2014 Brantingham Lake Scorecard

Citizens Statewide Lake Assessment Program

Introduction

The Citizens Statewide Lake Assessment Program (CSLAP) is a volunteer lake monitoring and education program managed by DEC and the New York State Federation of Lake Associations (NYSFOLA). Lake information from a variety of sources, including CSLAP volunteers, is combined to create a scorecard for each CSLAP lake.

The purpose of the scorecard is to provide a quick and simple summary of sampling results for:

- water quality conditions
- biological health
- lake perception
- lake uses

The condition of each lake characteristic is represented by a color scale:

No color indicates the condition is not known due to insufficient data.

How information is turned into scores

CSLAP volunteers collect valuable lake water quality data using accepted scientific methods to evaluate nutrient enrichment, aquatic weed and algae growth, general lake conditions, and the recreational quality of a lake.

Water quality data is grouped and assigned scores related to the "health" (good or poor) of the lake. The scoring system is based on water quality standards, scientific principles and statistical analysis.

Tips for interpreting scorecard information

Each section of the scorecard includes a table identifying and describing lake characteristics and generally explains what they tell us about the lake's health. This table can be used to help interpret scorecard results.

Limitations of the information

Water quality assessments and summaries of lake perception provided in this scorecard are based on information collected by CSLAP, and could be different from assessments and summaries based on information collected by other sources.

Trend information (the positive or negative direction of lake health over time) is not available for every lake characteristic. Many years of data are needed to accurately assess trends. Trends are evaluated using statistical methods that are based on annual measurements. These methods separate short-term changes from long-term patterns, meaning a change from normal conditions in any one year may not represent a trend.

Biological health evaluations come from a variety of sources, including CSLAP. These evaluations will change as CSLAP biological data continues to be evaluated and as additional non-CSLAP information is provided to DEC and incorporated into the database.

Lake use assessments are made using state water quality standards and guidance values for a variety of water quality and use indicators, not just CSLAP data. Lake use assessments based solely on CSLAP data are incomplete.

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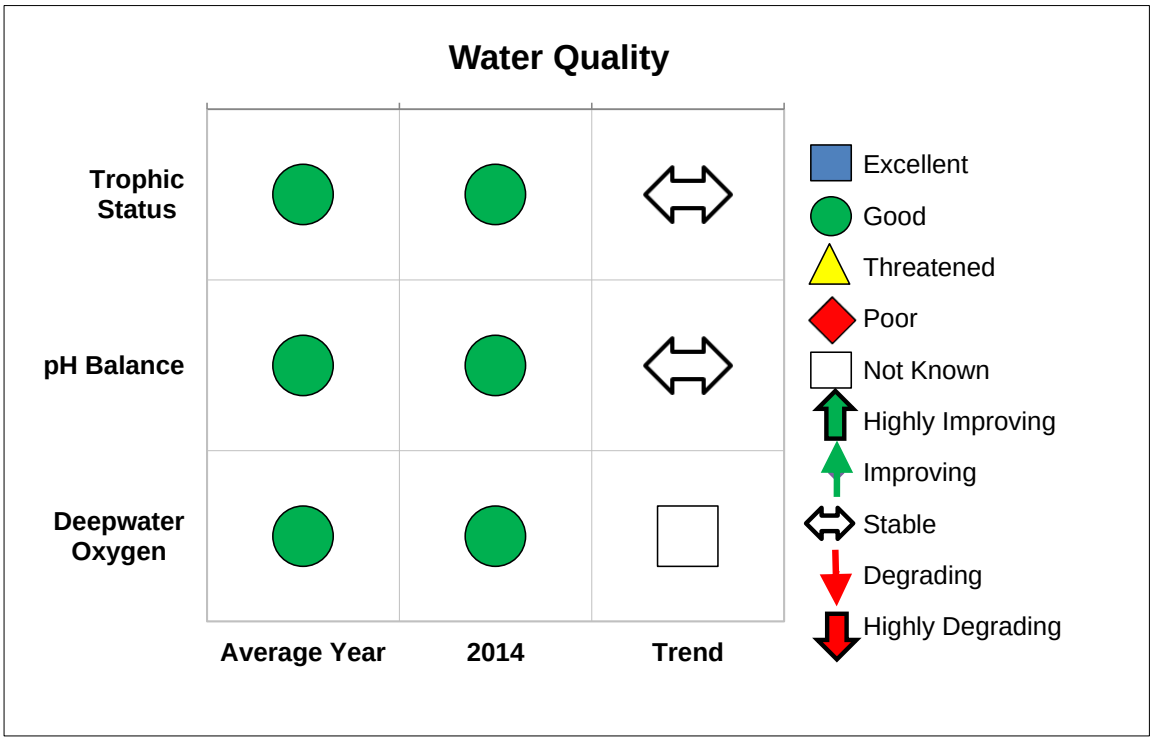
Water Quality Assessment

Water quality assessments are based on data collected from the deepest part of the lake every other week, for 15 weeks, from late spring through early fall. The data is used to evaluate a number of lake conditions, including algae growth (productivity or trophic status), pH and deepwater dissolved oxygen levels. There is not enough data to identify a trend in the deepwater oxygen levels for any CSLAP lake.



*All years of CSLAP data collection for the lake except those for which data was not available.

The following data is collected and analyzed to determine the water quality score.

Water quality characteristic	Score	Description of characteristic	What it means
Trophic Status	Total Phosphorus (TP)	TP is measured because it is an important nutrient that often controls the growth of algae and rooted plants.	Too much phosphorus can harm aquatic life, water supplies, and recreational uses by causing excessive algae growth.
	Chlorophyll *a*	Chlorophyll *a* is measured to estimate the amount of algae in a lake.	The amount of chlorophyll *a* is usually closely related to the amount of phosphorus and can affect water clarity.
	Secchi Disk	This is a device to measure how far down into the water you can see.	Water clarity is a strong indicator of the public's opinion of lake conditions.
pH Balance	pH	Water pH is measured to determine its acidity or alkalinity.	Values between 6 and 9 support most types of plant and animal life.
	Conductivity	Conductivity is measured to estimate the amount of dissolved and suspended solids in water, including salts and organic material.	High conductivity values may be related to geology or land use practices and can indicate susceptibility to changes in pH.
Deepwater Dissolved Oxygen	Phosphorus, ammonia, nitrite, iron, manganese, and arsenic	Dissolved oxygen (DO) is not measured directly, but can be inferred from the levels of certain chemicals in water samples collected near the lake bottom.	Dissolved oxygen is critical for the ecological balance of lakes. Low DO in bottom waters can affect the survival of fish and lake organisms and cause chemical changes in lakes.

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The water quality scores for each water quality characteristic are determined by the following:

Water quality characteristic	Score	Criteria Score Elements	How Criteria Are Used to Determine Score
Trophic Status	Excellent	Average value for each trophic indicator (water clarity, chlorophyll *a*, total phosphorus) assigned score of 3 if oligotrophic+, 2 if mesotrophic+, 1 if eutrophic+	Trophic score = 8 or 9 (two of three trophic indicators = oligotrophic, other is mesotrophic)
	Good		Trophic score = 6 or 7 (at least two trophic indicators = mesotrophic or "higher")
	Threatened		Trophic score = 4 or 5 (at least one trophic indicator = mesotrophic or "higher")
	Poor		Trophic score = 3 (all trophic indicators = "eutrophic")
pH Balance	Excellent	Average pH is evaluated against state water quality standards (should be above 6.5 and below 8.5) and average conductivity evaluated to determine if low buffering capacity against future pH change	pH between 7.5 and 8.5
	Good		pH between 7 and 7.5
	Threatened		pH above 8.5, pH between 6.5 and 7, or conductivity < 50 ug/l
	Poor		pH < 6.5
Deepwater Dissolved Oxygen	Excellent	Deepwater ammonia and phosphorus levels are compared to surface readings, and assigned a score of 3 if bottom readings are >10x surface readings and a score of 2 if bottom readings are >5x surface readings	Actual DO data indicating fully oxygenated conditions in stratified lakes to lake bottom
	Good		All shallow lakes assumed to be good absent data; deepwater scores = 1
	Threatened		Deepwater NH3 score + Deepwater TP score >3 or actual DO data indicating hypoxic conditions
	Poor		Deepwater NH3 score = 3 or actual DO data indicating anoxic conditions
	Not known		No deepwater O_2 or indicator data in stratified lake

+ trophic designations- oligotrophic = water clarity > 5 m, chlorophyll a < 2 ug/l, total phosphorus < 10 ug/l
mesotrophic = water clarity 2-5 m, chlorophyll a 2-8 ug/l, total phosphorus = 10-20 ug/l
eutrophic = water clarity < 2 m, chlorophyll a > 8 ug/l, total phosphorus > 20 ug/l

The water quality trends for each water quality characteristic and measure of lake perception are determined by the following:

Highly Improving: linear regression correlation coefficient (R^2) > 0.5 and p value < 0.01, with trend toward higher "score"

Improving: R^2 > 0.33 and p value < 0.05, or R^2 > 0.5 and p value < 0.05, or R^2 > 0.33 and p value < 0.01, with trend toward higher "score"

Stable: neither linear regression nor p value in statistically significant ranges as defined above

Degrading: R^2 > 0.33 and p value < 0.05, or R^2 > 0.5 and p value < 0.05, or R^2 > 0.33 and p value < 0.01, with trend toward lower "score"

Highly Degrading: R^2 > 0.5 and p value < 0.01, with trend toward lower "score"

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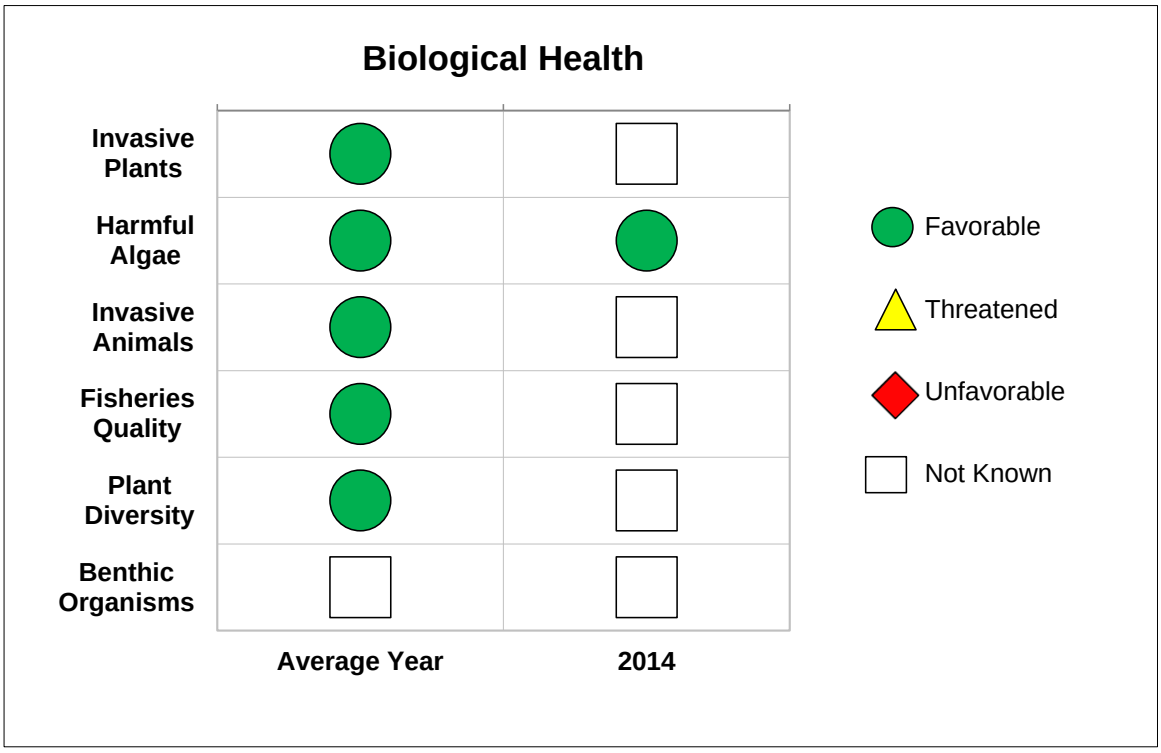
Biological Health

Biological health of lakes can be evaluated in a number of ways. For CSLAP lakes, biological health evaluations are based on the presence of invasive plants, the type and number of blue-green harmful algal blooms, the presence of invasive animals (zebra mussels, spiny waterflea, etc.), the types of fish, aquatic plant diversity, and the number of pollution sensitive aquatic insects.

Biotic indices have been developed to evaluate a few biological health characteristics. Biotic indices are used to compare the biological community of the lake being sampled to the biological community of a known high-quality lake. (Data to support biological health assessments is not available for all CSLAP lakes.)



* All years of CSLAP data collection for the lake except those for which data was not available.

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The following information is used to determine biological health scores.

Biological Health Characteristic	Description of characteristic	What it means
Invasive Plants	CSLAP volunteers survey lakes for nuisance, non-native plants (water chestnut, Eurasian water milfoil, etc.).	Abundant invasive plants can crowd out native and protected plants, create quality problems, and interfere with recreation. "Unfavorable" means at least one invasive plant species has been found. "Threatened" lakes are geographically close to an "infected" lake, or have water quality conditions that put them at higher risk for species invasion.
Harmful Algae	DEC and other biologists screen water samples for blue-green algae cell pigments and also test them for algal toxins.	Harmful algae can reduce oxygen levels and may cause harm to people recreating on the lake. "Unfavorable" means algal toxin readings are unsafe for water recreation; "threatened" means readings are approaching unsafe for water recreation.
Invasive Animals	DEC and other biologists survey lakes for nuisance, non-native animals (zebra mussels, spiny water flea, etc.).	Abundant invasive animals can harm native plant and animal species, influence the likelihood of algal blooms, and interfere with recreation. "Unfavorable" means at least one invasive animal has been found. "Threatened" lakes are geographically close to an "infected" lake, or have water quality conditions that put them at higher risk for species invasion.
Fisheries Quality	DEC and other fisheries biologists measure the length and weight of various species in a lake's fish community and conduct other measures of the health of the fisheries community.	Better fisheries quality indicates the lake has sufficient food resources and habitat to support its fish community. Several "biotic indices" are used to evaluate fish community quality.
Plant Diversity	CSLAP volunteers, academic researchers and consultants survey lakes for the number and types of aquatic plants.	Higher plant diversity indicates a more natural environment and helps prevent invasive species from taking over a lake. "Floristic quality indices" are used to evaluate plant communities.
Benthic Organisms	DEC and other biologists count and identify the types of bottom living (benthic) aquatic insects in a lake.	More pollution sensitive (intolerant) aquatic insects in a lake usually indicate good water quality and suitable habitat. "Biotic indices" are used to evaluate benthic communities.

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The biological health scores for each biological health characteristic are determined by the following:

Water quality characteristic	Score	Criteria Score Elements	How Criteria Are Used to Determine Score
Invasive Plants	Favorable	Aquatic plant surveys are conducted by CSLAP volunteers or by other organizations; invasive plants identified by plant expert	No evidence of invasive/exotic aquatic plants
	Threatened		Invasive plants found in nearby (<10 miles away) lakes or public launch is found on lake
	Unfavorable		Invasive/exotic aquatic plants found in lake
	Not Known		No aquatic plant surveys in lake (this year)
Harmful Algae	Favorable	Harmful algae bloom (HAB) sampling conducted in open water and along shoreline; total algae, algae species, phycocyanin (blue green pigment) and algal toxins analyzed in samples	All data show algae, phycocyanin and toxin levels below DEC bloom criteria+
	Threatened		Fluoroprobe or toxin levels exceed DEC threatened# criteria; phycocyanin levels exceed DEC bloom criteria, or visual evidence of blooms
	Unfavorable		Fluoroprobe or toxin levels exceed DEC bloom criteria in open water or shoreline
	Not Known		No HAB data available for lake
Invasive Animals	Favorable	Invasive animal (primarily zebra or quagga mussel) surveys are conducted on limited basis in CSLAP lakes; other AIS animals reported through iMapInvasives	No reports of invasive/exotic aquatic animals and no clear threats exist
	Threatened		Invasive animals found in nearby (<25 miles away) waterbodies AND public launch is found on lake, or calcium levels > 20 mg/l
	Unfavorable		Invasive/exotic aquatic animals found in lake
	Not Known		No information to evaluate presence of exotic animals
Fisheries Quality	Favorable	New York does not (yet) have a fish index for biotic integrity (IBI); for lakes with fishery survey data, Minnesota Fish IBI is used to evaluate fisheries quality	Fish IBI > 60 (= "good" and "excellent")
	Threatened		Fish IBI between 40 and 60 (= "fair")
	Unfavorable		Fish IBI < 40 (= "poor")
	Not Known		No fisheries data
Plant Diversity	Favorable	New York has not yet developed a floristic quality index (FQI); for lakes with detailed plant survey data, a modified version of the Wisconsin FQI and Florida aquatic plant designations are used for evaluating aquatic floristic quality	mFQI > 5 (= "good" quality), based on # genera
	Threatened		mFQI = 3-8 (= "fair" quality), based on # genera
	Unfavorable		mFQI < 3 (= "poor" quality), based on # genera
	Not Known		Insufficient plant survey data to evaluate
Benthic Organisms	Favorable	New York has not yet developed a macroinvertebrate IBI; for lakes with detailed macroinvertebrate survey data, Vermont IBI is used to evaluate benthic organism quality	IBI > 10-15 (based on # genera)
	Threatened		IBI between 8 and 15 (based on # genera)
	Unfavorable		IBI < 8
	Not Known		Insufficient macroinvertebrate data to evaluate benthic organisms quality

+ DEC bloom criteria- fluoroprobe blue green algae chlorophyll a = 30 ug/l
phycocyanin = 200 units
algal toxins- microcystin-LR = 20 ug/l ("high toxins") along shoreline, = 10 ug/l in open water

+ DEC threatened criteria- fluoroprobe blue green algae chlorophyll a = 10 ug/l
algal toxins- microcystin-LR = 4 ug/l along shoreline or in open water

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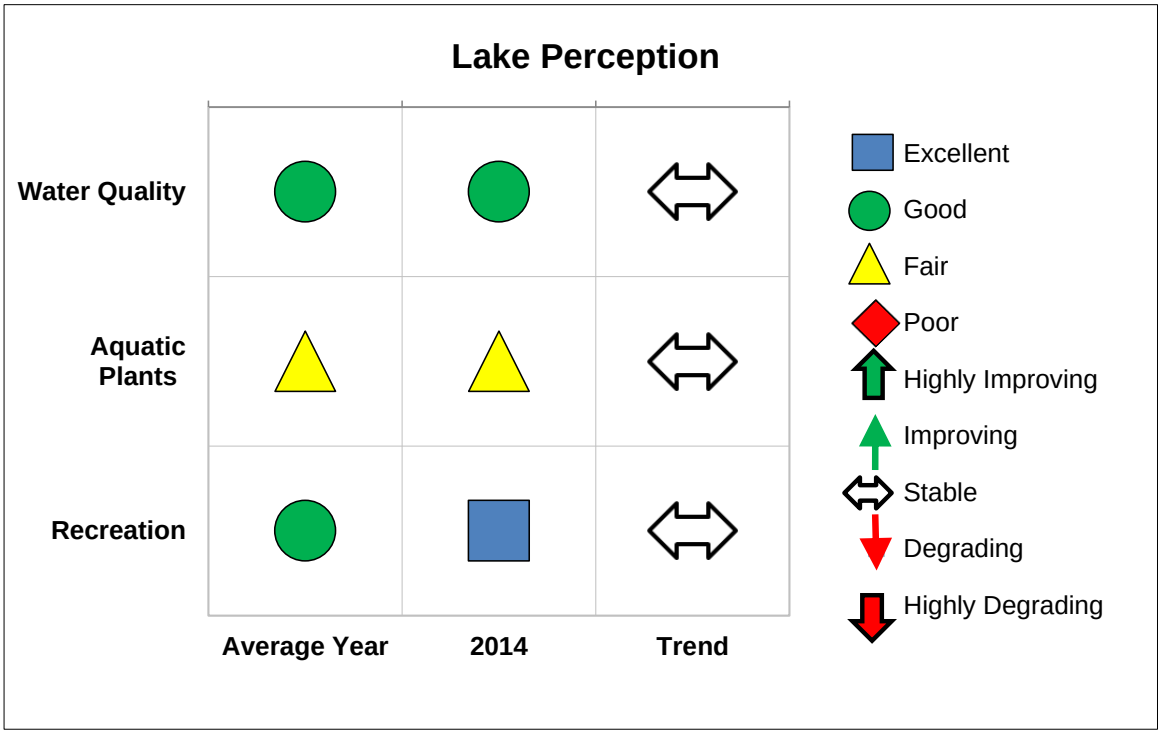
Lake Perception

Lake perception scores are based on the visual observations of CSLAP volunteers who answer questions on the Field Observation Form (http://www.dec.ny.gov/docs/water_pdf/cslapsamobs.pdf) completed during sampling. The questions ask the volunteer to determine their perceptions of how clear the water looks, the abundance of aquatic plants, conditions affecting current recreational use, and the overall recreational quality of the lake.

Visual observations are very closely connected to measured water quality conditions. This information is helpful to lake managers in deciding on nutrient criteria, or the amount of nutrients that can flow into a lake without compromising its water quality. For New York State lakes, perception data collected by CSLAP volunteers is critical to the development of nutrient criteria (defining "how much is too much") and has been consistently collected by CSLAP volunteers since 1992.



* All years of CSLAP data collection for the lake except those for which data was not available.

The following information is used to determine the lake perception scores.

Lake Perception Characteristic	Description of characteristic	What it means
Water Quality	Asks the user: How clear does the water look today?	Clearer water usually indicates lower nutrient levels.
Aquatic Plants	Asks the user: How abundant are aquatic plants where people are boating and swimming today?	Lower abundances of aquatic plants usually provide proper ecological balance and are less likely to contribute to recreational use problems, although the absence of plants can also lead to lake problems. Lakes with the most favorable assessments have some plants, but not too many plants.
Recreation	Asks the user: What is your opinion of the recreational quality of the lake? What factors affect your perception of the lake?	Users' perceptions are associated with water quality conditions and aquatic plant coverage. Positive responses usually indicate good water quality and little to no surface plant coverage. Negative responses are usually associated with poor water quality and/or invasive plants.

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The lake perception scores for each lake perception characteristic are determined by the following:

Lake perception characteristic	Score	Criteria Score Elements	How Criteria Are Used to Determine Score
Water Quality	Excellent	Water quality perception is evaluated on a 5 point scale during each CSLAP sampling session, ranging from "crystal clear" (=1) to "severely high algae levels" (=5); average values are computed	Average value < 1.5
	Good		Average value >1.5 and <2.5
	Fair		Average value >2.5 and <3.5
	Poor		Average value >3.5
Aquatic Plants	Excellent	Aquatic plant coverage is evaluated on a 5 point scale during each CSLAP sampling session, ranging from "not visible at lake surface" (=1) to "plants densely cover surface except in deepest areas" (=5); average values are computed	Average value >2 and <2.5
	Good		Average value >1.5 and < 2 OR > 2.5 and <3
	Fair		Average value >3 and <3.5 OR <1.5
	Poor		Average value > 3.5
Recreation	Excellent	Recreational conditions are evaluated on a 5 point scale during each CSLAP sampling session, ranging from "beautiful…could not be nicer" (=1) to "lake not usable" (=5); average values are computed	Average value < 1.5
	Good		Average value >1.5 and <2.5
	Fair		Average value >2.5 and <3.5
	Poor		Average value >3.5

+ lake assessments- **water quality** = 1 = crystal clear, 2 = not quite crystal clear, 3 = definite algae greenness, 4 = high algae levels, 5 = severely high algae levels
aquatic plants = 1 = no plants visible, 2 = plants below surface, 3 = plants at surface, 4 = plants dense at surface, 5 = surface plant coverage
recreation = 1 = could not be nicer, 2 = excellent, 3 = slightly impaired, 4 = substantially impaired, 5 = lake not usable

The water quality trends for each water quality characteristic and measure of lake perception are determined by the following:

Highly Improving:	linear regression correlation coefficient (R^2) > 0.5 and p value < 0.01, with trend toward higher "score"
Improving:	R^2 > 0.33 and p value < 0.05, or R^2 > 0.5 and p value < 0.05, or R^2 > 0.33 and p value < 0.01, with trend toward higher "score"
Stable:	neither linear regression nor p value in statistically significant ranges as defined above
Degrading:	R^2 > 0.33 and p value < 0.05, or R^2 > 0.5 and p value < 0.05, or R^2 > 0.33 and p value < 0.01, with trend toward lower "score"
Highly Degrading:	R^2 > 0.5 and p value < 0.01, with trend toward lower "score"

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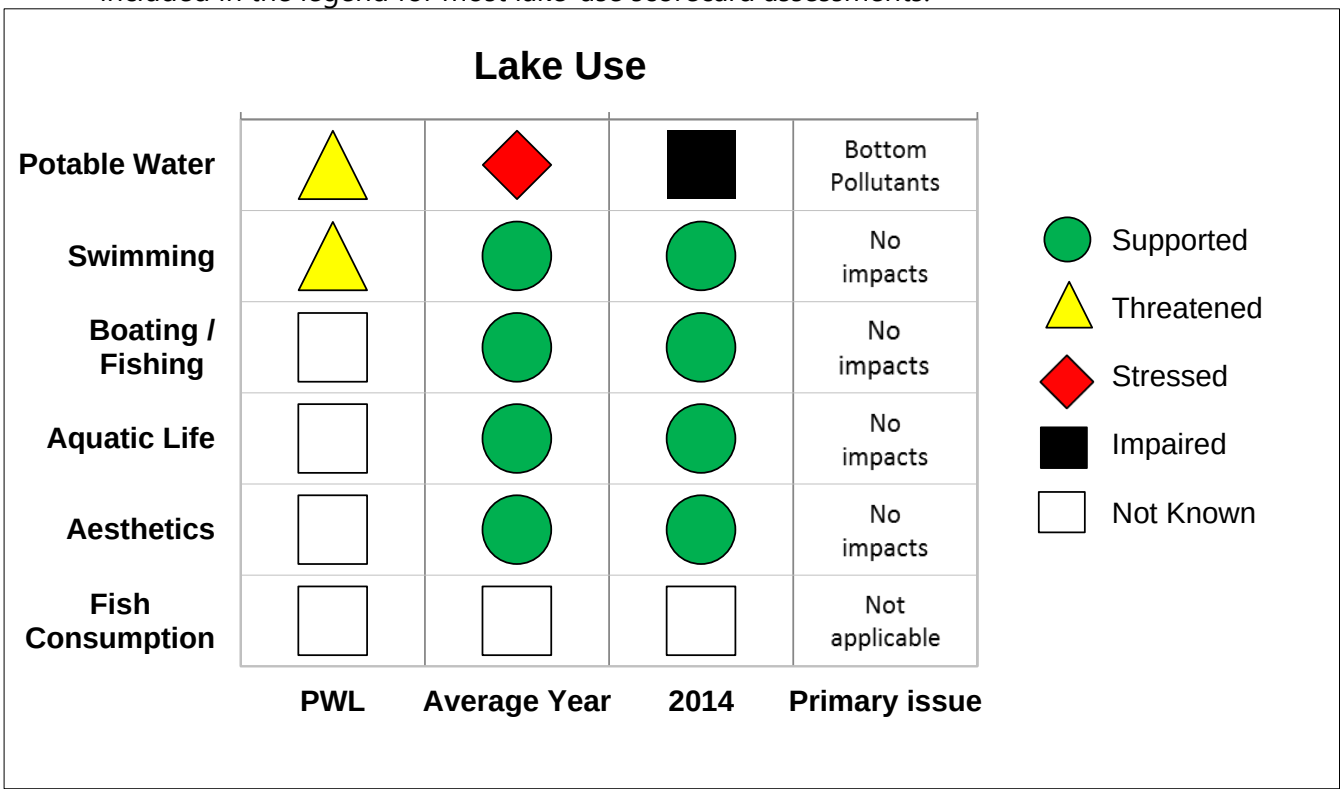
Lake Uses

Lake uses are defined as the best uses for a lake (drinking water, swimming, etc.) as determined by several factors. Lake uses are identified using CSLAP water quality, lake perception and biological assessment information to evaluate where a lake fits in the state Water Quality Standards and Classification system (see overview below).

Each lake use is scored based on the following assessment categories, using assessment methodology (http://www.dec.ny.gov/chemical/23846.html) established by DEC to evaluate impacts to lake uses:

- **Supported**- no evidence of impacts to lake use;
- **Threatened**- no evidence of impacts to lake use, but some factor threatens this use (for example, changing water quality, conditions that are nearing impact levels, land-use changes, etc.);
- **Stressed**- occasional or slight impacts to lake use;
- **Impaired**- frequent or persistent conditions limit or restrict lake use; and
- **Precluded**- conditions prevent lake use. This category is uncommon in NYS (and CSLAP) lakes and is not included in the legend for most lake-use scorecard assessments.



* All years of CSLAP data collection for the lake except those for which data was not available.

Overview of the typical water quality classification and their best uses. For more information visit www.dec.ny.gov/regs/4592.html#15990

Best use	Other uses	Water Quality Classification
Drinking	Swimming, fishing, and fish, shellfish and wildlife reproduction and survival	Class AA & A
Swimming	Fishing, and fish, shellfish and wildlife reproduction and survival	Class B
Fishing	Swimming, and fish, shellfish and wildlife reproduction and survival	Class C
Fishing	Swimming, and fish, shellfish, and wildlife survival	Class D

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The following information is used to determine the condition of lake uses.

Lake Use	Description of characteristic	How this relates to CSLAP
Potable Water	The lake is used for drinking water. Only Class AA and A lakes have been approved for this use.	CSLAP data is not intended to assess the condition of potable water. Other state and local monitoring programs better address this use. However, some CSLAP parameters–chlorophyll *a*, ammonia, arsenic, iron, manganese, algal toxins–indicate potential impacts to potability.
Swimming	The lake is used for swimming and contact recreation. Even though some lakes are not classified for this use, all CSLAP lakes should support this use consistent with the federal goal to make all lakes "swimmable."	Several CSLAP sampling indicators–water clarity, chlorophyll *a,* algal toxins, lake perception–can be used to assess swimming conditions.
Boating/Fishing	The lake is used for boating, fishing and non-contact recreation. Even though some lakes are not classified for this use, all CSLAP lakes should support this use, consistent with the federal goal to make all lakes "fishable."	Non-contact recreation is evaluated using the lake perception data (visual observations) and aquatic plant surveys.
Aquatic Life	The lake is used by aquatic life. This is not an official "use" designated by New York State, but water quality standards and other criteria are adopted to protect aquatic life.	Aquatic life impacts can be evaluated by a number of CSLAP indicators, including pH, dissolved oxygen, and the presence of invasive species.
Aesthetics	The lake is used for visual enjoyment or the visual beauty of the lake. This is not an official "use" designated by New York State, but water quality standards and other criteria are adopted to protect aesthetics.	Lake aesthetics can be impacted by a number of factors, including algal blooms, nuisance weeds, or simply reports that "the lake looks bad," all of which are evaluated in CSLAP.
Fish Consumption	The lake is used for consumption of fish. All lakes are assumed to support this use unless otherwise indicated.	CSLAP does not collect data or information to evaluate fish consumption. All CSLAP lakes are evaluated against the New York State Department of Health: Health Advice on Eating Fish You Catch (http://www.health.ny.gov/environmental/outdoors/fish/health_advisories/).

For many CSLAP lakes, some of the lakes designated uses have previously been evaluated; a summary of these assessments can be found on the DEC Priority Waterbody List (PWL) developed for each of the 17 major drainage basins in the state. These can be found at http://www.dec.ny.gov/chemical/23846.html. For some lakes, these are derived from historical assessments of CSLAP or other water quality data, while for others, no PWL assessments are yet available. The "rules" for these assessments are cited in the state Consolidated Assessment and Listing Methodology (CALM) (http://www.dec.ny.gov/chemical/23846.html) have changed several times over the last decade, and the CALM document continues to be updated as new assessment tools are evaluated and adopted. The first column of the scorecard reflects the most recent PWL assessment, if available, for each CSLAP waterbody. Non CSLAP data, including "institutional" data (treated water data, bacterial data, consumer confidence report (CCR) summaries, and need for enhanced treatment) may be used for PWL assessments, but are not summarized here.

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The lake use scores for each lake use characteristic are determined by the following:

Lake Use	Score	Criteria Score Elements	How Criteria Are Used to Determine Score
Potable Water	Supported	Surface water chlorophyll a and HABs data, and deepwater metals data are used to evaluate potable water use. Waterbodies not classified as potable water supplies cited as "not known"	No evidence of any criteria violations (see below)
	Threatened		Avg hypolimnetic NH_4 > 1, Fe > 0.5, As > 0.3, or Mn >1; avg open water MC-LR > 0.5
	Stressed		avg hypolimnetic NH_4 > 2, Fe > 1 or Mn >1; avg open water MC-LR > 1,
	Impaired		Avg chl.a > proposed NNC,, or hypolimnetic arsenic > 10 ug/l
	Not known		No chlorophyll or deepwater nutrient data
Swimming	Supported	Surface water chlorophyll a and HABs data, and lake perception data are used to evaluate potable water use. Swimming assessments included here reference only "contact recreation" in the PWL; "public bathing" is evaluated with bacteria and DOH beach data and is not included here	No evidence of any criteria violations (see below)
	Threatened		Avg TP > proposed NNC; >25% slightly impaired frequency recreation AND > 10% poor clarity triggering slight impairment
	Stressed		>10% Chl.a samples > proposed NNC; or >10% water clarity readings < proposed NNC; or single shoreline bloom MC-LR > 20; or open BG Chl > 30
	Impaired		Avg chl.a > proposed NNC; or open MC-LR > 20 ug/l or avg water clarity < proposed NNC; or multiple shoreline MC-LR > 20 and shore BG Chl > 30
	Not known		No chlorophyll, clarity, HAB or perception data
Boating/ Fishing	Supported	Aquatic plant coverage, as assessed via lake perception surveys, and present of AIS plants used to evaluate boating. Fishing evaluated by pH and conductivity (latter used to calculate morphoedalphic index, or MDI) Boating and fishing assessments cited here reference secondary contact recreation and are not cited on the PWL	No evidence of any criteria violations (see below)
	Threatened		>25% frequency of "dense surface weeds", or presence of AIS plants, or avg pH < 6.5, or MDI < 5
	Stressed		>50% frequency of recreational impacts from "excessive weeds" or MDI < 1
	Impaired		Impaired listings are not possible under present CALM methodology
	Not known		No aquatic plant, perception, pH or conductivity data
Aquatic Life	Supported	pH, (inferred) dissolved oxygen, and the presence of AIS species are used to evaluate aquatic life	No evidence of any criteria violations (see below)
	Threatened		DO (in 'Biological Health' scorecard) = "fair", or pH < 7 or > 8.5, or AIS plants OR animals present
	Stressed		DO (in 'Biological Health' scorecard) = "poor"; or pH < 6.5, or AIS plants AND animals present
	Impaired		DO (in 'Biological Health' scorecard) = "poor" in salmonid fishery
	Not known		No pH, DO, or AIS information available

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Lake Use	Score	Criteria Score Elements	How Criteria Are Used to Determine Score
Aesthetics	Supported	Aesthetics are evaluated through perception surveys and the presence of HABs and AIS species. "Aesthetics" is not recognized by EPA as a designated use, so it is evaluated as a "condition"	No evidence of any criteria violations (see below)
	Threatened		Max Chl.a> 30 ug/l, OR 1 occurrence of open water or shoreline bloom OR >50% frequency of recreational impacts from "excessive weeds" OR presence of AIS plant species
	Stressed		"Lake looks bad" cited >25% frequency in question 4 of perception survey; > 1 occurrence/ yr of open water or shoreline bloom
	Impaired		Impaired listings are not possible under present CALM methodology
	Not known		No perception, HAB or AIS information
Fish Consumption	Supported	Fish consumption is not evaluated through CSLAP- PWL listings are based on whether a waterbody is cited on the DOH Health Advice for Consumption of	No evidence of any criteria violations (see below)
	Threatened		'Harmful algae' listing of "unfavorable" on 'Biological Condition' scorecard
	Stressed		Fish tissue data indicates measurable level of contaminants but no listing on DOH Health Advice on Eating Sports Fish and Game
	Impaired		Waterbody cited on DOH Health Advice on Eating Sports Fish and Game
	Not known		No fish tissue data

+ proposed NNC (numeric nutrient criteria): for potable water: Class AA lakes: chlorophyll a = 4 ug/l; for Class A lakes = 6 ug/l;
proposed NNC (numeric nutrient criteria) for swimming: chlorophyll a = 10 ug/l (all classes); water clarity = 1.2 meters (= 4 feet), TP = 20 ug/l

Summary

The information displayed in the scorecard is intended to give a quick and comprehensive overview of the results from CSLAP assessments and lake data collected by DEC, academics and private consultants.

CSLAP scorecards summarize information related to water quality, lake perception, biological condition and lake uses. The data and other information collected through CSLAP, or other sources, contribute to the evaluation of lake uses.

This information is the basis for the water quality assessments conducted as part of DEC's waterbody inventory. More comprehensive summaries of CSLAP data are included in individual lake reports and regional and statewide CSLAP data summaries. To fully understand CSLAP lakes, those interested should review the information found in scorecards, individual lake summaries, and regional and statewide CSLAP reports.

CSLAP individual lake reports can be found on the Water Reports by County page of DEC's website (http://www.dec.ny.gov/lands/77821.html). Historical reports and regional lake reports are available on the New York State Federation of Lake Associations website (http://nysfola.mylaketown.com/).

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More information about CSLAP and NYS Lakes

Many resources are available to lake associations and citizens interested in lake management and ecology on DEC's website, including:

- Information about CSLAP history, sampling activities, forms, and lake association resources are available on DEC's Citizens Statewide Lake Assessment Program web page (http://www.dec.ny.gov/chemical/81576.html).
- Measured water quality variable fact sheets (http://www.dec.ny.gov/docs/water_pdf/cslaplkpara.pdf)
- Lake management publication, *Diet for a Small Lake* (http://www.dec.ny.gov/chemical/82123.html)
- DEC Google Maps and Earth data, including CSLAP Lakes (http://www.dec.ny.gov/pubs/42978.html)
- Boating in NYS (http://www.dec.ny.gov/outdoor/349.html)
- Fishing in NYS (http://www.dec.ny.gov/outdoor/fishing.html)
- Freshwater Fishes of NY (http://www.dec.ny.gov/animals/269.html)
- Lake Contour Maps (http://www.dec.ny.gov/outdoor/9920.html)
- NYS Watersheds, Lakes and Rivers (http://www.dec.ny.gov/lands/26561.html)
- Fish Health Advisories (http://www.dec.ny.gov/outdoor/7736.html)
- Routine Statewide Monitoring Program (water quality monitoring programs) (http://www.dec.ny.gov/chemical/23848.html)
- Common Aquatic Invasive Species of NY (http://www.dec.ny.gov/animals/50272.html)