQ-PC	Phycocyanin (aquafior) (unitless)	1 unit	none
AQ-Chl	Chlorophyll a (aquafior) (ug/l)	1 ug/l	none
MC-LR	Microcystis-LR (ug/l)	0.01 ug/l	1 ug/l potable (C) 20 ug/l swimming (C)
Ana	Anatoxin-a (ug/l)	variable	none
Cyl	Cylindrospermopsin (ug/l)	0.1 ug/l	none
FP-Chl, FP-BG	Fluoroprobe total chlorophyll, fluoroprobe blue-green chlorophyll (ug/l)	0.1 ug/l	none
Lake Assessment			
QA	water quality assessment; 1 = crystal clear, 2 = not quite crystal clear, 3 = definite algae greenness, 4 = high algae levels, 5 = severely high algae levels		
QB	aquatic plant assessment; 1 = no plants visible, 2 = plants below surface, 3 = plants at surface, 4 = plants dense at surface, 5 = surface plant coverage		
QC	recreational assessment; 1 = could not be nicer, 2 = excellent, 3 = slightly impaired, 4 = substantially impaired, 5 = lake not usable		
QD	reasons for recreational assessment; 1 = poor water clarity, 2 = excessive weeds, 3 = too much algae, 4 = lake looks bad, 5 = poor weather, 6 = litter/surface debris, 7 = too many lake users, 8 = other		
QF, QG	Health and safety issues today (QF) and past week (QG); 0 = none, 1 = taste/odor, 2 = GI illness humans/animals, 3 = swimmers itch, 4 = algae blooms, 5 = dead fish, 6 = unusual animals, 7 = other		
HAB form, Shore HAB	HAB evaluation; A = spilled paint, B = pea soup, C = streaks, D = green dots, E = bubbling scum, F = green/brown tint, G = duckweed, H = other, I = no bloom		

Appendix B- Priority Waterbody Listing for Goodnow Flow

Goodnow Flowage (1104-0293)

NoKnownImpct

Waterbody Location Information

Revised: 02/09/2007

Water Index No: H-484-P672a	Drain Basin: Upper Hudson River	
Hydro Unit Code: 02020001/040	Str Class: C(T)	Upper Hudson
Waterbody Type: Lake	Reg/County: 5/Essex Co. (16)	
Waterbody Size: 339.3 Acres	Quad Map: NEWCOMB (F-24-0)	
Seg Description: entire lake		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a
TMDL/303d Status: n/a ()

Resolution Potential:

Further Details

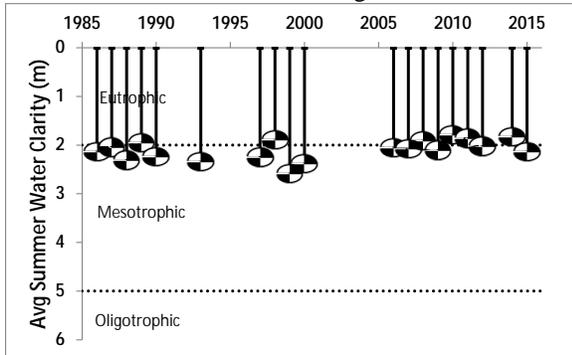
Goodnow Flowage has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1986 thru 1990 and from 1997 to the 1999. An Interpretive Summary report of the findings of this sampling was published in 2000. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake are below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements also meet what is minimally recommended for swimming beaches. (DEC/DOW, BWAM/CSLAP, January 2000)

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. These assessment indicate recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "excellent." The lake itself is most often described as having "definite algal greenness," however this does not appear to impact the perceived water quality in the lake so is likely attributable to normal/background conditions. Assessments have noted that aquatic plants are visible under the surface or occasionally grow to the lake surface. Aquatic plants in the lake are dominated by native species and have not been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, January 2000)

Appendix C- Long Term Trends: Goodnow Flow

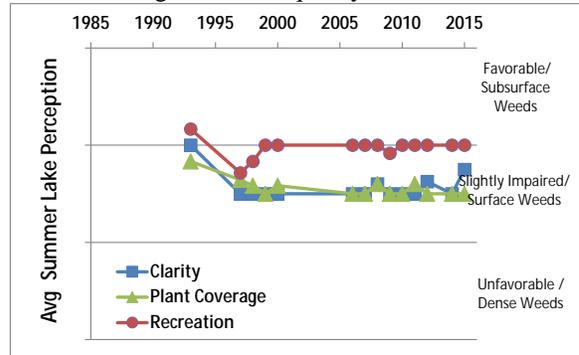
Long Term Trends: Water Clarity

- No trends apparent; perhaps very slight ↓
- Most readings typical of *mesoeutrophic* lakes, consistent with algae and color levels



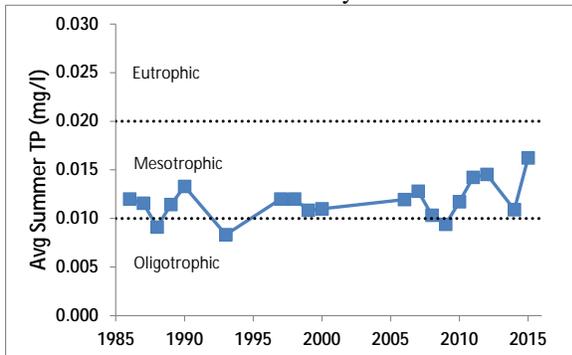
Long Term Trends: Lake Perception

- Aquatic plant coverage higher since late 90s
- Recreational perception not closely linked to changes in water quality or weeds



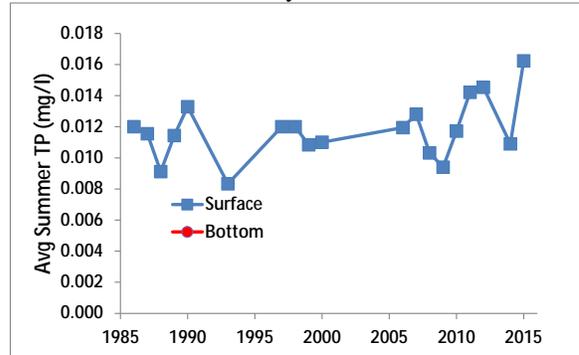
Long Term Trends: Phosphorus

- No trends apparent; perhaps slight ↑
- Readings typical of *mesoligotrophic* lakes, inconsistent with clarity but similar trend



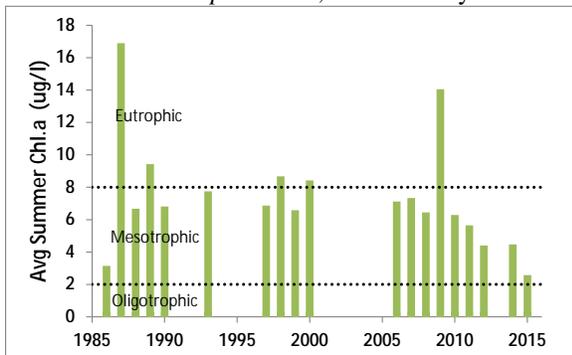
Long Term Trends: Bottom Phosphorus

- No bottom TP readings
- Likely that surface and bottom TP readings are similar in very shallow lakes



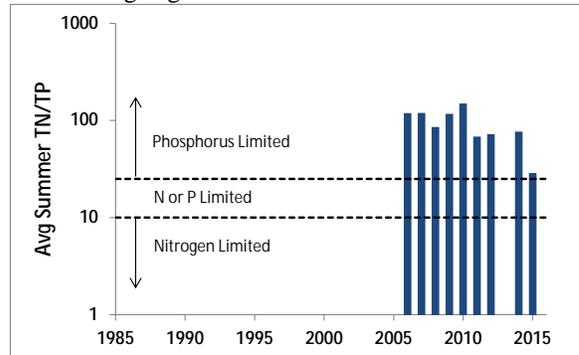
Long Term Trends: Chlorophyll a

- General ↓ but variable year to year
- Most readings < late 00s typical of *mesoeutrophic* lakes, but not lately



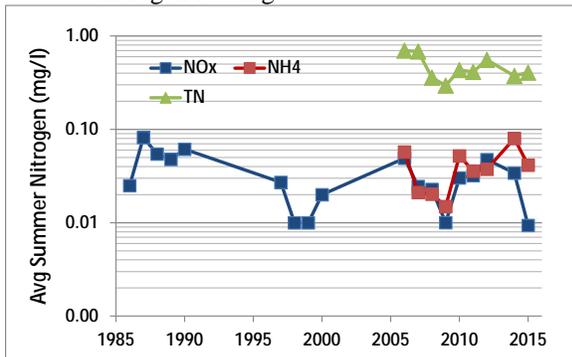
Long Term Trends: N:P Ratio

- No trends apparent, though slight decrease
- Most readings indicate phosphorus limits algae growth



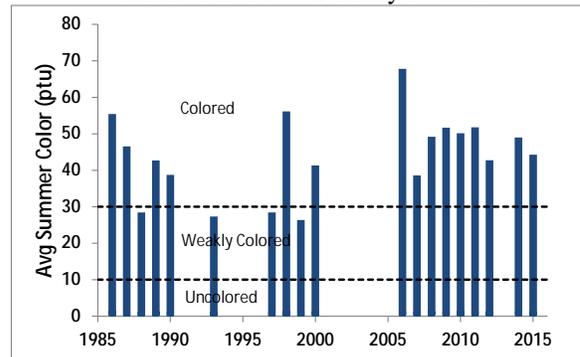
Long Term Trends: Nitrogen

- No trends apparent; slight ↓ NOx
- Generally low NOx, ammonia, and total nitrogen readings



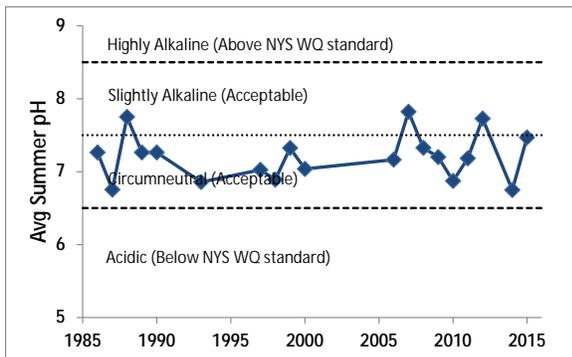
Long Term Trends: Color

- No trends apparent; variable color levels
- Most readings typical of *highly colored* lakes, which leads to lower clarity at times



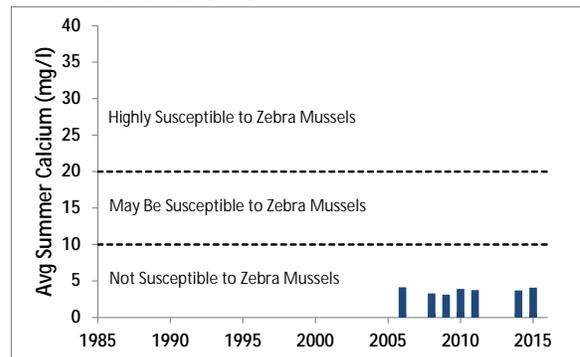
Long Term Trends: pH

- No trends apparent, but occasional low pH
- Most readings typical of *circumneutral* lakes



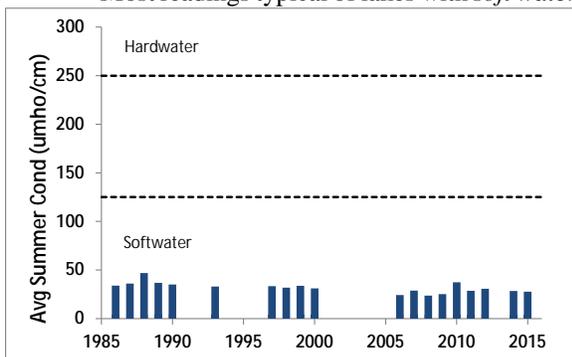
Long Term Trends: Calcium

- No trends apparent
- Most readings indicate low susceptibility to zebra mussels



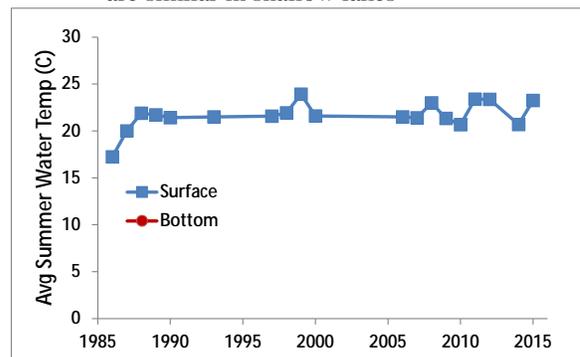
Long Term Trends: Conductivity

- Slight decrease in conductivity, but all readings have been consistently low
- Most readings typical of lakes with *soft water*



Long Term Trends: Water Temperature

- No trends apparent in surface temperatures
- Likely that surface and bottom temperatures are similar in shallow lakes



Appendix D: Algae Testing Results from SUNY ESF Study

Most algae are harmless, naturally present, and an important part of the food web. However excessive algae growth can cause health, recreational, and aesthetic problems. Some algae can produce toxins that can be harmful to people and animals. High quantities of these algae are called harmful algal blooms (HABs). CSLAP lakes have been sampled for a variety of HAB indicators since 2008. This was completed on selected lakes as part of a NYS DOH study from 2008-2010. In 2011, enhanced sampling on all CSLAP lakes was initiated through an EPA-funded project that has continued through the current sampling season. This study has evaluated a number of HAB indicators as follows:

- Algae types - blue green, green, diatoms, and "other"
- Algae densities
- Microscopic analysis of bloom samples
- Algal toxin analysis

Some of these results are reported in other portions of these reports. This appendix the seasonal change in blue green algae, other algae types, and the primary algal toxin (microcystin-LR, a liver toxin). Analysis was completed on open water samples and, for some lakes, shoreline samples that were collected when visual evidence of blooms were apparent. Results are compared to the DEC criteria of 25-30 ug/l blue green chlorophyll a and 20 ug/l microcystin-LR (based on the World Health Organization (WHO) threshold for unsafe swimming conditions) and the WHO provisional criteria for long-term protection of treated water supplies (= 1 ug/l microcystin-LR). The data for algae types are drawn from a high end fluorometer used by SUNY ESF. While these results are useful for timely approximation of lake conditions, they are not as accurate as the total chlorophyll results measured as a regular part of CSLAP since 1986 in all open water samples. Therefore these results are used judiciously in the assessment of sampled waterbodies.

Two separate samples are evaluated. A sample is taken at the CSLAP sample point at the deepest point of the lake at every sample session. In addition, shoreline samples can be taken when a bloom is visible. It should be noted that shoreline conditions can vary significantly over time and from one location to another. The shoreline bloom sampling results summarized below are not collected as routinely as open water samples, and therefore represent snapshots in time. It is assumed that sampling results showing high blue green algae and/or toxin levels indicate that algae blooms may be common and/or widespread on these lakes. However, the absence of elevated blue green algae and toxin levels does not assure the lack of shoreline blooms on these lakes. Elevated open water readings may indicate a higher likelihood of shoreline blooms, but in some lakes, these shoreline blooms have not been (well) documented.

The results from these samples are summarized within the CSLAP report for the lake.

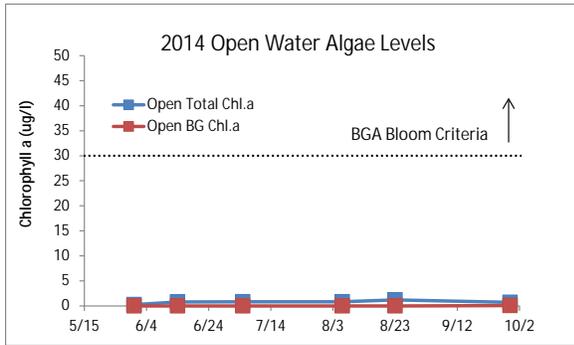


Figure D1:
2014 Open Water Total and BGA Chl.a

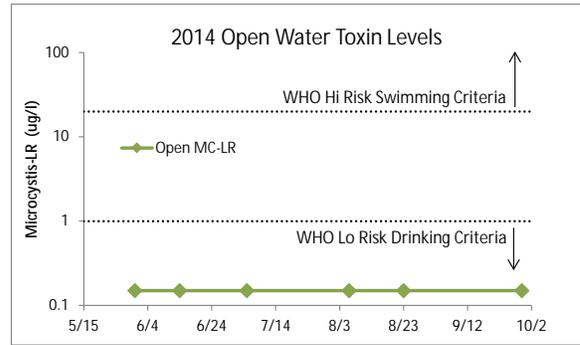


Figure D2:
2014 Open Water Microcystin-LR

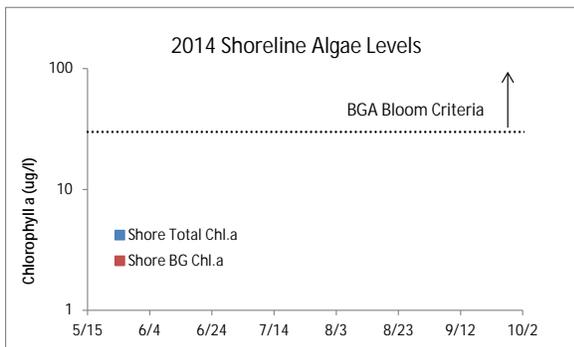


Figure D3:
2014 Shoreline Total and BGA Chl.a

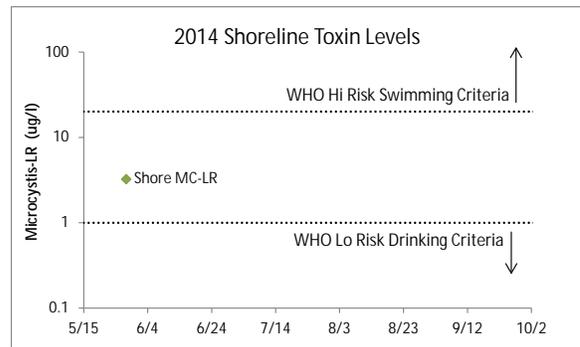


Figure D4:
2014 Shoreline Microcystin-LR

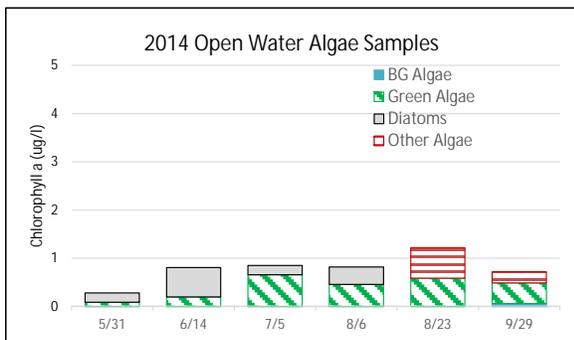


Figure D5:
2014 Open Water Algae Types

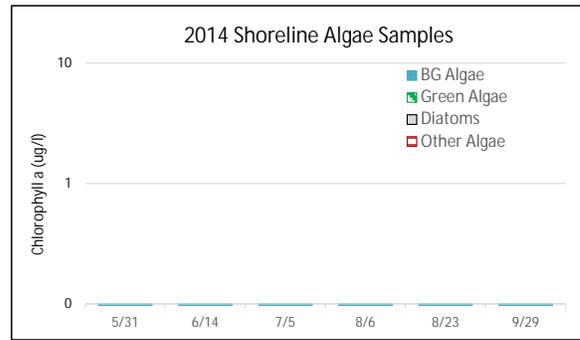


Figure D6:
2014 Shoreline Algae Types

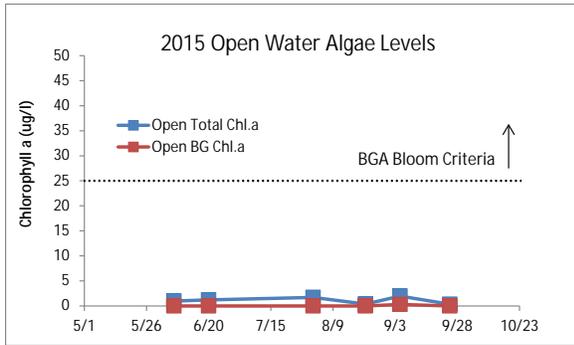


Figure D7:
2015 Open Water Total and BGA Chl.a

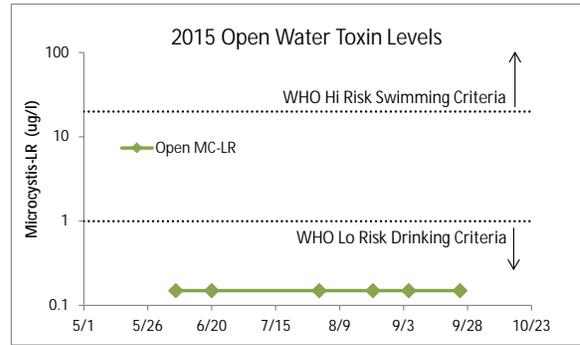


Figure D8:
2015 Open Water Microcystin-LR

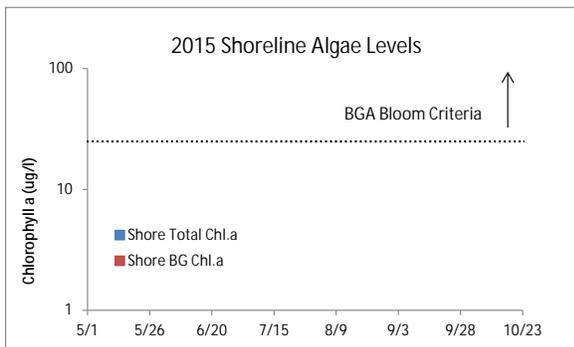


Figure D9:
2015 Shoreline Total and BGA Chl.a

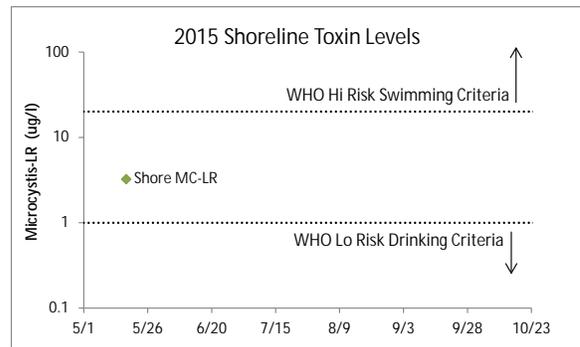


Figure D10:
2015 Shoreline Microcystin-LR

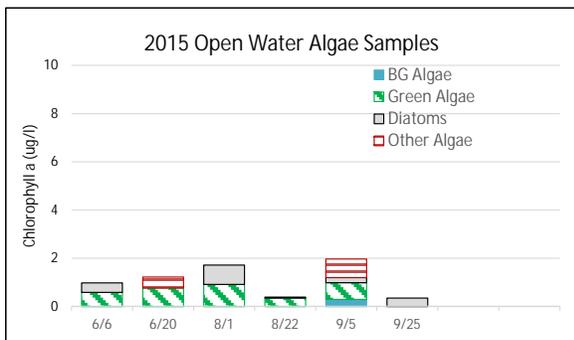


Figure D11:
2015 Open Water Algae Types

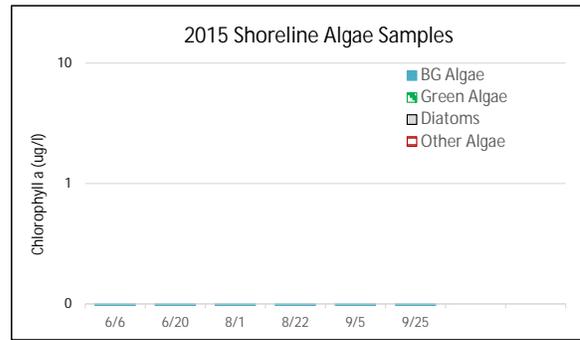


Figure D12:
2015 Shoreline Algae Types

Appendix E: AIS Species in Essex County

The table below shows the invasive aquatic plants and animals that have been documented in Essex County, as cited in either the iMapInvasives database (<http://www.imapinvasives.org/>) or in the NYSDEC Division of Water database. These databases may include some, but not all, non-native plants or animals that have not been identified as “Prohibited and Regulated Invasive Species” in New York state regulations (6 NYCRR Part 575; http://www.dec.ny.gov/docs/lands_forests_pdf/islist.pdf).

This list is not complete, but instead represents only those species that have been reported and verified within the county. If any additional aquatic invasive species (AIS) are known or suspected in these or other waterbodies in the county, this information should be reported through iMap invasives or by contacting NYSDEC at dowinfo@dec.ny.gov.

Aquatic Invasive Species - Essex County			
Waterbody	Kingdom	Common name	Scientific name
Augur Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Bartlett Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Butternut Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Chapel Pond	Animal	Allegheny crayfish	<i>Orconectes obscurus</i>
Eagle Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Franklin Falls Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Franklin Falls Pond	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Franklin Falls Pond	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Goodnow Flowage	Plant	Brittle naiad	<i>Najas minor</i>
Highlands Forge Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake Champlain	Animal	Spiny waterflea	<i>Bythotrephes longimanus</i>
Lake Champlain	Animal	Zebra mussel	<i>Dreissena polymorpha</i>
Lake Champlain	Plant	Variable watermilfoil	<i>Myriophyllum heterophyllum</i>
Lake Champlain	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake Champlain	Plant	Water chestnut	<i>Trapa natans</i>
Lake Eaton	Plant	European frogbit	<i>Hydrocharis morsus-ranae</i>
Lake Flower	Plant	Variable watermilfoil	<i>Myriophyllum heterophyllum</i>
Lake George	Animal	Zebra mussel	<i>Dreissena polymorpha</i>
Lake George	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Lake George	Animal	Virile crayfish	<i>Orconectes virilis</i>
Lake George	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Lake Placid	Plant	Variable watermilfoil	<i>Myriophyllum heterophyllum</i>
Lake Placid	Plant	Variable watermilfoil	<i>Myriophyllum heterophyllum</i>
Lincoln Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Long Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>

Waterbody	Kingdom	Common name	Scientific name
Long Pond	Animal	Allegheny crayfish	<i>Orconectes obscurus</i>
Minerva Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Mirror Lake	Plant	Broadleaf Water-milfoil	<i>Myriophyllum heterophyllum</i>
Mirror Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Nichols Pond	Animal	Allegheny crayfish	<i>Orconectes obscurus</i>
North Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Oseetah Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Paradox Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Paradox Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Paradox Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Penfield Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Putnam Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Rogers Pond	Plant	European frogbit	<i>Hydrocharis morsus-ranae</i>
Schroon Lake	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Schroon Lake	Plant	Curly leafed pondweed	<i>Potamogeton crispus</i>
Schroon Lake	Animal	Rudd	<i>Scardinius erythrophthalmus</i>
Webb Royce Swamp	Plant	European frogbit	<i>Hydrocharis morsus-ranae</i>
Woodruff Pond	Plant	Eurasian watermilfoil	<i>Myriophyllum spicatum</i>

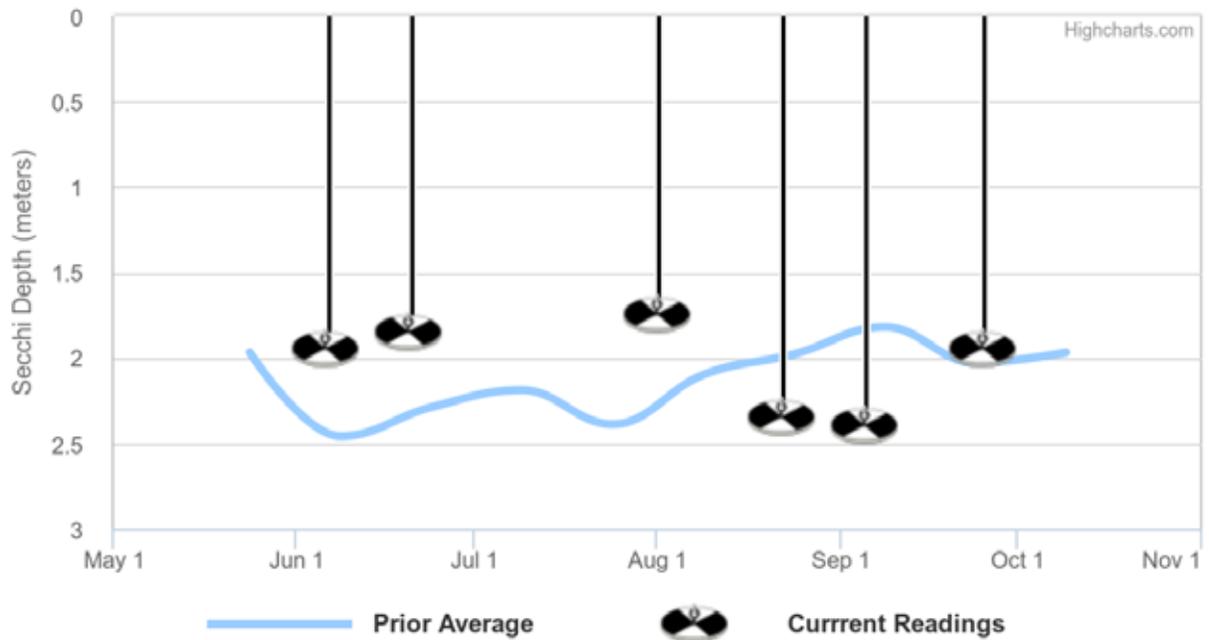
Appendix F: Current Year vs. Prior Averages for Goodnow Flow

Current Year Water Temperatures vs. Prior Average



This year's shallow water sample temperatures are tending to be higher than normal when compared to the average of readings collected from 1986 to 2012.

Current Year Secchi Readings vs. Prior Average



This year's session Secchi readings are tending to be higher than normal when compared to the average of readings collected from 1986 to 2014

Appendix G: Watershed and Land Use Map for Goodnow Flow

This watershed and land use map was developed using USGS StreamStats and ESRI ArcGIS using the 2006 land use satellite imagery. The actual watershed map and present land uses within this watershed may be slightly different due to the age of the underlying data and some limits to the use of these tools in some geographic regions and under varying flow conditions. However, these maps are intended to show the approximate extent of the lake drainage basin and the major land uses found within the boundaries of the basin.

