

Oconto County Lakes Project



Oconto County Lakes Project Reports:

**State of the
Oconto County
Lakes**

Lake Study
Summary
Reports

**Operational Strategy and
Plan for Surface Water
Management and
Protection**

Lake
Management
Plans

LAKE JOHN MANAGEMENT PLAN

2020

VISION

Lake John will always be a quiet lake with clear water, great fishing and boating, and friendly neighbors that care for and protect their beloved water resource.

Lake John Management Plan

The authors would like to acknowledge the commitment and enthusiasm of Oconto County Lakes & Waterways Association, Oconto County Land and Water Conservation Department, UW Extension – Oconto County, Wisconsin Department of Natural Resources, UW-Stevens Point Water and Environmental Analysis Laboratory, landowners in the Lake John watershed, and participants in the Oconto County Lakes Project.

This plan was prepared by the Center for Watershed Science and Education at University of Wisconsin – Stevens Point.

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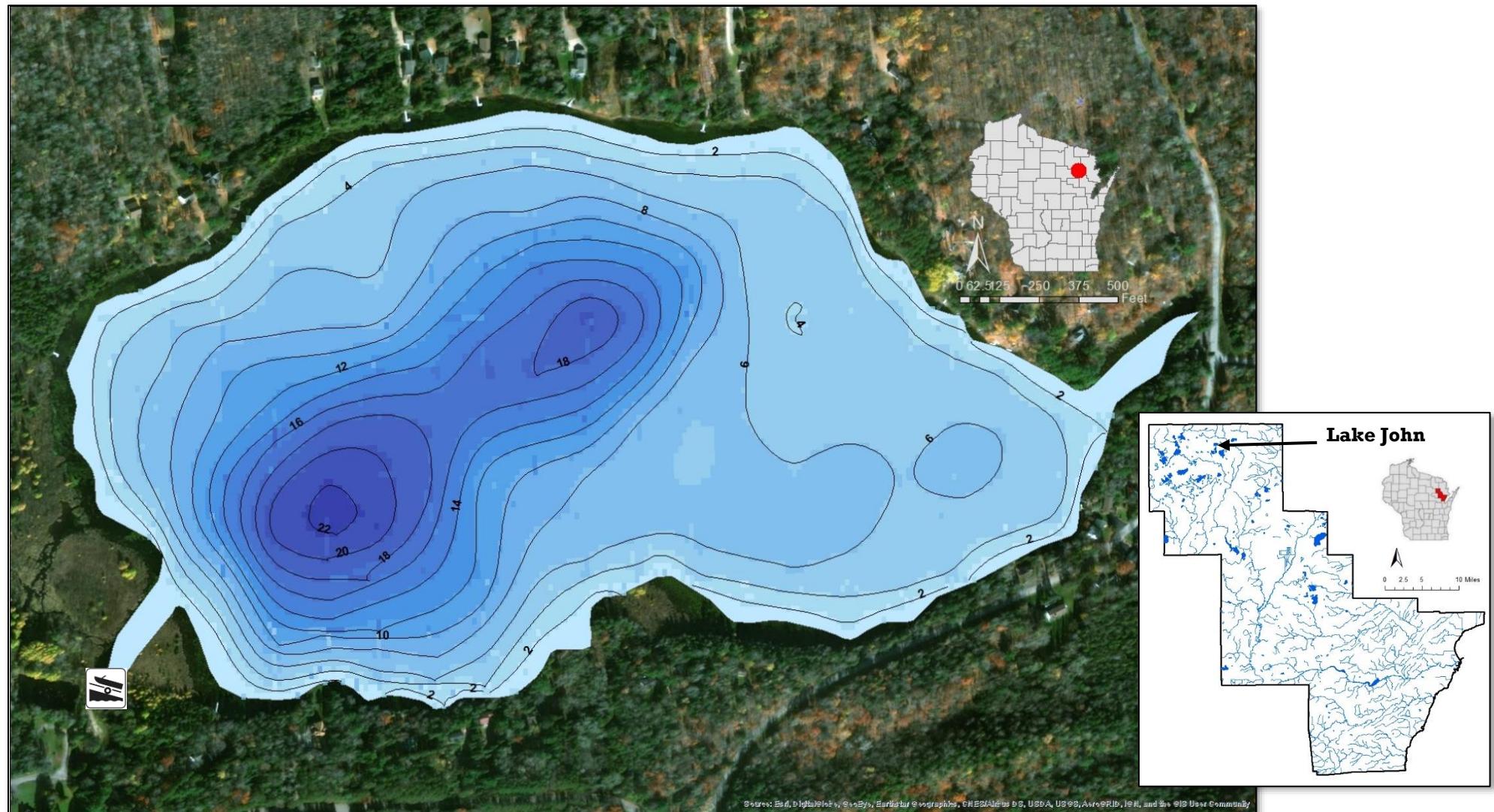
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Resource	Acronym or Truncated Name
Citizen Lake Monitoring Network	CLMN
Clean Boats Clean Waters	CBCW
Lumberjack Resource Conservation & Development Council	LRCD
Oconto County Land Conservation Dept.	OC LCD
Oconto County Board of Supervisors	OC Board
Oconto County Lakes and Waterways Association	OCLAWA
Town of Lakewood	TOL
University of Wisconsin - Extension	UWEX
UWSP Water & Environmental Analysis Laboratory	WEAL
UWSP Center for Watershed Science and Education	CWSE
USDA Natural Resources Conservation Service	NRCS
Wisconsin Department of Natural Resources	WDNR
Wisconsin Department of Transportation	WDOT

Background

ABOUT LAKE JOHN

Lake John is located in the Town of Lakewood, in northeast Wisconsin. This 99-acre drainage lake has a maximum depth of 23 feet with moderately clear water. Its bottom sediments are primarily muck with some sand. Visitors have access to the lake from one public boat landing on the lake's southwest side which is owned and maintained by the Town of Lakewood. Water enters from a stream draining Munger Lake on the south side and leaves via a tributary stream of the North Branch Oconto River on the lakes east side.



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

What Is A Lake Management Plan?

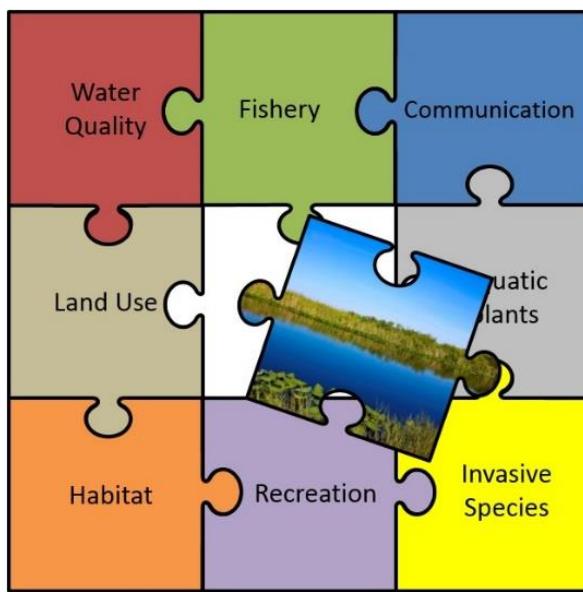
LAKE MANAGEMENT PLANS (LMP)

What is an LMP?

A management plan is a living document that changes over time to meet the current needs, challenges and desires of the lake and its community. Although each lake is different, the WDNR requires that each comprehensive lake management plan address a specific list of topics affecting the character of the lake, whether each topic has been identified as a priority, or as simply something to consider. In this way, every LMP considers the many aspects associated with lakes.

What is the purpose of this LMP?

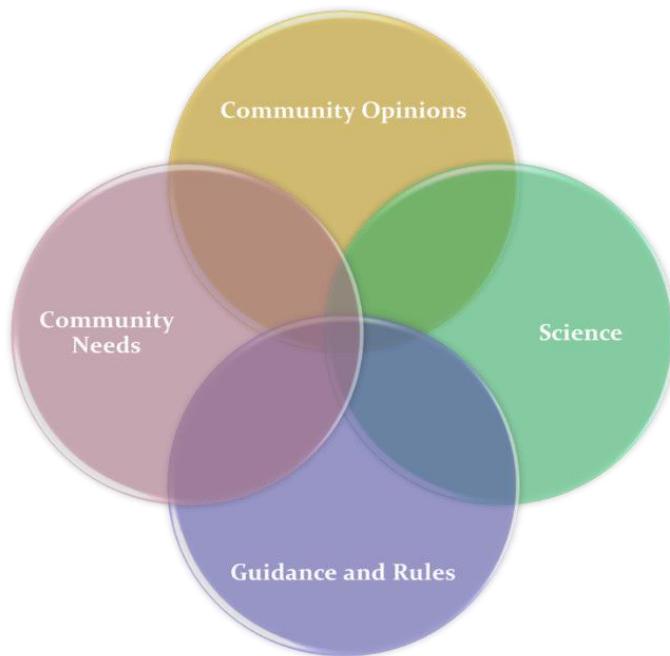
This plan was created to ensure that Lake John is healthy now and for future generations. It was designed to learn about Lake John and identify features important to the Lake John community, in order to provide a framework for the protection and improvement of the lake.



Implementing the content of this LMP will enable citizens and others to work together to achieve the vision for Lake John now and in the years to come. It is a dynamic document that identifies goals and action items for the purpose of maintaining, protecting and/or creating desired

conditions in the lake and identifies steps to correct past problems, improve on current conditions, and provide guidance for future boards, lake users, and technical experts.

Because many entities are involved in lake and land management, it can be challenging to navigate the roles, partnerships and resources that are available. The planning process and content of this plan have been designed to identify where some key assistance exists. The actions identified in this LMP can serve as a gateway for obtaining grant funding and other resources to help implement activities outlined in the plan.



How Was This Plan Created?

ABOUT THIS PLAN

One of the first steps in creating this plan was to gather and compile data about the lake and its ecosystem to understand past and current conditions. This was done in 2017-2018 alongside 5 other lakes as part of the Oconto County Lakes Project. The project was initiated by citizens in the Oconto County Lakes and Waterways Association who encouraged Oconto County to prioritize lake interests. This effort led to funding from the WDNR Lake Protection Grant Program. There was insufficient data available for many of the lakes to evaluate current water quality, aquatic plant communities, invasive species, and shorelands. The data that were available had been collected at differing frequencies or periods of time, making it difficult to compare lake conditions. Professionals and students from UW-Stevens Point, Oconto County Land Conservation Department, UW Extension, Oconto County citizens and WDNR staff collected the data for use in the development of lake management plans. Sources of information used in the planning process are listed at the end of this document.

Reports from the Lake John Study and the materials associated with the planning process and reports can be found on the Oconto County website: www.co.oconto.wi.us and navigating to Departments>Land Conservation>County Waterways>County-wide Lake Study.

THE PLANNING PROCESS

Who created the strategic plan?

This plan is the result of a stakeholder-driven effort which involved many partners combining insight, knowledge, and expertise throughout the process. Area residents, lake users, and representatives of local municipalities gathered at a public

meeting held on August 24, 2019 at the Lakewood Community Center to learn from one another and make decisions about the fishery, water quality, habitat, and land management in the Lake John watershed. Technical assistance during the planning process was provided by staff from OCLCD, UWEX, WDNR, and the CWSE.

How were various opinions incorporated?

Participation in the planning process was open to everyone and was encouraged by letters mailed to Lake John waterfront property owners and by press releases in local newspapers. In addition, those individuals and organizations who provided their information were provided with emails about upcoming meetings, which could be forwarded to additional contact lists. To involve and collect input from as many people as possible, including those who might not be able to attend the public meetings, an online survey was conducted. Property owners and interested lake users were notified about the survey and how to access it via direct mailings to waterfront property owners and associated lake organizations and press releases in local newspapers. The surveys could be filled out anonymously online, or paper copies were available upon request. Survey questions and responses were shared at the planning sessions and can be found in the Appendix.

How Is This Management Plan Used?

Who will use this plan?

- **Individuals:** Individuals can use this plan to learn about the lake they love and their connection to it. People living near Lake John can have the greatest influence on the lake by understanding and choosing lake-friendly options to manage their land and the lake.
- **A future lake association:** This plan provides an association with guidance for the whole lake and lists options that can easily be prioritized. Resources and funding opportunities for lake management activities are made more available by placement of goals into the lake management plan, and the association can identify partners to help achieve their goals for the lake.
- **Neighboring lake groups, sporting and conservation clubs:** Groups with similar goals for lake stewardship can combine their efforts and provide each other with support, improve competitiveness for funding opportunities, and make efforts more fun.
- **The Town of Lakewood:** Municipalities can utilize the visions, objectives, and goals documented in this lake management plan when considering town-level planning or decisions within the watershed that may affect the lake.
- **Oconto County:** County professionals will better know how to identify needs, provide support, base decisions, and allocate resources to assist in lake-related efforts documented in this plan. This plan can also inform county board supervisors in decisions related to Oconto County lakes, streams, wetlands, and groundwater.
- **Wisconsin Department of Natural Resources (WDNR):** Professionals working with lakes in Oconto County can use this plan as guidance for management activities and decisions related to the management of the resource, including the fishery, and invasive species. LMPs help them to identify and

prioritize needs, and where to apply resources. A well thought out lake management plan increases an application's competitiveness for funding from the State.

Who can help implement this plan?

Lead persons and resources are identified under each action in this plan. These individuals and organizations are able to provide information, suggestions, or services to achieve goals. The table on page 2 lists organization names and their common acronyms used in this plan. This list should not be considered all-inclusive – assistance may also be provided by other entities, consultants, and organizations.



Management Plan Structure

GOALS FOR LAKE JOHN

The foundation of any effective strategic plan is clear identification of goals and the steps needed to achieve the goals. The selected goals should achieve the overall vision for Lake John. This plan also identifies available resources within each objective.



The topics comprise the chapters in this plan and have been grouped as follows:

In-Lake Habitat and a Healthy Lake

Fish Community—fish species, abundance, size, important habitat and other needs

Aquatic Plant Community—habitat, food, health, native species, and invasive species

Critical Habitat—areas of special importance to the wildlife, fish, water quality, and aesthetics of the lake

Landscapes and the Lake

Water Quality—water chemistry, clarity, contaminants, lake levels

Shorelands—habitat, erosion, contaminant filtering, water quality, vegetation, access

Watershed—land use, management practices, conservation programs

People and the Lake

Recreation—access, sharing the lake, informing lake users, rules

Communication and Organization—maintaining connections for partnerships, implementation, community involvement

Updates & Revisions—plan for maintaining a living document

Lake John Management Plan Goals

Goals for Lake John

The following goals and actions were derived from the values and concerns of citizens interested in Lake John and members of the planning committee, as well as the known science about Lake John, its ecosystem and the landscape within its watershed.

Implementing and regularly updating the goals and actions in this plan will ensure that the vision is supported and that changes are incorporated into the plan.

LIST OF GOALS

Goal 1	Lake John will maintain a healthy and well-balanced fishery.
Goal 2	Lake John will continue to have a healthy and diverse aquatic plant community that provides habitat and good water quality, while minimizing recreational impediments and remaining free of invasive species.
Goal 3	Sensitive areas in Lake John, which provide essential habitat and/or water quality benefits, will be protected.
Goal 4	Watershed and shoreland property owners will know about and utilize resources for healthy land management practices.
Goal 5	Lake John will have healthy shorelands that protect water quality and provide essential habitat.
Goal 6	Maintain or improve water quality in Lake John.
Goal 7	Lake users will be informed about and respectful of Lake John.
Goal 8	Optimize conditions for safe and responsible recreational use.
Goal 9	Increase participation in lake stewardship.
Goal 10	Review plan annually and update as needed.

Fish Community

IN-LAKE HABITAT AND A HEALTHY LAKE

The health of one part of the lake system affects the health of the rest of the plant and animal community, the experiences of the people seeking pleasure at the lake, and the quality and quantity of water in the lake. Habitat is the structure for a healthy fishery and wildlife community. It can provide shelter for some animals and food for others. Many animals that live in and near the lake are only successful if their habitat needs are met.

What is lake-habitat?

Healthy lake-habitat in Lake John includes native aquatic plants and shoreland vegetation, as well as tree branches/limbs above and below the water.

Habitat exists within the lake, along the shoreland, and even extends into its watershed for some wildlife species. Native vegetation (including wetlands) along the shoreline and connected to the lake provides shelter and food for waterfowl, small mammals, turtles, frogs, and fish. Native plants in and near the lake can also improve water quality and balance water quantity. Aquatic plants infuse oxygen into the water, which is essential for the fish community. Some lake visitors such as birds,

What People Value about Lake John

Size of lake is not too big and small enough to know neighbors.

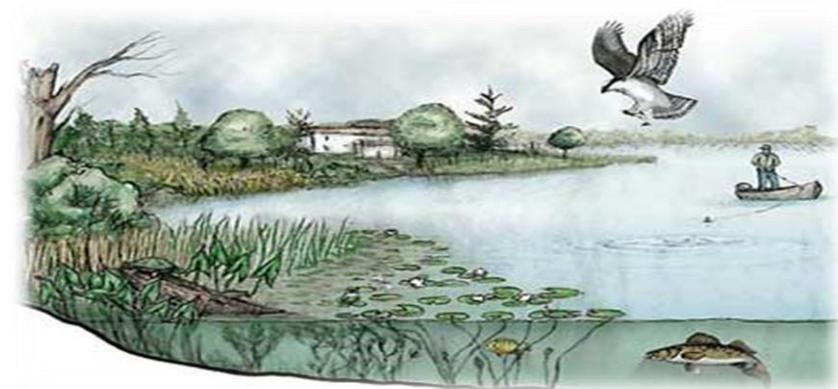
Natural view...you don't see most buildings. Clear water.

Quiet, with little boat noise.

Clear water, wildlife.

Beauty, wildlife.

Habitat provides shelter and food for fish and wildlife.



frogs, and turtles use limbs from trees that are sticking out of the water for perches or to warm themselves in the sun. The types and abundance of plants and animals that comprise the lake community also vary based on the water quality, and the health and characteristics of the shoreland and watershed.

The Fish Community

A balanced fish community has a mix of predator and prey species, each with different food, habitat, nesting substrate, and water quality needs to flourish.

What can affect the fishery?

Activities in and around a lake that can affect a fishery include:

- disturbances to the native aquatic plant community or substrate,
- excessive additions of nutrients or harmful chemicals,
- removal of woody habitat,
- shoreline alterations,
- shoreland erosion can cause sediment to settle onto the substrate, causing the degradation of spawning habitat.

Fish Community

Can the fishery be improved?

Managing a lake for a balanced fishery can result in fewer expenses to lake stewards and the public. While some efforts may be required to provide a more suitable environment to meet the needs of the fish, they usually do not have to be repeated on a frequent basis. Ideally, a lake contains the habitat, water quality, and food necessary to support the fish communities present within the lake and provide fishing opportunities for people without a lot of supplemental effort and associated expenses to maintain these conditions.

- Protecting existing habitat such as emergent, aquatic, and shoreland vegetation, and allowing trees that naturally fall into the lake to remain in the lake, are free of cost.
- Restoring habitat in and around a lake can have an up-front cost, but the effects will often continue for decades.
- Costs in time, travel, and other expenses are associated with routine efforts such as fish stocking and aeration.

Lake John supports a good overall fishery good numbers of both panfish and predator species. Historically, the lake has had abundant submergent aquatic vegetation. While aquatic vegetation provides refuge for juvenile fish, overabundance can inhibit larger predatory fish from finding small fish leading to increased competition and poor growth.

It was determined that the Lakewood Hatchery had little, if any, impact on the abundance of submergent vegetation on Lake John (Rasman 1993). The hatchery currently has an up-to-date wastewater discharge permit which requires the hatchery to comply with regulations for effluent discharge into public waters.

Improvements were made to the boat launch in 2014.

Length minimum on northern pike changed in 2019.

Stocking Date	Species	# Stocked	Avg. Length (in)
2005	Walleye	300	8.0
2006	Walleye	300	7.5
2008	Walleye	475	7.0
2011	Walleye	297	6.0
2013	Walleye	300	7.0
2018	Walleye	500	8.0
2019	Walleye	715	7.0



Bluegill -WDNR

Fish Community



Fish cribs are good cover for small fish, but near shore habitat is essential for reproduction of most species.

Lake John 2017 Fish Survey Summary

- ✓ The most recent previous survey was conducted in 2009 where bluegill dominated the sample at 41%.
- ✓ 8 species were collected during 2017 survey. Most abundant were bluegill (52%), rock bass (13%), largemouth bass (12%), pumpkinseed (11%), northern pike (7%), walleye (2%), black crappie (1%) and yellow perch (1%).
- ✓ A total of 409 bluegill were collected and ranged in length from 3 to 8.5 inches. Growth continues to be below the average mean length at age for northeast Wisconsin.
- ✓ Rock bass ranged in size from 3.5 to 10 inches with an average of 7.1 inches. Relative abundance has stabilized.
- ✓ Largemouth bass ranged from 5.5 to 19 inches (average 10 inches); growth continues to be below the average for northeast Wisconsin.
- ✓ Pumpkinseed ranged in size from 3 to 8 inches with an average of 5.8 inches.
- ✓ 53 northern pike were caught varying from 11 to 33 inches and an average of 19.7 inches. In 2019, the regulation changed from a 26" minimum: 2 bag to no minimum length and a 5 bag.
- ✓ Walleye averaged 22.9 inches and is estimated at 1.9/acre (compared to 1.3/acre in 2009). No evidence of natural reproduction.
- ✓ The next comprehensive fish survey is scheduled for 2025.

Goal 1. Lake John will maintain a healthy and well-balanced fishery.

Objective 1.1 Continue to manage for a healthy balance of predator and panfish populations.

Actions	Lead person/group	Resources	Timeline
Continue stocking as recommended (including walleye at 10 large fingerlings/acre in alternate years.		WDNR-Chip Long	Fall 2018

Objective 1.2 Continue to enhance fish and wildlife habitat in and around the lake. At least 5 more fish stick clusters will be installed in the next 3 years.

Actions	Lead person/group	Resources	Timeline
Identify landowners for fish stick installations (at least 10% of properties with fish sticks is recommended). Trees can be sourced by identifying other landowners who need a tree removed.		WDNR-Chip Long	Winter 2020-2021
Educate and encourage landowners to leave logs, tree branches and limbs in place in the water, whenever possible.		WDNR-Chip Long UWEX-Pat Goggin	Ongoing
Continue to protect and restore shoreland areas and avoid shoreland alterations to improve fish habitat.		Shoreland property owners	Ongoing

Aquatic Plant Community

Aquatic Plants

Aquatic plants provide the forested landscape within Lake John. They provide food and habitat for spawning, breeding, and survival for a wide range of inhabitants and lake visitors including fish, waterfowl, turtles, amphibians, as well as invertebrates and other animals. They improve water quality by releasing oxygen into the water and utilizing nutrients that would otherwise be used by algae. A healthy lake typically has a variety of aquatic plant species, which makes the aquatic plant community more resilient and can help to prevent the establishment of non-native aquatic species. Additionally, they stabilize the bottom sediment and help filter out the suspended sediment from the water column.

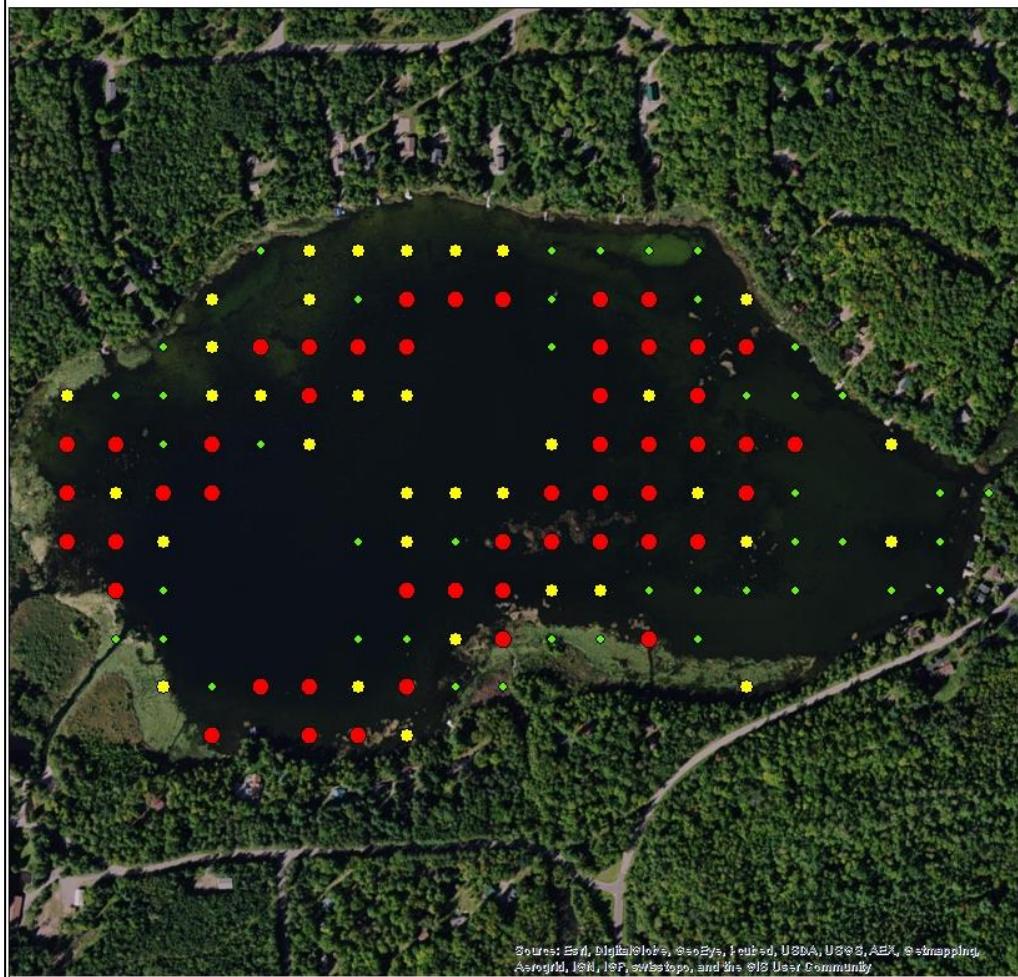
Aquatic plants near shore and in shallows provide food, shelter, and nesting material for shoreland mammals, shorebirds and waterfowl. It is not unusual for otters, beavers, muskrats, weasels, and deer to be seen along a shoreline in their search for food, water or nesting material. Aquatic plants also serve as indicator species for environmental stressors that could be occurring in a lake or river, such as a runoff event.

Lake John 2015 Aquatic Plant Survey Highlights

- ✓ 82% (129 of 157) of the sites visited had vegetative growth.
- ✓ The greatest depth aquatic plants were found was 18 feet.
- ✓ 21 species of aquatic plants were identified. This is above the North Central Hardwood average of 16.2.
- ✓ The four most dominate species were chara (65%), northern water-milfoil (54%), coontail (30%) and flat-stem pondweed (30%).
- ✓ The Floristic Quality Index (FQI) was 27.7. The northcentral hardwood average is 23.3.
- ✓ No invasive species were observed.

Native plants provide essential food and habitat for fish and wildlife.

Lake John Aquatic Plant Survey 2015: Rake Fullness



Sources: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, GeoEye, Aerogrid, IGN, IGP, Kadaster, and the GIS User Community



Center for Watershed Science and Education
College of Natural Resources
University of Wisconsin-Stevens Point

Rake Fullness	
●	1
●	2
●	3



Aquatic Plant Community

Chara, is a type of macro-algae that grows attached to muddy lake bottoms and has a musky odor.

Muskgrass, as it is known, filters the lake water, helps prevent the establishment of invasive species, and provides excellent habitat for small fish and other organisms.



Northern water-milfoil is important forage and cover for aquatic animals and an important food source for waterfowl.

Coontail lacks roots can form dense mats just below the surface. It is usually in calm, nutrient-rich water and provides habitat for young fish and other aquatic animals. Waterfowl will eat the seeds and foliage.



Flat-stem pondweed is one of the most common and distinctive pondweeds and provides habitat for fish and food to herbivores.

Aquatic Invasive Species (AIS)

Aquatic invasive species are non-native aquatic plants and animals that are most often unintentionally introduced into lakes by lake users. This commonly occurs on trailers, boats, equipment, and from the release of bait. In some lakes, aquatic invasive plant species can exist as a part of the plant community, while in other lakes populations explode, creating dense beds that can damage boat motors, make areas non-navigable, inhibit activities like swimming and fishing, and disrupt the lakes' ecosystems.

Banded Mystery Snail

Banded mystery snails were documented in Lake John in 2015. These snails compete with native snails for food and habitat, can serve as hosts for parasites and invade largemouth bass nests. Like other invasives, they are primarily spread by recreational boaters and can survive up to a month out of water, making their transport between waterbodies easy.



Rusty Crayfish

Rusty crayfish, documented in Lake in 2015, tend to displace native crayfish and reduce aquatic plant abundance and diversity (which can lead to increased turbidity and algae blooms).



Aquatic Plant Community

A point-intercept survey per the DNR protocol is recommended every 5 years to detect changes in the plant community and detect any additional AIS.

Aquatic Plant Management in Lake John

Management strategies in Lake John were designed to achieve a balance between healthy aquatic habitat, good water quality, and eradication of invasive species.

Management Options for Invasive Species or Nuisance Native Aquatic Plants

Management options that offer the most practical and effective approaches for managing invasive species or nuisance native plants, while minimizing impacts to Lake John as a whole, have been identified. Depending upon conditions, the following options may be used alone or in combination with others.

Hand-pulling. No permit required.

Hand-pulling is the preferred method for removing invasive species. Additionally, lakefront property owners are allowed to manually remove native aquatic plants from an area up to 30 feet wide without a permit for swimming and boat access (this does not include the excavation or removal of any bottom sediments). Any denuded lakebed is prime real estate for invasive species, however, and close monitoring is necessary to ensure no populations are established.

Mechanical Harvesting. Permit required.

While harvesting, operators should take care (by raising and lowering the harvesting bar) to minimize the impact on habitat and to reduce sediment disturbance. Harvesting in depths less than 3 feet should be avoided but may be done with care in accordance with WDNR guidance, keeping in mind sediment resuspension can lead to additional plant growth and algae

blooms. A second pass should be made on harvested areas to remove plant fragments and floaters. **Areas with AIS should be avoided** unless it is specified in the plan. It is another tool in the toolbox and works when used properly.

Mechanical Harvesting Plan for Navigation: Harvesting of dense plant beds that are not comprised of EWM/HWM may be conducted as needed to provide navigation. Paths from piers to open water may be cut to improve navigation and the fishery. Lanes should be no wider than 15 yards. To minimize disturbances to sediment and important fish habitat, harvesting should be avoided or conducted carefully in water depths less than 3 feet. A depth finder on the cutter end of the harvester can aid in evaluating water depths.

Skimming, target: dense floating plant material, filamentous algae. Permit required.

This mechanical removal method would be applied when targeting uprooted aquatic plants that have accumulated in parts of the lake. Skimming of floating plant material can be conducted by mechanical or non-mechanical means in areas where sediment and emergent plants would not be disturbed by this activity. The surface of the lake is skimmed to collect plant material for removal from the lake. When skimming with a harvester, aquatic plants are not cut.

Aquatic Plant Management Plan Review

A good aquatic plant management plan strategy should reduce the amount of management activity needed as time goes on. In Lake John, a series of successful strategies (integrated plant management) should lead to a balance between healthy aquatic habitat, water quality, and recreation with minimal annual management.

Aquatic Plant Community

Goal 2. Lake John will continue to have a healthy and diverse aquatic plant community that provides habitat and good water quality, while minimizing recreational impediments and remaining free of invasive species.

Objective 2.1 Minimize disturbance to native aquatic plants while also reducing impacts to recreation.

Actions	Lead person/group	Resources	Timeline
Inform property owners of the importance of native aquatic vegetation to impede the establishment of additional AIS, provide food and habitat for wildlife, and protect the shoreline via educational materials provided at the annual meeting and in a newsletter.		WDNR-Brenda Nordin	Ongoing
Encourage landowners to limit plant removal to invasive species or skimming off those that have become unrooted and free-floating. If plants severely impede recreation, consider hand-pulling small areas around private docks (within WDNR guidelines). Cleared lakebed is ideal habitat for AIS to become established, so be vigilant about watching for AIS in these areas.		WDNR-Brenda Nordin	Ongoing
Regularly monitor aquatic plant community to detect any changes in lake conditions and ensure stable populations. A point-intercept survey is recommended.		WDNR-Brenda Nordin Consultants	Every 10 years if no active plant management taking place.
Reduce nutrient and sediment loading to lake (to limit abundance of plants and algae) by improving shoreland buffers (see Shorelands section) and implementing BMPs in the watershed (see Watershed section).		WDNR-Brenda Nordin OCLCD	Ongoing

Objective 2.2 Protect against establishment of AIS.

Actions	Lead person/group	Resources	Timeline
Encourage or host training to identify and look for invasive species, particularly EWM.		WDNR-Brenda Nordin LRCD	Summer 2020
Identify Clean Boats Clean Waters volunteers or hire someone to staff boat launch on busy days.		CBCW	Summers
Educate landowners on importance of native aquatic plants for preventing AIS. Bring in speaker for annual meeting, mail literature to property owners, etc.		WDNR-Brenda Nordin	Ongoing
If new AIS is suspected or observed, follow the guidance in Appendix B .		WDNR-Brenda Nordin	Ongoing

Critical Habitat



Every waterbody has areas that are most important to the overall health of the lake.

Critical Habitat

Special areas harbor habitat that is essential to the health of a lake and its inhabitants. In Wisconsin, critical habitat areas are identified by biologists and other lake professionals from the WDNR in order to protect features that are important to the overall health and integrity of the lake, including aquatic plants and animals. While every lake contains important natural features, not all lakes have official critical habitat designations. Designating areas of the lake as critical habitat enables these areas to be located on maps and information about their importance to be shared. Having a critical habitat designation on a lake can help lake groups and landowners plan waterfront projects that will

minimize impact to important habitat, ultimately helping to ensure the long-term health of the lake.

Although Lake John does not have an official critical habitat area designation, there are areas within Lake John that are important for fish and wildlife. Natural, minimally-impacted areas with woody habitat such as logs, branches, and stumps; areas with emergent and other forms of aquatic vegetation; areas with overhanging vegetation; and wetlands are elements of good quality habitat. Identifying other important areas around the lake that are important habitat and informing lake users of their value can help raise awareness for the protection of these areas.

Goal 3. Sensitive areas in Lake John, which provide essential habitat and/or water quality benefits, will be protected.

Objective 3.1 Identify and inform others of quality habitat areas in and around Lake John.

Actions	Lead person/group	Resources	Timeline
Request a Critical Habitat Designation from WDNR.		WDNR-Brenda Nordin	2020
If critical habitat is designated on Bass Lake, communicate to property owners, visitors, and Town Board as to why these areas are important.			TBD

Watershed

LANDSCAPES AND THE LAKE

Lake John Watershed

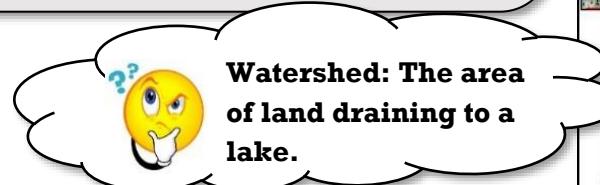
A Lake is a Reflection of its Watershed...

Understanding where Lake John's water originates is important to understanding lake health. During snowmelt or rainstorms, water moves across the surface of the landscape (runoff) towards lower elevations such as lakes, streams, and wetlands. This area is called the watershed. Groundwater also feeds Lake John; its land area may be slightly different than the surface watershed.

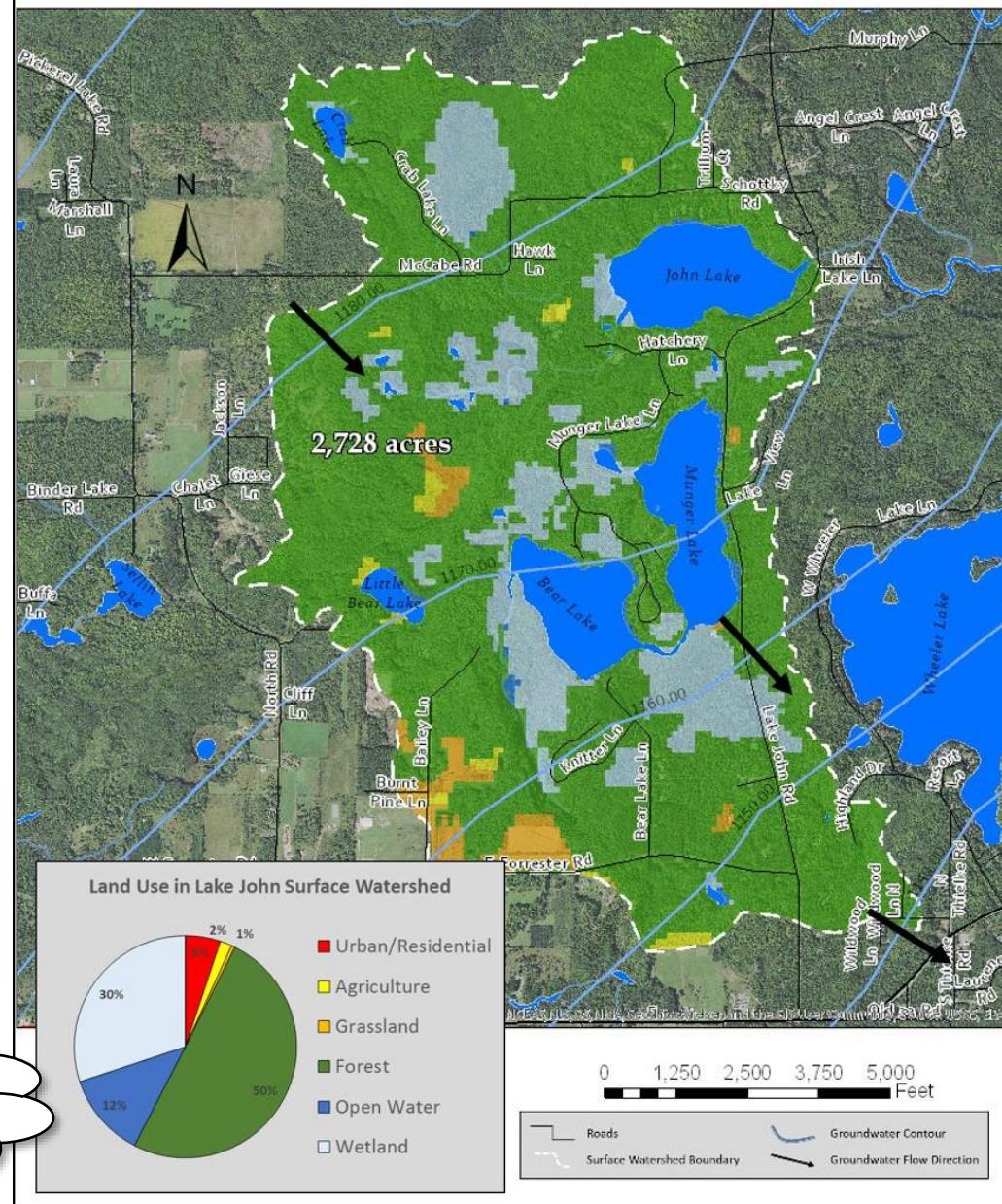
Less runoff is desirable because it allows more water to recharge the groundwater, which feeds the lake year-round - even during dry periods or when the lake is covered with ice. The capacity of the landscape to shed or hold water and contribute or filter particles determines the amount of erosion that may occur, the amount of groundwater feeding a lake, and the lake's water quality and quantity. Landscapes with greater capacities to hold water during rain events and snowmelt slow the delivery of the water to the lake.

Lake John's Watershed

The Lake John watershed is 2,728 acres. Primary land use is forest and wetland. The lake's shoreland is surrounded primarily by developed residential lots. In general, the land closest to the lake has the greatest immediate impact on water quality.



Lake John Surface Watershed & Groundwater Flow



Watershed

Why does land matter?

Land use and land management practices within the watershed can affect both its water quantity and quality. While forests, grasslands, and wetlands allow a fair amount of precipitation to soak into the ground, resulting in more groundwater and good water quality, other types of land uses may result in increased runoff and less groundwater recharge, and may also be sources of pollutants that can impact the lake and its inhabitants.

Soil and Erosion

Areas of land with exposed soil can produce soil erosion. Soil entering the lake can make the water cloudy and cover fish spawning beds. Soil also contains nutrients that increase the growth of algae and aquatic plants.

Development

Development on the land may result in changes to natural drainage patterns, alterations to vegetation on the landscape, and may be a source of pollutants. Impervious (hard) surfaces such as roads, rooftops, and compacted soil prevent rainfall from soaking into the ground, which may result in more runoff that carries pollutants to the lake. Wastewater, animal waste, and fertilizers used on lawns, gardens and crops can contribute nutrients that enhance the growth of algae and aquatic plants in our lakes.

What can be done?

Land management practices can be put into place that mimic some of the natural processes, and reduction or elimination of nutrients added to the landscape will help prevent the nutrients from reaching the water. In general, the land nearest the lake has the greatest impact on the lake water quality and habitat and is often the easiest to manage (own property, no politics, etc.).

Be Part of the Solution!

Practices designed to reduce runoff include:

- protecting/restoring wetlands,
- installing rain gardens, swales, rain barrels, and other practices that increase infiltration
- routing drainage from pavement and roofs away from the lake
- meandering lake access paths to minimize direct flow to the lake.

Practices used to help reduce nutrients from moving across the landscape towards the lake include:

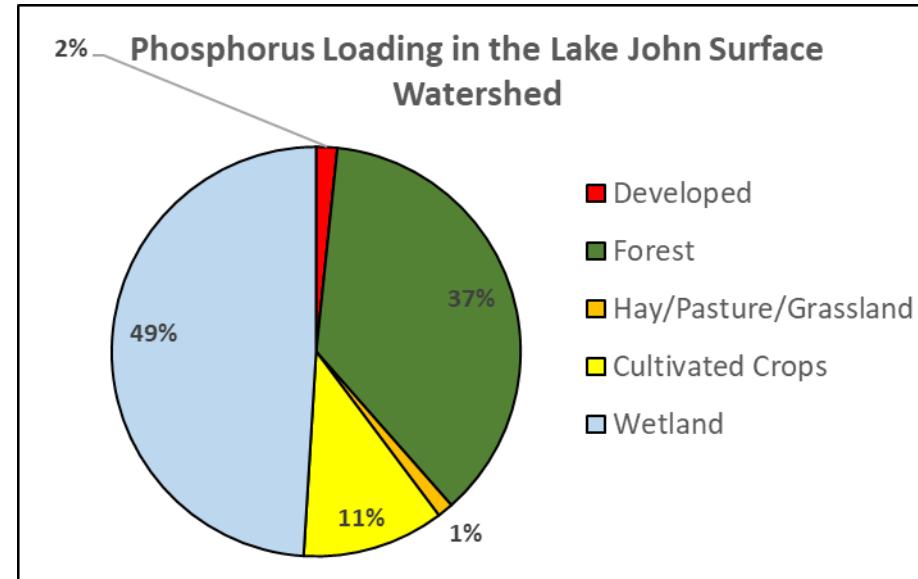
- eliminating/reducing the use of fertilizers,
- increasing the distance between the lake and a septic drainfield,
- protecting/restoring wetlands and native vegetation in the shoreland,
- controlling erosion,
- manure management and cropping practices.



Watershed

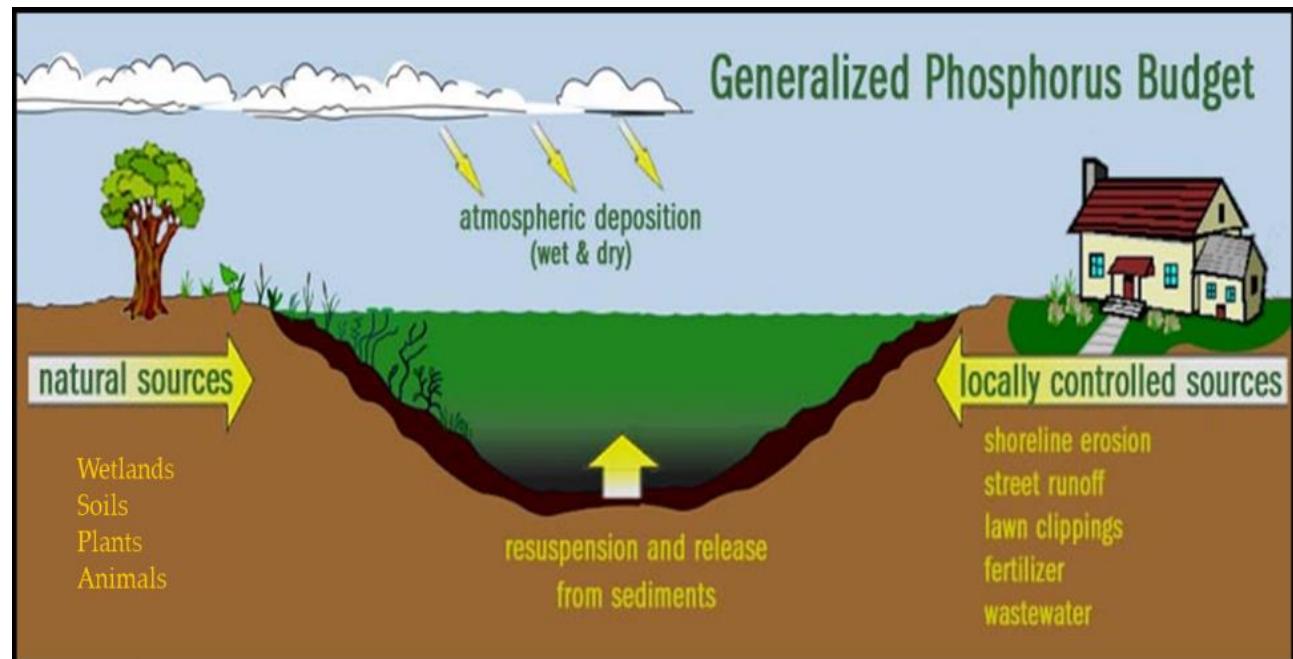
Phosphorus Modeling

Estimates of phosphorus from the landscape can help to understand the phosphorus sources to Lake John. Land use in the surface watershed was evaluated and used to populate the Wisconsin Lakes Modeling Suite (WILMS) model. In general, each type of land use contributes different amounts of phosphorus in runoff and groundwater. The types of land management practices that are used and their distances from the lake also affect the contributions to the lake from a parcel of land. The phosphorus contributions by land use category, called phosphorus export coefficients, have been obtained from studies throughout Wisconsin (Panuska and Lillie, 1995). In the Lake John watershed, the vast majority of these sources are natural and cannot be changed.



Phosphorus Loading in Lake John Watershed

Based on modeling results, wetland and forest had the greatest percentage of phosphorus contributions from the watershed. Though a smaller piece of the pie, efforts to reduce nutrient inputs to the lake must be focused on land uses that we have some control over such as agricultural and developed areas.



Watershed

Goal 4. Watershed and shoreland property owners will know about and utilize resources for healthy land management practices.

Objective 4.1 Support healthy land management activities in the Lake John watershed to reduce sediment/nutrient loading.

Actions	Lead person/group	Resources	Timeline
Encourage the County to support and follow-up with water quality-based best management practices (BMPs) within the watershed. Include BMPs that reduce application of excess nitrogen and pesticides that leach to groundwater.		NRCS DATCP County Board Supervisors	Ongoing
Support landowners interested in the protection of their land via a land conservation program (i.e. Conservation Easement, Purchase of Development Rights, or sale of land for protection).		WDNR Lake Protection Grants Knowles-Nelson Stewardship Fund NWLT	As needed
Encourage any new developments to manage runoff on site and consider ways to minimize impacts from septic systems on Lake John.		Town of Lakewood Developers/Builders	As needed
Protect wetlands to maintain the water budget of Lake John. Any altered wetlands should be mitigated within the lake's watershed.		WDNR	As needed
Encourage design of road and construction projects that will minimize impacts to the lake.		Town of Lakewood OC Highway Department/WDOT	As needed

Shorelands

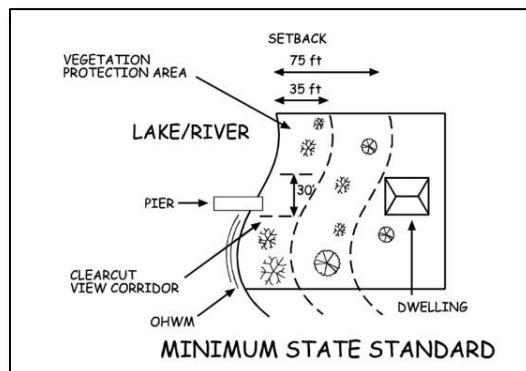
Shorelands

Shoreland vegetation is critical to a healthy lake ecosystem. It provides habitat for many aquatic and terrestrial animals including birds, frogs, turtles, and small and large mammals. It also helps to improve the quality of the runoff that is flowing across the landscape towards the lake.

Healthy shoreland vegetation includes a mix of unmowed grasses/flowers, shrubs, trees, and wetlands which extends at least 35 feet landward from the water's edge.

Shoreland ordinances have been in place since 1964 to improve water quality and habitat, and to protect our lakes. To protect our lakes, county and state (NR 115) shoreland ordinances state that vegetation should extend at least 35 feet inland from the water's edge, with the exception of an optional 30-foot wide view corridor for each shoreland lot. Although some properties were grandfathered in when the ordinance was initiated in 1966, following this guidance will benefit the health of the lake and its inhabitants.

Disturbed shoreland is measured as any shoreline without a shrub or herbaceous layer at the water's edge, regardless of buffer thickness. This may be a result of mowed lawn, artificial beach, etc.



90% of lake life spends all or part of their life in the near shore zone.

Be Part of the Solution!

Follow Healthy Shoreland Practices

- **Mow Less:** The simplest, most affordable way to improve your shoreland is to reduce mowing near shore. Native vegetation will re-establish itself over time.
- Leave natural shoreland vegetation in place.
- Restore native shoreland vegetation where it is lacking.
- Plant attractive native species of grasses/flowers, shrubs and trees that will add interest and beauty to your property.
- Don't use fertilizers or herbicides, they may run into the lake. Test your soil to determine if fertilizer is warranted.
- Add or leave woody habitat near the shore. Turtles, birds, and fish love it!
- Never transplant water garden plants or aquarium plants into lakes, streams, or wetlands.
- Visit www.healthylakeswi.com for additional resources.

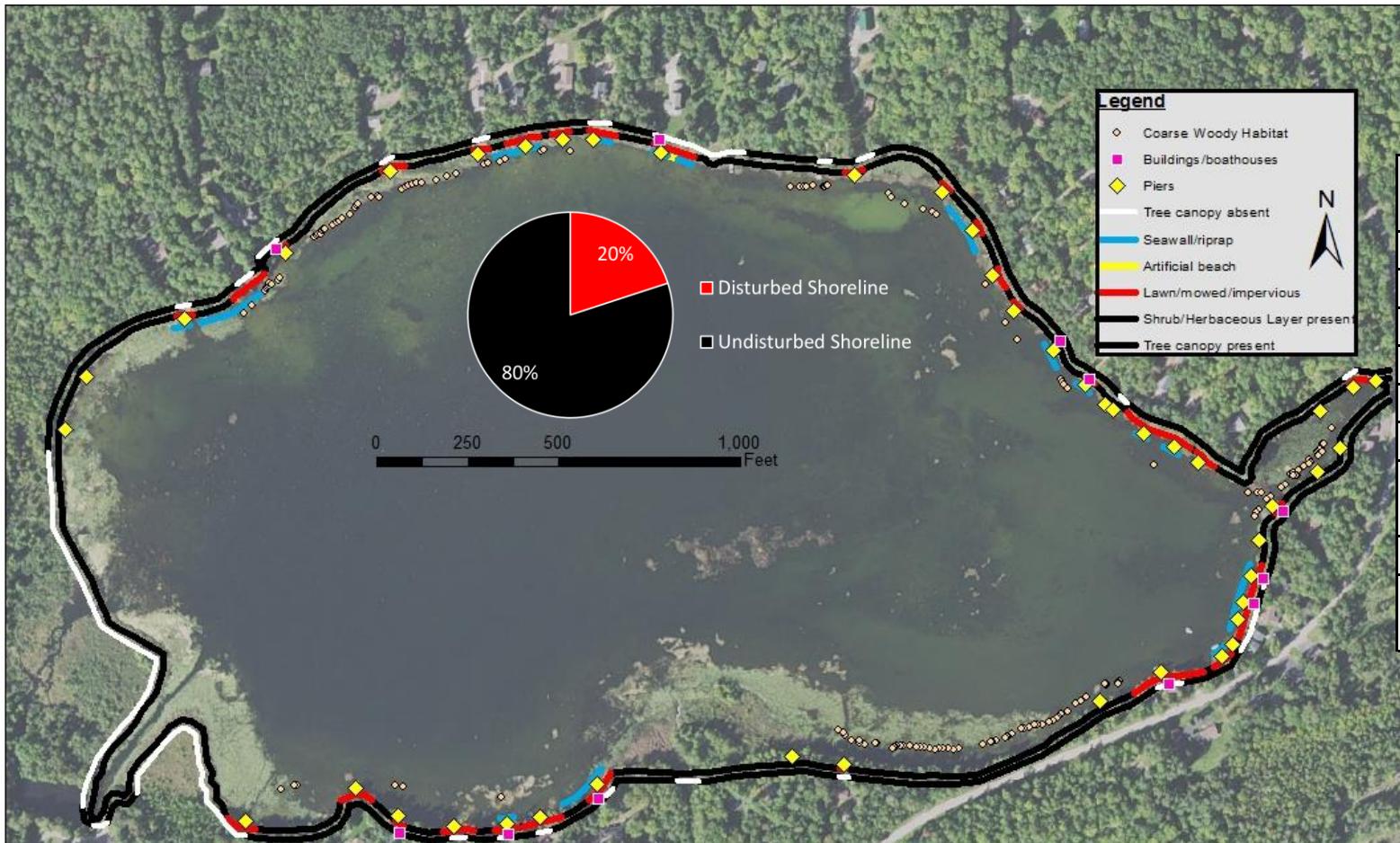
State Shoreland Zoning Ordinance

NR 115 Wisc. Adm. Code for Unincorporated Municipalities

No vegetation within 35 feet of the lake's edge shall be removed except for:

- Up to 30% of shoreline may be removed of shrubs and trees for a view corridor
- A mowed or constructed pedestrian path up to 5 feet wide to access lake

Shorelands



Lake John's Shorelands

To better understand the health of Lake John, shorelands were evaluated. The survey inventoried shoreland vegetation, erosion, riprap, barren ground, seawalls, structures, and docks. The majority of the 2 miles of shoreline is developed as homes and seasonal cottages. A total of 44 piers were counted during the survey (1/234 ft).

- With 58 lakefront lots, 1,740 feet (17%) of disturbed shoreland is permitted. Based on the 2017 shoreland inventory, 20% (2,049 feet) of Lake John's shoreland was disturbed. Coarse woody habitat was measured at 82 logs/mile (250 logs/mile recommended.)
- Lake John had above average shoreland health compared to other lakes in the study. Many stretches are in good shape, but some portions have challenges that should be addressed.

Shorelands

Lake John 2017 Shoreland Survey Results

Total lakefront footage	# Riparian lots	Total allowable (NR115) disturbed shoreland	Measured disturbed shoreland
10,295	58	1,740 feet (17%)	2,049 feet (20%)

Goal 5. Lake John will have healthy shorelands that protect water quality and provide essential habitat.

Objective 5.1 Shoreland property owners will be knowledgeable about and make good decisions regarding their shoreland practices that result in good water quality and habitat. Over the next 5 years, 300 feet (or about 3 properties) of disturbed shoreland will be restored.

Actions	Lead person/group	Resources	Timeline
Provide informational materials to all shoreland property owners about basic lake stewardship including healthy shorelands and their composition (wildflowers, shrubs, trees, etc.). Include information on cost share programs.		OCLWA UWEX Lakes WDNR Healthy Lakes grants	Ongoing
Identify willing properties and install fish sticks to improve fish habitat (see Fish Community section, Objective 1.1)		OCLCD WDNR	Ongoing
Encourage and support shoreland owners interested in shoreland restoration (including rain gardens, diversion practices, infiltration practices, native plantings, no mow, or fish sticks). Include information on how and why to create healthy shorelands in a welcome packet to new property owners.		UWEX Lakes OCLCD WDNR Healthy Lakes Grants	Ongoing
Encourage those interested in shoreland restorations to contact the OCLCD for available resources.		OCLCD WDNR Healthy Lakes Grants	Ongoing
Host a speaker/demonstration: "How to restore your shoreline."		UWEX Lakes-Pat Goggin	2020
Consider restoring and showcasing a "demonstration site" with a sign at the water's edge about shoreland restoration (perhaps at the boat launch or on one of the commercial properties).		OCLCD UWEX Lakes-Pat Goggin WDNR Healthy Lakes Grants	2020
Explore purchase of undeveloped shoreland property.		UWEX Lakes Knowles-Nelson Stewardship Fund	As available
Work with town to design and install a water diversion structure at the boat ramp to keep runoff from flowing directly into lake.		OCLCD, WDNR	2020

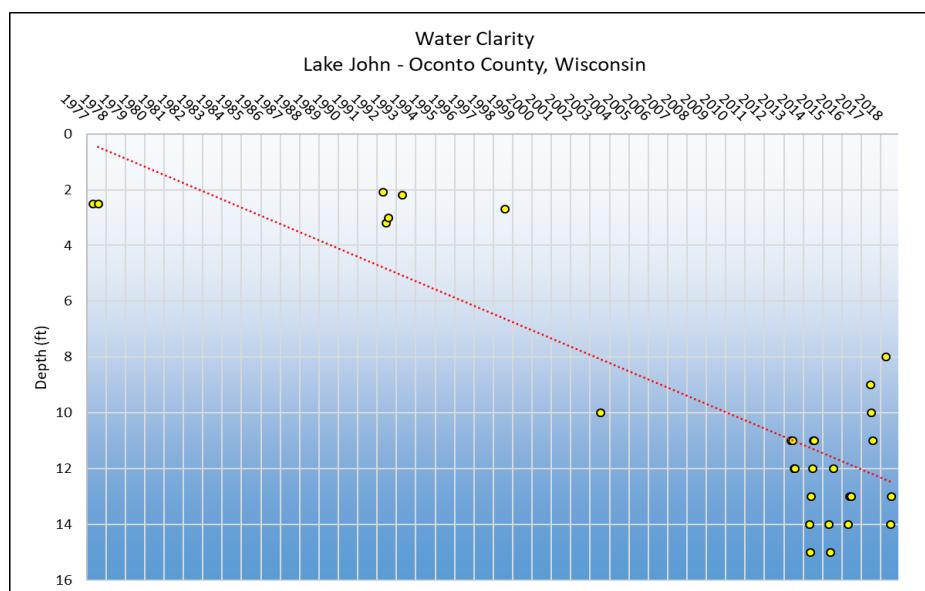
Water Quality

Water Quality

A variety of water chemistry measurements were used to characterize the water quality in Lake John. Water quality was assessed during the 2017-2018 lake study and involved a number of measures including temperature, dissolved oxygen, water chemistry, and nutrients (phosphorus and nitrogen). Nutrients are important measures of water quality in lakes because they contribute to algae and aquatic plant growth. Each of these interrelated measures plays a part in the lake's overall water quality. In addition, water quality data collected in past years was also reviewed to determine trends in Lake John's water quality.

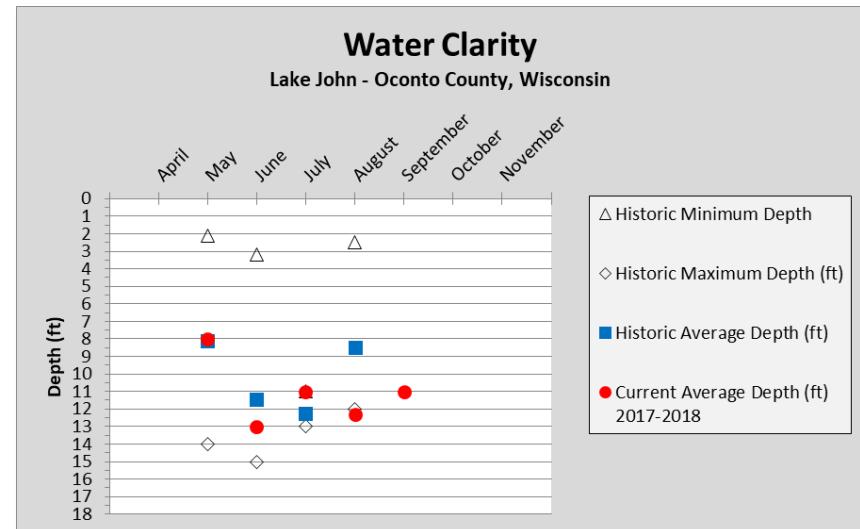
Water Clarity

Water clarity is a measure of how deep light can penetrate (Secchi depth). Clarity is affected by water color, turbidity, and algae and helps determine where rooted aquatic plants grow.



Lake John's Water Quality Summary

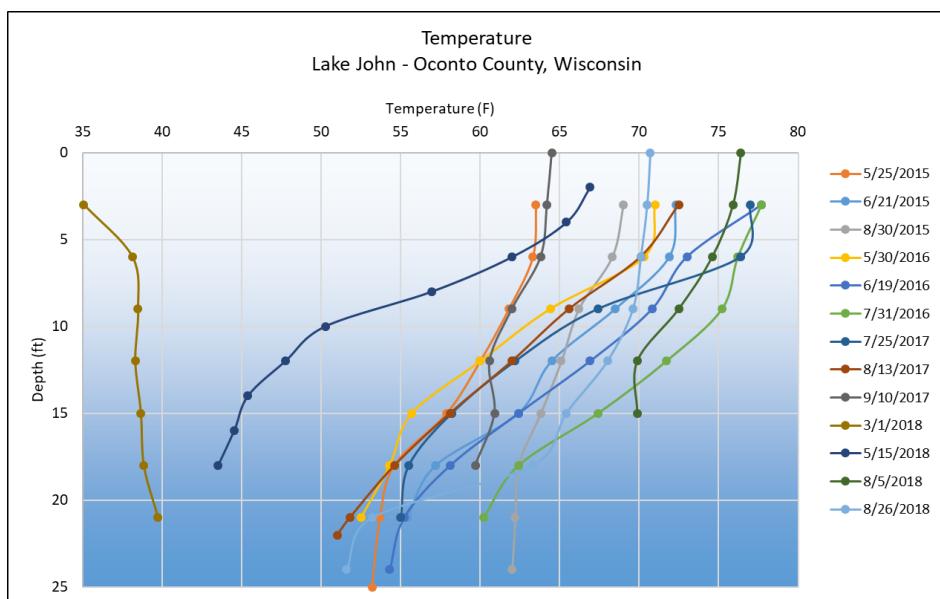
- ✓ **Water clarity** ranged from 8-14 feet (considered very good), which is consistent with historic measurements and suggests an increasing trend.
- ✓ Sufficient **dissolved oxygen** was present in at least the upper 8-10 feet of water at all times during the study.
- ✓ Concentrations of **contaminants** were all low during the study. Atrazine was not detected.
- ✓ **Phosphorus** concentrations remained below the standard of 30 ug/L throughout the study. Inorganic nitrogen remained well below concentrations that spur algal blooms.
- ✓ Water in Lake John is soft (14 mg/L CaCO₃), having a low level of dissolved minerals. Soft water lakes tend to have a higher pH and are limited in their ability to buffer the effects of acid rain and results in reduced productivity and plays a role in the type of aquatic plants that are found.



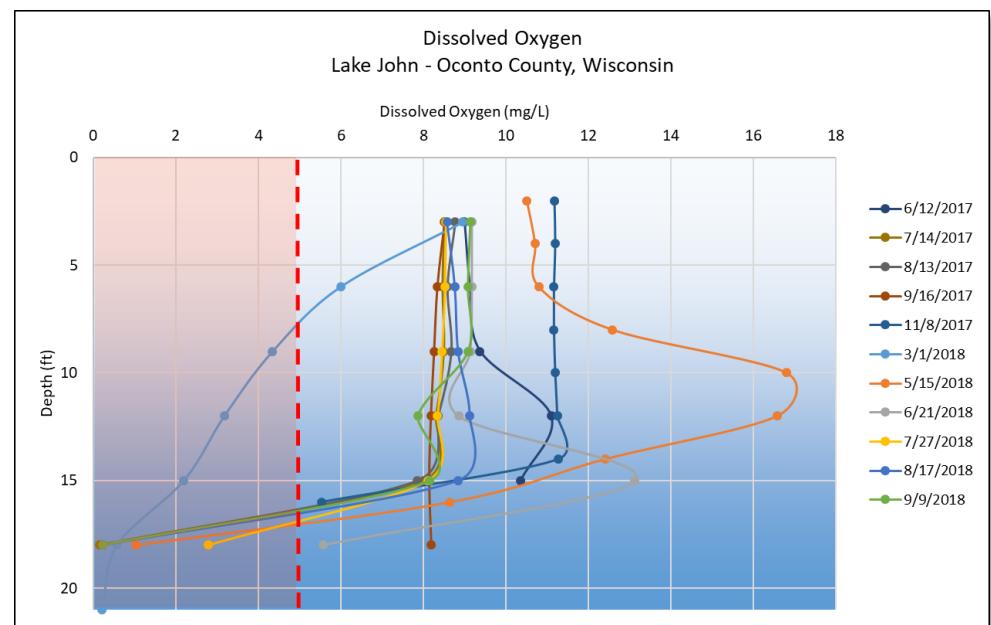
Water Quality

Temperature and Dissolved oxygen

Dissolved oxygen is an important measure in Lake John because a majority of organisms in the water depend on oxygen to survive. Oxygen is dissolved into the water from contact with air, which is increased by wind and wave action. Algae and aquatic plants also produce oxygen when sunlight enters the water, but the decomposition of dead plants and algae reduces oxygen in the lake.



As a shallow, mixed lake (as evidenced by relatively straight temperature profiles above), dissolved oxygen concentrations remain uniform from the surface to depth most of the year. During winter, however, sources of oxygen (such as the atmosphere or growing plants) are cut off resulting in declining concentrations until ice melts and/or plants start growing again. This is illustrated in the dissolved oxygen chart by the late winter profile (3/1/2018), where only the top 10 feet of water column maintains concentrations sufficient to support fish (>5mg/L).



Contaminants

Chloride, sodium and potassium concentrations are commonly used as indicators of how a lake is being impacted by human activity. The presence of these compounds where they do not naturally occur indicates sources of water contaminants. Although these elements are not detrimental to the aquatic ecosystem, they indicate that sources of contaminants such as road salt, fertilizer, animal waste and/or septic system effluent may be entering the lake from either surface runoff or via groundwater. Measurements of contaminants were low.

Nutrients

Phosphorus is an element that is essential in trace amounts to most living organisms, including aquatic plants and algae. Naturally-occurring sources of phosphorus include soils and wetlands, and groundwater. Common sources from human activities include soil erosion, animal waste, fertilizers, and septic systems. Although a

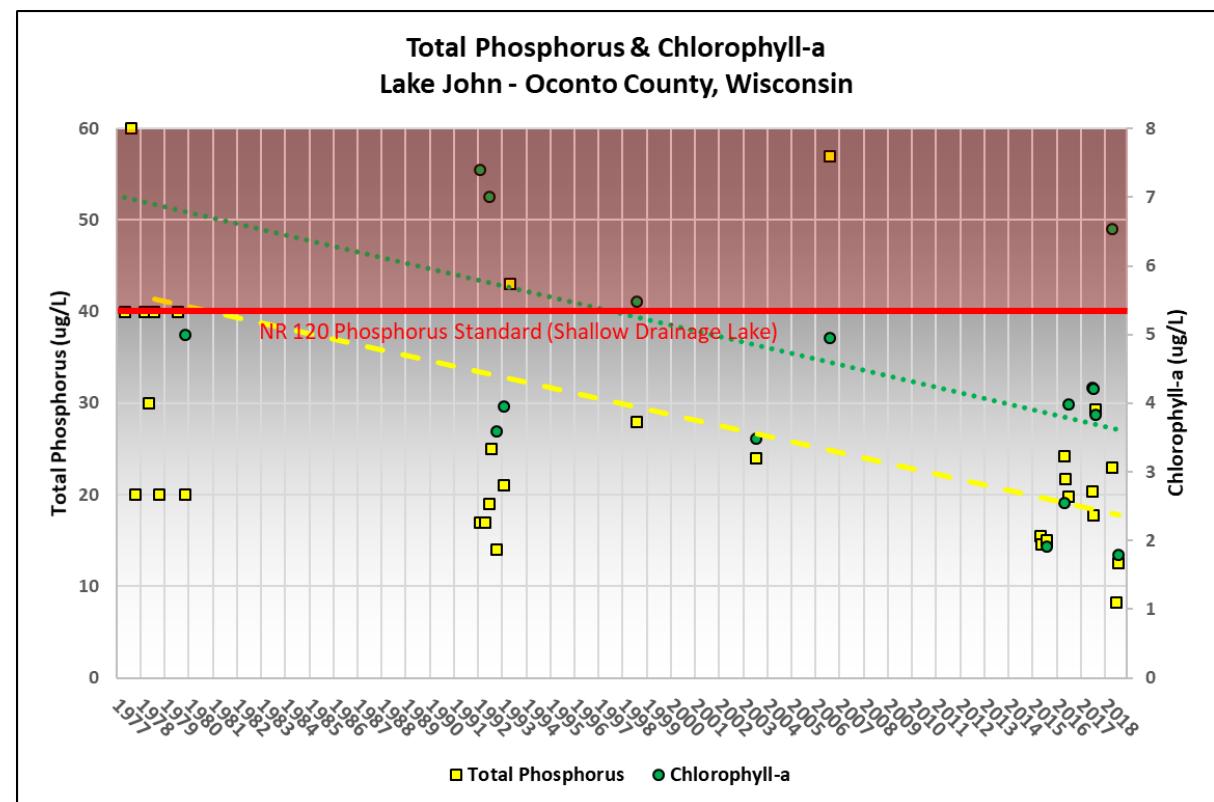
Water Quality

variety of compounds are important to biological growth, phosphorus receives so much attention because it is commonly the “limiting nutrient” in many Wisconsin lakes.

Due to its relatively short supply compared to other substances necessary for growth, relatively small increases in phosphorus result in significant increases in aquatic plants and algae. NR 120, Wisconsin Administrative Code lists phosphorus limits for different lake types. Shallow seepage lakes such as John have a standard of 40 ug/L they must remain stay to remain healthy. The very limited data available show concentrations in John to be well below this standard. Continued monitoring is necessary to verify this and establish trends. Concentrations of 0.3 mg/L inorganic nitrogen in spring are sufficient to fuel algal blooms throughout the summer. Sources of inorganic nitrogen include animal waste, septic systems/waste treatment effluent, and fertilizers.

In Lake John, phosphorus concentrations remained below the threshold of 40 ug/L throughout the study. The last 40 years of available data suggests

a decreasing trend in both phosphorus and algae concentrations. Continued monitoring is recommended.



Be part of the solution!

Managing nitrogen, phosphorus and soil erosion throughout the Lake John watershed is one of the keys to protecting the lake itself. Near shore activities that may increase the input of phosphorus to the lake include applying fertilizer, removing native vegetation (trees, bushes and grasses), mowing vegetation, and increasing the amount of exposed soil. Nitrogen inputs to a lake can be controlled by using lake-friendly land management decisions, such as the restoration of shoreland vegetation, elimination/reduction of fertilizers, proper management of animal waste and septic systems, and the use of water quality-based management practices.

Water Quality

Goal 6. Maintain or improve water quality in Lake John.

Objective 6.1 *Maintain median summer total phosphorus concentrations below 40 ug/L and fall inorganic nitrogen concentrations below 0.3 mg/L.*

Actions	Lead person/group	Resources	Timeline
Inform others around the lake about the impact of nutrients and land management on water quality through the distribution of a newsletter and/or hosting a guest speaker.		OCLWA WDNR UWEX Lakes	Ongoing, 2020
Refrain from the use of fertilizers. Encourage soil testing to determine if fertilizer is necessary.		OC UWEX	Ongoing
Encourage the restoration of unmowed vegetation to slow and absorb runoff and pollutants.		UWEX Lakes	Ongoing

Objective 6.2 *Continue to develop an ongoing, robust water quality dataset for Lake John to monitor trends, declines and improvements over time.*

Actions	Lead person/group	Resources	Timeline
Continue participation in CLMN and support volunteers collecting total phosphorus and chlorophyll-a data.	Trained volunteer	CLMN	3+ times annually-summer
Submit all collected data to WDNR for archival and use by scientists and resource managers.	Trained volunteer	WDNR	Ongoing

Recreation



PEOPLE AND THE LAKE

The people who interact with the lake are a key component of the lake and its management. In essence a lake management plan is a venue by which people decide how they would like people to positively impact the lake. The plan summarizes the decisions of the people to take proactive steps to improve their lake and their community. Individual decisions by lake residents and visitors can have positive impacts on the lake and on those who enjoy this common resource. Collaborative efforts may have bigger positive impacts; therefore, communication and cooperation between the lake association, community, and suite of lake users are essential to maximize the effects of plan implementation.

Goal 7. Lake users will be informed about and respectful of Lake John.

Objective 7.1 Cultivate an environment of compliance amongst lake users.

Actions	Lead person/group	Resources	Timeline
Work with other lake groups and towns to support a recreational officer and municipal court for enforcement of regulations, including 'No Wake' and safe boat operation.		TOL OCLWA OC UWEX	Ongoing
Inform residents and consider posting signage of "DNR Hotline" to report unlawful behavior. (1-800-TIP-WDNR)		WDNR	Ongoing
Create and install signage at boat landing regarding 'No Wake' areas and times. Landowners can install a swim dock up to 200 feet from shore to help protect this zone.		TOL WDNR	2020
Ensure signage is up-to-date and clear. Consider updating sign board/kiosk with basic information on regulations and expectations. This		OCLCD UWEX Lakes	Ongoing

Boating hours, regulations, and fishing limits are examples of principles that are put into place to minimize conflicts between lake users and balance human activities with environmental considerations for the lake.

Recreation

According to survey responses, the lake is enjoyed for its scenery, wildlife, boating and fishing. There is one public boat launch located on the southwest side of Lake John which is owned and maintained by the Lakewood Hatchery (WDNR). No Wake is allowed between 5pm and 11am Sunday through Thursday, and 6pm to 11am on Friday and Saturday.

Recreation

can convey to lake users that there is an active and watchful group on the lake.			
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Goal 8. Optimize conditions for safe and responsible recreational use.

Objective 8.1 Maintain structures that support lake access.

Actions	Lead person/group	Resources	Timeline
Work with County/USFS to upkeep boat ramp. This may include a water diversion structure to keep runoff from flowing directly to lake. Boat ramps in disrepair can be unhealthy to the lake if it results in spinning tires, power loading, loose sediment and debris, etc.		OCLCD	2020, as needed

Communication & Organization

Communication and Organization

Working together on common values will help to achieve the goals outlined in this plan. This will involve communication between individuals, the Association, the Town of Lakewood, Oconto County, resource managers, and elected officials. In addition, staying informed about lake- and groundwater-related topics will be essential to achieving the goals laid out in this plan. See the Oconto County Lake Information Directory in the Appendices for contact information.

Goal 9. Increase participation in lake stewardship.

Objective 9.1 Develop opportunities and incentives for active participation in the management of Lake John.

Actions	Lead person/group	Resources	Timeline
Maintain a group website		LakeKit.net	Ongoing
Maintain an email list of shoreland property owners and others interested in Lake John.		OC UWEX	Ongoing
Distribute a welcome packet/mailing to all new shoreland property owners with basic lake stewardship information/brochures. WDNR small-scale planning grants can pay for this.		OC UWEX OC Zoning Dept. OCLCD	Ongoing
Communicate updates to lake management plan and management activities to residents and users of the lake via email list and/or newsletter (and to WDNR).			Ongoing
Host an annual meeting to discuss lake management and opportunities for shoreland property owners.			Annually
Host gatherings to learn about topics identified in this plan. Invite speakers or conduct demonstrations.		UWEX Lakes WDNR OCLCD	As needed
Identify ways to recruit 'next generation' of water quality monitors and AIS removers. Support interested persons in Lake Leaders Institute and/or Wisconsin Lakes Convention.		UWEX Lakes Lake Leaders	Ongoing



Many of the goals outlined in this plan focus on distributing information to lake and watershed residents and lake users in order to help them make informed decisions that will result in a healthy Lake John ecosystem that is enjoyed by many people. Working together on common values will help to achieve the goals that are outlined in this plan.

Communication & Organization

Objective 9.2 Maintain good, clear communication between residents, clubs, municipalities, agency staff, elected officials and organizations interested in Lake John.

Actions	Lead person/group	Resources	Timeline
Network with other lake groups in Oconto County by having Lake John represented at OCLWA.		OC UWEX	Quarterly
Network with other lakes in the state to learn lake management strategies, etc. by having a representative attend the Wisconsin Lakes Convention.		UWEX Lakes	Annually in April
Consider nominating an individual from Lake John for the Lake Leaders Institute. Encourage members of OCLWA to attend Lake Leaders Institute.		UWEX Lakes	2020

Updates and Revisions

Updates and Revisions

A management plan is a living document that changes over time to meet the current needs, challenges and desires of the lake and its community. The goals, objectives and actions listed in this plan should be reviewed annually and updated with any necessary

changes. Partners listed in the plan should be contacted annually, and updated information compiled. A list of changes/updates to the plan should be documented. To ensure that everyone is informed about changes, appropriate approval for changes should be acquired by all partners signing on to this plan.

Goal 9. Review plan annually and update as needed.

Objective 9.1 Maintain an up-to-date and relevant lake management plan and communicate updates to the lake community, Oconto County and WDNR.

Actions	Lead person/group	Resources	Timeline
Review plan at annually and discuss accomplishments and identification of goals/objectives/actions for coming year.			Annually
Formally update this plan every 5 years.		OC UWEX UWEX Lakes WDNR	2024

References

REFERENCES

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Appendices

APPENDICES

Appendix A

Appendix A. Oconto County Lake Information

Directory

Algae - Blue-Green

Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-360-3167
E-mail: brenda.nordin@wisconsin.gov
Website: <http://dnr.wi.gov/lakes/bluegreenalgae>

Contact: Wisconsin Department of Health Services
1 West Wilson Street, Madison, WI 53703
Phone: 608-267-3242
Website:
www.dhs.wisconsin.gov/eh/bluegreenalgae/contactus.htm

Aquatic Invasive Species/Clean Boats Clean Water
Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-360-3167
E-mail: brenda.nordin@wisconsin.gov
Website: <http://dnr.wi.gov/topic/Invasives/>

Aquatic Plant Management

(Native and Invasive)

Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-360-3167
E-mail: brenda.nordin@wisconsin.gov
Website: <http://dnr.wi.gov/lakes/plants/>

Aquatic Plant Identification

Contact: Dr. Emmet Judziewicz
UWSP Freckmann Herbarium
TNR 301, 800 Reserve St., Stevens Point, WI 54481
Phone: 715-346-4248
E-mail: ejudziew@uwsp.edu

Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-360-3167
E-mail: brenda.nordin@wisconsin.gov

Aquatic Plant Surveys/Management
Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-360-3167
E-mail: brenda.nordin@wisconsin.gov
Website: <http://dnr.wi.gov/lakes/plants/>

Best Management Practices (rain gardens, shoreland buffers, agricultural practices, runoff controls)

Contact: Ken Dolata
Oconto County Land Conservation Department
410 ½ East Main Street, Lena, WI 54139
Phone: 920-834-7152
E-mail: ken.dolata@co.oconto.wi.us
Website: <http://www.co.oconto.wi.us/departments/>

Boat Landings, Signage, Permissions (County)
Contact: Monty Brink
Oconto County Forestry/Park/Recreation
301 Washington Street, Oconto, WI 54153
Phone: 920-834-6995
E-mail: monty.brink@co.oconto.wi.us
Website: <http://www.co.oconto.wi.us/departments/>

Boat Landings (State)

Contact: Chip Long
Wisconsin Department of Natural Resources
101 N. Ogden Road, Peshtigo, WI 54157
Phone: 715-582-5017
E-mail: Christopher.long@wisconsin.gov
Website: <http://dnr.wi.gov/org/land/facilities/boataccess/>

Appendix A

Boat Landings (Town)

Contact the clerk for the specific town/village in which the boat landing is located.

Conservation Easements

Contact: Gathering Waters Conservancy
211 S. Paterson St., Suite 270, Madison, WI 53703
Phone: 608-251-9131
E-mail: info@gatheringwaters.org
Website: <http://gatheringwaters.org/>

Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-360-3167
E-mail: brenda.nordin@wisconsin.gov

Contact: Patrick Sorge
Wisconsin Department of Natural Resources
PO Box 4001, Eau Claire, WI 54702
Phone: 715-839-3794
E-mail: Patrick.Sorge@wisconsin.gov

Contact: Northeast Wisconsin Land Trust
14 Tri-Park Way, Suite 1, Appleton, WI 54914
Phone: 920-738-7265
E-mail: newlt@newlt.org
Website: www.newlt.org

Contact: NRCS Lena Service Center
410 ½ East Main Street, Lena, WI 54139
Phone: 920-829-5406

Critical Habitat and Sensitive Areas
Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-360-3167
E-mail: brenda.nordin@wisconsin.gov
Website: <http://dnr.wi.gov/lakes/criticalhabitat/>

Dams

Contact: Meg Galloway
Wisconsin Department of Natural Resources
PO Box 7921, Madison, WI 53707
Phone: 608-266-7014
E-mail: meg.galloway@wisconsin.gov
Website: <http://dnr.wi.gov/org/water/wm/dsfn/dams/>

Fertilizers/Soil Testing

Contact: Dale Mohr
Oconto County UW- Extension
301 Washington Street, Oconto, WI 54153
Phone: 920-835-6845
E-mail: dale.mohr@co.oconto.wi.us
Website: <http://oconto.uwex.edu>

Fisheries Biologist (management, habitat)

Contact: Chip Long
Wisconsin Department of Natural Resources
101 N. Ogden Road, Peshtigo, WI 54157
Phone: 715-582-5017
E-mail: Christopher.long@wisconsin.gov
Website: <http://dnr.wi.gov/fish/>

Frog Monitoring—Citizen Based

Contact: Andrew Badje
Wisconsin Department of Natural Resources
Phone: 608-785-9472
E-mail: Andrew.badje@wisconsin.gov
Website: WFTS@wisconsin.gov

Grants

Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-360-3167
E-mail: brenda.nordin@wisconsin.gov
Website: <http://dnr.wi.gov/Aid/Grants.html>

Appendix A

Contact: Ken Dolata
Oconto County Land Conservation Department
410 ½ East Main Street, Lena, WI 54139
Phone: 920-834-7152
E-mail: ken.dolata@co.oconto.wi.us
Website: <http://www.co.oconto.wi.us/departments/>

Groundwater Quality

Contact: Kevin Masarik
UWSP Center for Watershed Science & Education
TNR 224, 800 Reserve St., Stevens Point, WI 54481
Phone: 715-346-4276
E-mail: kmasarik@uwsp.edu
Website: <http://www.uwsp.edu/cnr/watersheds/>

Groundwater Levels/Quantity

Contact: Ken Dolata
Oconto County Land Conservation Department
410 ½ East Main Street, Lena, WI 54139
Phone: 920-834-7152
E-mail: ken.dolata@co.oconto.wi.us
Website: <http://www.co.oconto.wi.us/departments/>

Contact: George Kraft
UWSP Center for Watershed Science & Education
TNR 224, 800 Reserve St., Stevens Point, WI 54481
Phone: 715-346-2984
E-mail: george.kraft@uwsp.edu

Informational Packets

Contact: UW Extension - Lakes
TNR 224, 800 Reserve St. Stevens Point, WI 54481
Phone: 715-346-2116
E-mail: uwexlakes@uwsp.edu

Lake Groups – Friends, Associations, Districts

Contact: Dale Mohr
Oconto County UW- Extension
301 Washington Street, Oconto, WI 54153

Phone: 920-835-6845
E-mail: dale.mohr@co.oconto.wi.us
Website: <http://oconto.uwex.edu>

Contact: Patrick Goggin
UWEX Lakes
TNR 203, 800 Reserve St., Stevens Point, WI 54481
Phone: 715-365-8943
E-mail: pgoggin@uwsp.edu
Website: <http://www.uwsp.edu/cnr/uwexlakes/organizations/>

Contact: Eric Olson
UWEX Lakes
TNR 206, 800 Reserve St., Stevens Point, WI 54481
Phone: 715-346-2192
E-mail: eolson@uwsp.edu
Website: <http://www.uwsp.edu/cnr/uwexlakes/organizations/>

Contact: Susan Tesarik
Wisconsin Lakes
4513 Vernon Blvd., Suite 101, Madison, WI 53705
Phone: 1-800-542-5253
E-mail: lakeinfo@wisconsinlakes.org
Website: <http://wisconsinlakes.org/>

Lake Levels
See: Groundwater

Lake-Related Law Enforcement (no-wake, transporting invasives, etc.)
Contact: Ben Mott
State Conservation Warden
Wisconsin Department of Natural Resources
427 E. Tower Drive, Suite 100, Wautoma, WI 54982
Phone: 920-896-3383
Website: <http://www.wigamewarden.com/>

Appendix A

Land Use Plans and Zoning Ordinances

Contact: Patrick Virtues
Oconto County Planning/Zoning/Solid Waste
301 Washington Street, Oconto, WI 54153
Phone: 920-834-6827
E-mail: Patrick.virtues@co.oconto.wi.us
Website: <http://www.co.waushara.wi.us/zoning.htm>

Contact: UWSP Center for Land Use Education
TNR 208, 800 Reserve St., Stevens Point, WI 54481
Phone: 715-346-3783
E-mail: Center.for.Land.Use.Education@uwsp.edu
Website: <http://www.uwsp.edu/cnr/landcenter/>

Nutrient Management Plans

Contact: Ken Dolata
Oconto County Land Conservation Department
410 ½ East Main Street, Lena, WI 54139
Phone: 920-834-7152
E-mail: ken.dolata@co.oconto.wi.us
Website: <http://www.co.oconto.wi.us/departments/>

Contact: NRCS Lena Service Center
410 ½ East Main Street, Lena, WI 54139
Phone: 920-829-5406

Parks (County)

Contact: Monty Brink
Oconto County Forestry/Park/Recreation
301 Washington Street, Oconto, WI 54153
Phone: 920-834-6995
E-mail: monty.brink@co.oconto.wi.us
Website: <http://www.co.oconto.wi.us/departments/>

Purchase of Development Rights

Contact: Northeast Wisconsin Land Trust
14 Tri-Park Way, Suite 1, Appleton, WI 54914
Phone: 920-738-7265
E-mail: newlt@newlt.org
Website: www.newlt.org

Purchase of Land

Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-360-3167
E-mail: brenda.nordin@wisconsin.gov
Website: <http://dnr.wi.gov/topic/stewardship/>

Rain Gardens and Stormwater Runoff

Contact: Ken Dolata
Oconto County Land Conservation Department
410 ½ East Main Street, Lena, WI 54139
Phone: 920-834-7152
E-mail: ken.dolata@co.oconto.wi.us
Website: <http://www.co.oconto.wi.us/departments/>

Septic Systems/Onsite Waste

Contact: Patrick Virtues
Oconto County Planning/Zoning/Solid Waste
301 Washington Street, Oconto, WI 54153
Phone: 920-834-6827
E-mail: Patrick.virtues@co.oconto.wi.us
Website: <http://www.co.waushara.wi.us/zoning.htm>

Shoreland Management

Contact: Ken Dolata
Oconto County Land Conservation Department
410 ½ East Main Street, Lena, WI 54139
Phone: 920-834-7152
E-mail: ken.dolata@co.oconto.wi.us
Website: <http://www.co.oconto.wi.us/departments/>

Shoreland Vegetation

<http://dnr.wi.gov/topic/ShorelandZoning/>

Shoreland Zoning Ordinances

See: Land Use Plans and Zoning Ordinances

Appendix A

Soil Fertility Testing

Contact: Dale Mohr
Oconto County UW- Extension
301 Washington Street, Oconto, WI 54153
Phone: 920-835-6845
E-mail: dale.mohr@co.oconto.wi.us
Website: <http://oconto.uwex.edu>

Woody Habitat

Contact: Chip Long
Wisconsin Department of Natural Resources
101 N. Ogden Road, Peshtigo, WI 54157
Phone: 715-582-5017
E-mail: Christopher.long@wisconsin.gov
Website: <http://dnr.wi.gov/fish/>

Water Quality Monitoring

Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-360-3167
E-mail: brenda.nordin@wisconsin.gov

Water Quality Problems

Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-360-3167
E-mail: brenda.nordin@wisconsin.gov

Wetlands

Contact: Jason Fleener
Wisconsin Department of Natural Resources
GEF2 DNR Central Office, Madison, WI 53707
Phone: 608-266-7408
E-mail: Jason.fleener@wisconsin.gov
Website: <http://dnr.wi.gov/wetlands/>

Contact: Wisconsin Wetlands Association
214 N. Hamilton Street, #201, Madison, WI 53703
Phone: 608-250-9971
Email: info@wisconsinwetlands.org

Wetland Inventory

Contact: Dr. Emmet Judziewicz
UWSP Freckmann Herbarium
TNR 301, 800 Reserve St., Stevens Point, WI 54481
Phone: 715-346-4248
E-mail: ejudziew@uwsp.edu

Appendix B

Appendix B. Rapid Response Plan

REPORTING A SUSPECTED INVASIVE SPECIES

1. Collect specimens or take photos.

Regardless of the method used, provide as much information as possible. Try to include flowers, seeds or fruit, buds, full leaves, stems, roots and other distinctive features. In photos, place a coin, pencil or ruler for scale. Deliver or send specimen ASAP.

Collect, press and dry a complete sample. This method is best because a plant expert can then examine the specimen.

-OR-

Collect a fresh sample. Enclose in a plastic bag with a moist paper towel and refrigerate.

-OR-

Take detailed photos (digital or film).

2. Note the location where the specimen was found.

If possible, give the exact geographic location using a GPS (global positioning system) unit, topographic map, or the Wisconsin Gazetteer map book. If using a map, include a photocopy with a dot showing the plant's location.

Provide one or more of the following:

- Latitude & Longitude
- UTM (Universal Transverse Mercator) coordinates
- County, Township, Range, Section, Part-section

- Precise written site description, noting nearest city & road names, landmarks, local topography

3. Gather information to aid in positive species identification.

- Collection date and county
- Your name, address, phone, email
- Exact location (lat/long or UTM, Township/Range)
- Plant name
- Land ownership (if known/applicable)
- Population description (estimated # plants, area covered)
- Habitat type where found (forest, field, prairie, wetland, open water)

Appendix B

4. Mail or bring specimens and information to any of the following locations (digital photos may be emailed):

Wisconsin Dept. Natural Resources

2984 Shawano Avenue,
Green Bay, WI 54313
Phone: (920) 662-5100

UW-Stevens Point Herbarium

301 Trainer Natural Resources Building
800 Reserve Street
Stevens Point, WI 54481
Phone: 715-346-4248
E-Mail: ejudziew@uwsp.edu

**Wisconsin Invasive Plants Reporting & Prevention
Project**

Herbarium-UW-Madison
430 Lincoln Drive
Madison, WI 53706
Phone: (608) 267-7612
E-Mail: invasiveplants@mailplus.wisc.edu

Appendix C

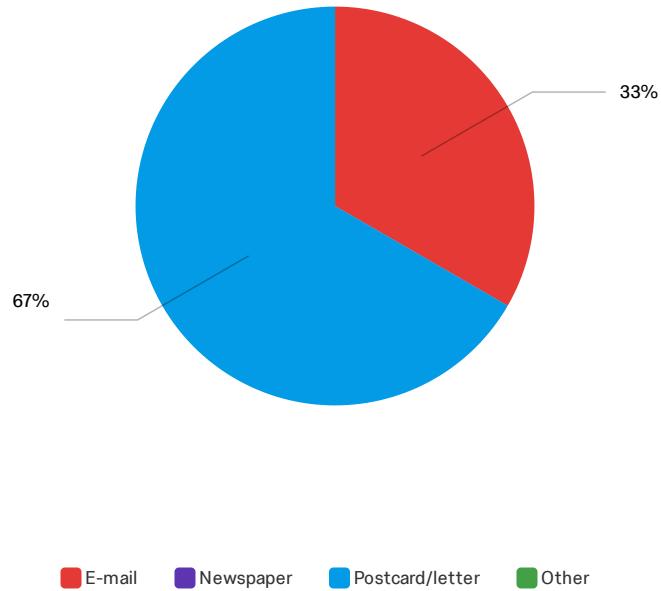
Appendix C. Lake User Survey Results

Default Report

Lake John Survey - Oconto County Lakes Project

October 8, 2019 11:11 AM MDT

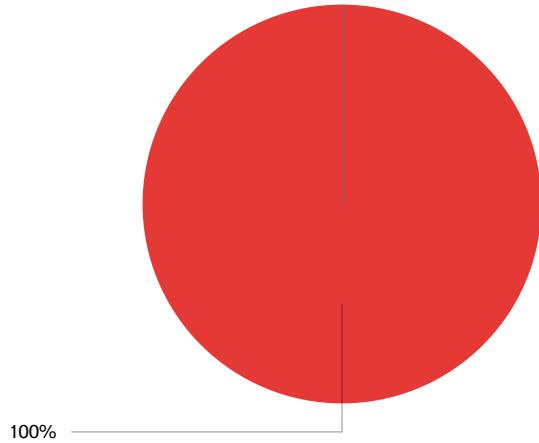
Q2 - How did you hear about this survey?



#	Field	Choice Count
1	E-mail	33% 3
2	Newspaper	0% 0
3	Postcard/letter	67% 6
4	Other	0% 0
		9

Showing rows 1 - 5 of 5

Q3 - Do you own or rent property...

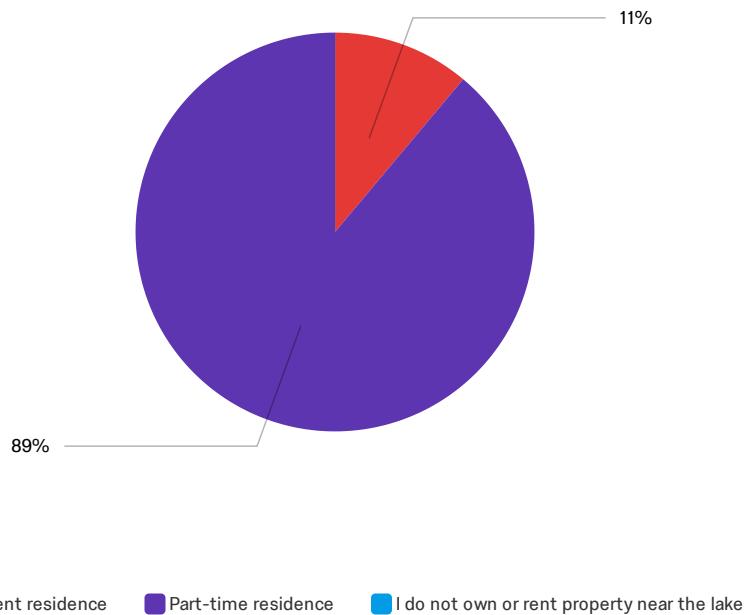


■ Around the lake ■ Less than 1/2 mile from the lake ■ Near the lake, but more than 1/2 mile away ■ I do not own or rent property near the lake

#	Field	Choice Count
1	Around the lake	100% 9
2	Less than 1/2 mile from the lake	0% 0
3	Near the lake, but more than 1/2 mile away	0% 0
4	I do not own or rent property near the lake	0% 0
		9

Showing rows 1 - 5 of 5

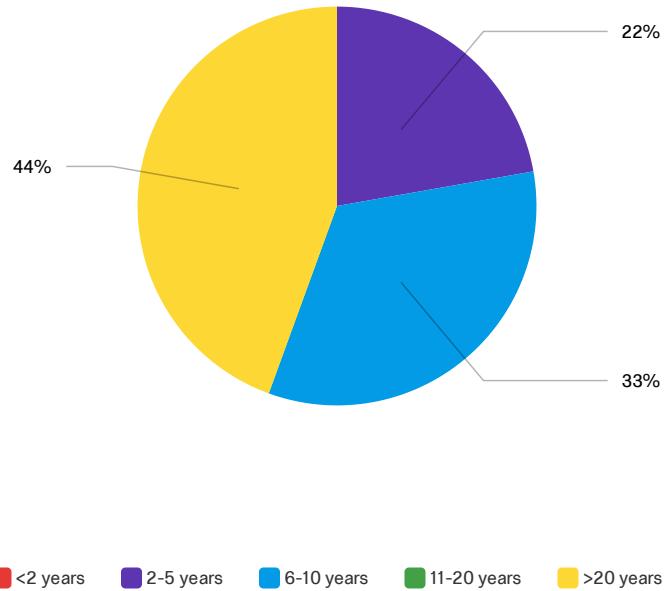
Q4 - If you own or rent property near the lake, is this property your...



#	Field	Choice Count
1	Permanent residence	11% 1
2	Part-time residence	89% 8
3	I do not own or rent property near the lake	0% 0
		9

Showing rows 1 - 4 of 4

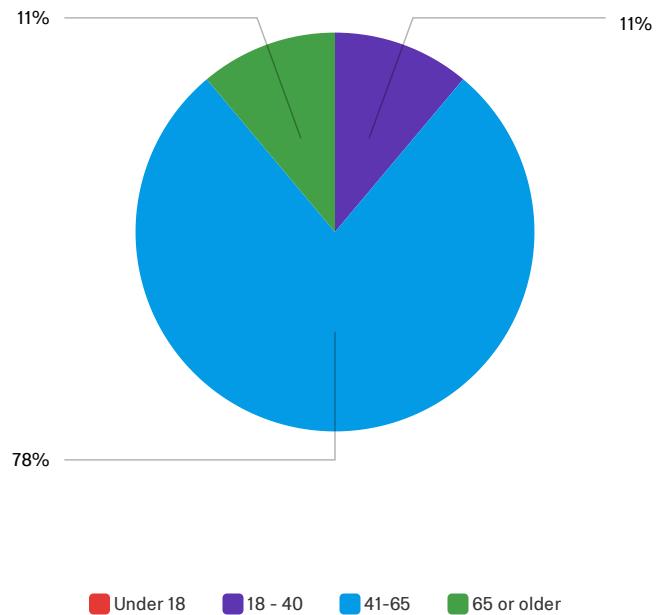
Q5 - How long have you lived on, visited or recreated on the lake?



#	Field	Choice	Count
1	<2 years	0%	0
2	2-5 years	22%	2
3	6-10 years	33%	3
4	11-20 years	0%	0
5	>20 years	44%	4
			9

Showing rows 1 - 6 of 6

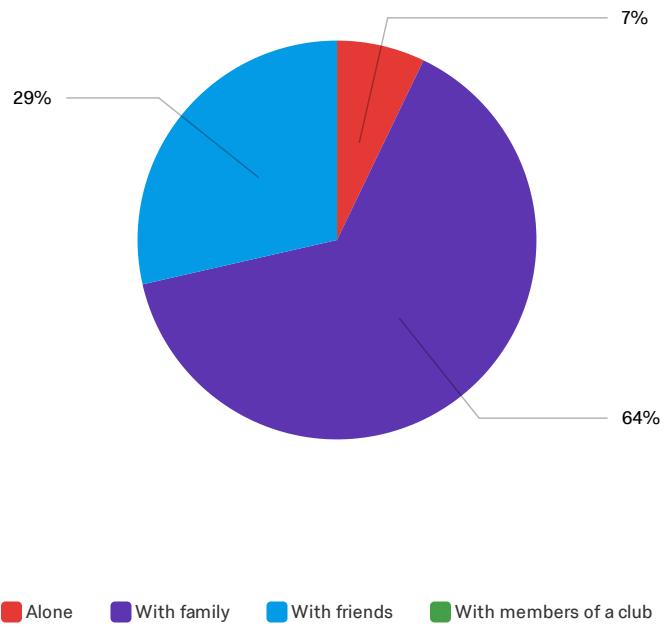
Q8 - Which category below includes your age?



#	Field	Choice Count
1	Under 18	0% 0
2	18 - 40	11% 1
3	41-65	78% 7
4	65 or older	11% 1
		9

Showing rows 1 - 5 of 5

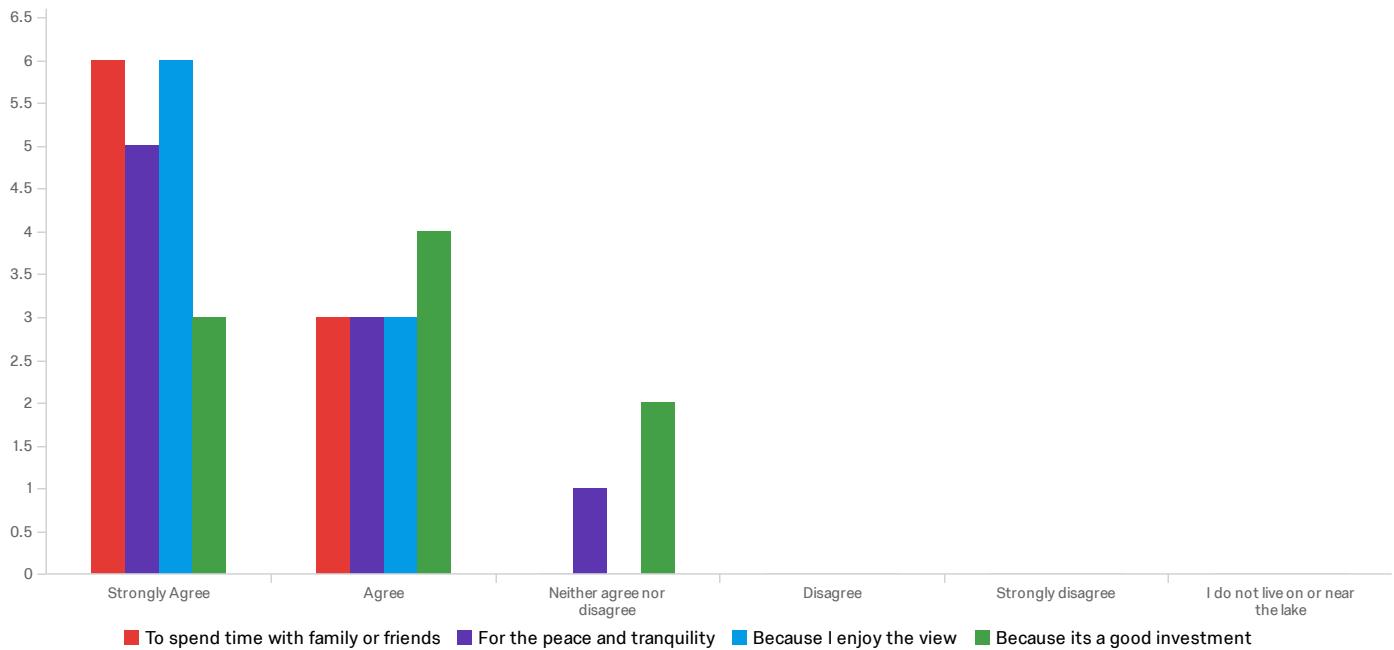
Q9 - When you visit Lake John, are you typically ...(check all that apply)



#	Field	Choice Count
1	Alone	7% 1
2	With family	64% 9
3	With friends	29% 4
4	With members of a club	0% 0
		14

Showing rows 1 - 5 of 5

Q10 - I live on or near the lake...



#	Field	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I do not live on or near the lake	Total
1	To spend time with family or friends	67% 6	33% 3	0% 0	0% 0	0% 0	0% 0	9
2	For the peace and tranquility	56% 5	33% 3	11% 1	0% 0	0% 0	0% 0	9
3	Because I enjoy the view	67% 6	33% 3	0% 0	0% 0	0% 0	0% 0	9
4	Because its a good investment	33% 3	44% 4	22% 2	0% 0	0% 0	0% 0	9

Showing rows 1 - 4 of 4

Q11 - What do you value most about Lake John?

What do you value most about Lake John?

just being on the lake

Clear water

Proximity to everything

Wildlife and beauty of lake

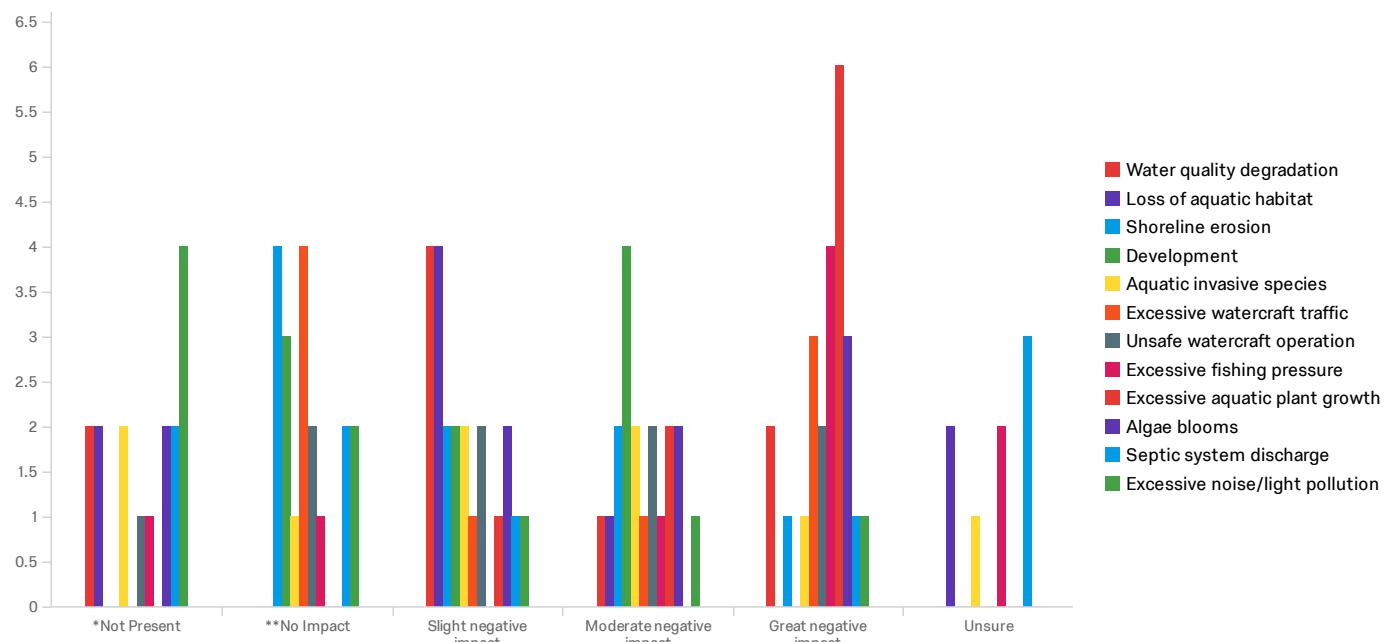
The view from the lake is quite natural. You don't see most of the buildings. The water is very clear.

The size of the lake is nice because it's not too big and small enough to know the people around the lake. It's a good distance from home, 1.5 hours.

Quiet and low boat noise

Quietness during the week and the wildlife

Q42 - Below is a list of negative impacts commonly found in Wisconsin lakes. To what level do you believe each of the following factors may be impacting Lake John? *Not Present means that you believe the issue does not exist on Lake John**No Impact means that the issue may exist, but is not negatively impacting Lake John

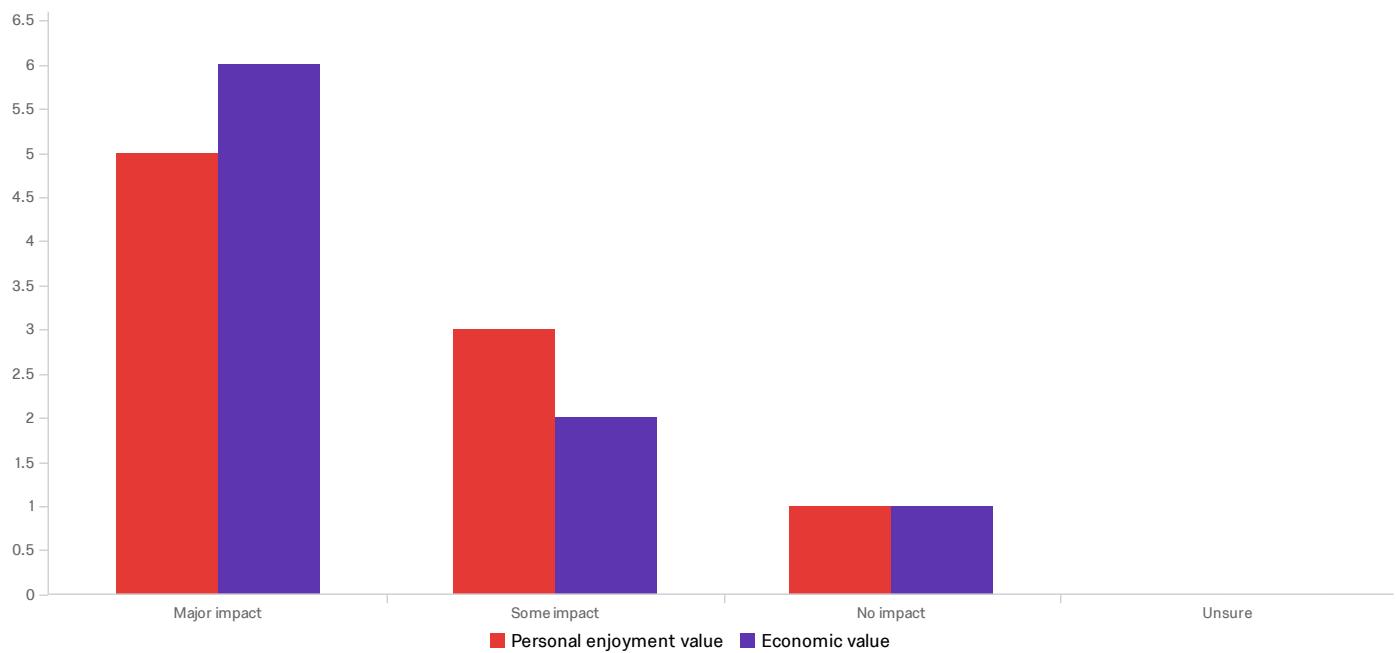


#	Field	*Not Present	**No Impact	Slight negative impact	Moderate negative impact	Great negative impact	Unsure	Total
1	Water quality degradation	22% 2	0% 0	44% 4	11% 1	22% 2	0% 0	9
2	Loss of aquatic habitat	22% 2	0% 0	44% 4	11% 1	0% 0	22% 2	9
3	Shoreline erosion	0% 0	44% 4	22% 2	22% 2	11% 1	0% 0	9
4	Development	0% 0	33% 3	22% 2	44% 4	0% 0	0% 0	9
5	Aquatic invasive species	22% 2	11% 1	22% 2	22% 2	11% 1	11% 1	9
6	Excessive watercraft traffic	0% 0	44% 4	11% 1	11% 1	33% 3	0% 0	9
7	Unsafe watercraft operation	11% 1	22% 2	22% 2	22% 2	22% 2	0% 0	9
8	Excessive fishing pressure	11% 1	11% 1	0% 0	11% 1	44% 4	22% 2	9

#	Field	*Not Present	**No Impact	Slight negative impact	Moderate negative impact	Great negative impact	Unsure	Total
9	Excessive aquatic plant growth	0% 0	0% 0	11% 1	22% 2	67% 6	0% 0	9
10	Algae blooms	22% 2	0% 0	22% 2	22% 2	33% 3	0% 0	9
11	Septic system discharge	22% 2	22% 2	11% 1	0% 0	11% 1	33% 3	9
12	Excessive noise/light pollution	44% 4	22% 2	11% 1	11% 1	11% 1	0% 0	9

Showing rows 1 - 12 of 12

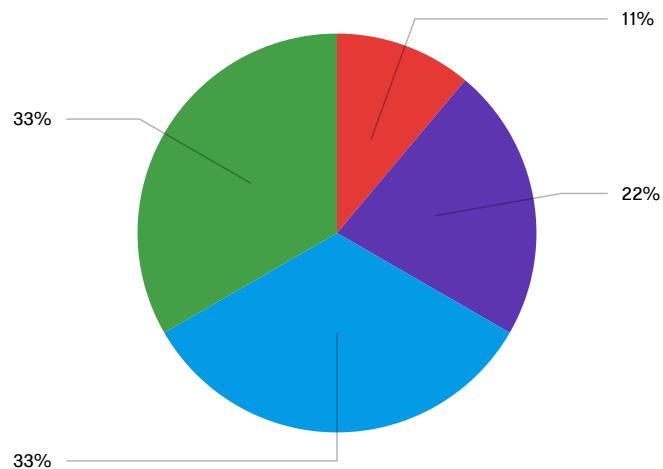
Q16 - How much impact does the water quality of Lake John have on the following?



#	Field	Major impact	Some impact	No impact	Unsure	Total
1	Personal enjoyment value	56% 5	33% 3	11% 1	0% 0	9
2	Economic value	67% 6	22% 2	11% 1	0% 0	9

Showing rows 1 - 2 of 2

Q17 - Which statement best describes water clarity during the times you spend most on the lake?

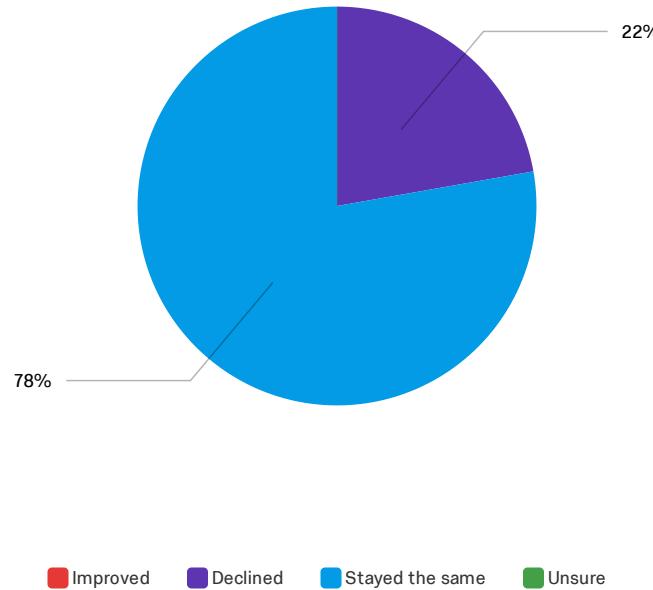


- █ Beautiful, could not be any nicer
- █ Very minor aesthetic problems; excellent for swimming and boating enjoyment
- █ Enjoyment of the lake is moderately impaired because of algae or other water quality problems
- █ Enjoyment of the lake is substantially impaired because of algae or other water quality problems

#	Field	Choice Count
1	Beautiful, could not be any nicer	11% 1
2	Very minor aesthetic problems; excellent for swimming and boating enjoyment	22% 2
3	Enjoyment of the lake is moderately impaired because of algae or other water quality problems	33% 3
4	Enjoyment of the lake is substantially impaired because of algae or other water quality problems	33% 3
		9

Showing rows 1 - 5 of 5

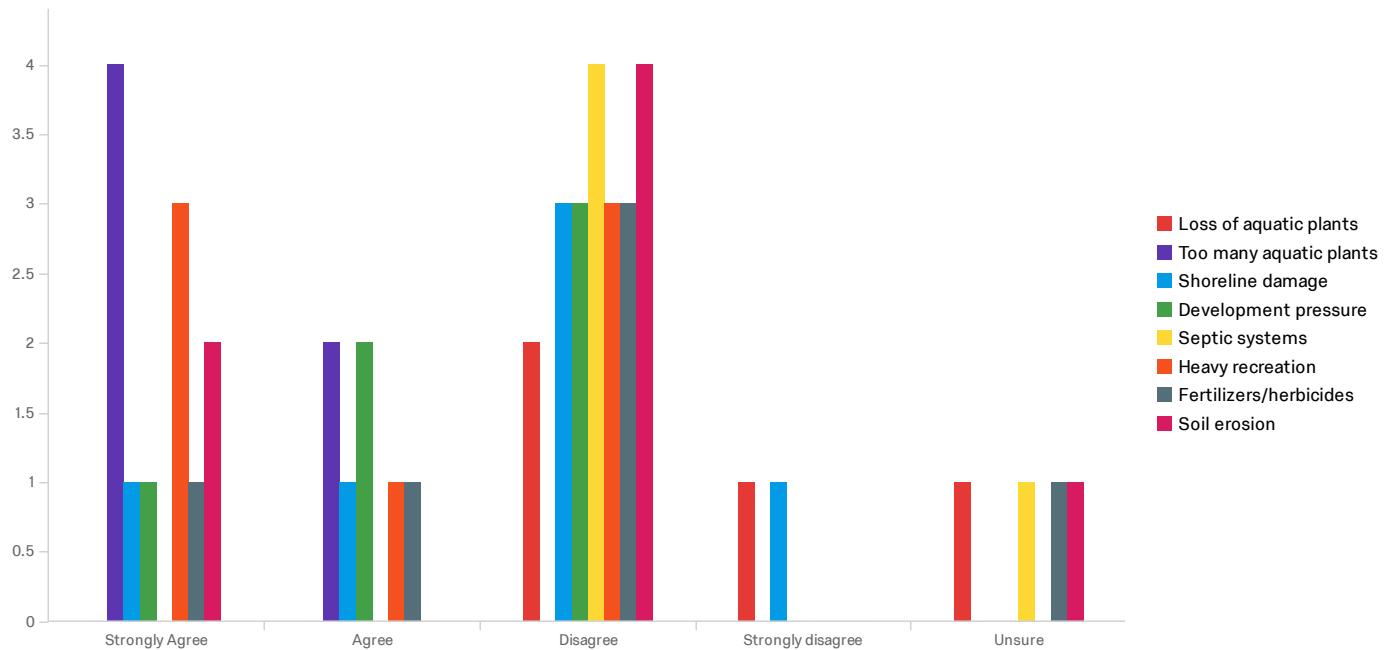
Q18 - During the time that you have lived on, visited or recreated on the lake, how would you say the water quality has changed?



#	Field	Choice	Count
1	Improved	0%	0
2	Declined	22%	2
3	Stayed the same	78%	7
4	Unsure	0%	0
			9

Showing rows 1 - 5 of 5

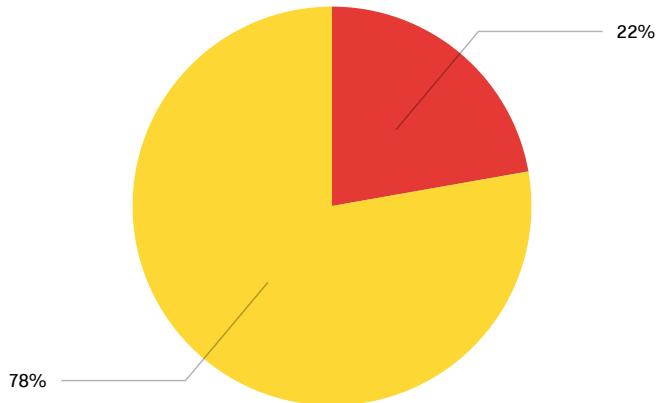
Q19 - If you think it has declined, what, in your opinion, are the primary causes?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Loss of aquatic plants	0% 0	0% 0	50% 2	25% 1	25% 1	4
2	Too many aquatic plants	67% 4	33% 2	0% 0	0% 0	0% 0	6
3	Shoreline damage	17% 1	17% 1	50% 3	17% 1	0% 0	6
4	Development pressure	17% 1	33% 2	50% 3	0% 0	0% 0	6
5	Septic systems	0% 0	0% 0	80% 4	0% 0	20% 1	5
6	Heavy recreation	43% 3	14% 1	43% 3	0% 0	0% 0	7
7	Fertilizers/herbicides	17% 1	17% 1	50% 3	0% 0	17% 1	6
8	Soil erosion	29% 2	0% 0	57% 4	0% 0	14% 1	7

Showing rows 1 - 8 of 8

Q20 - If you use fertilizers or herbicides on your land, where are they applied?

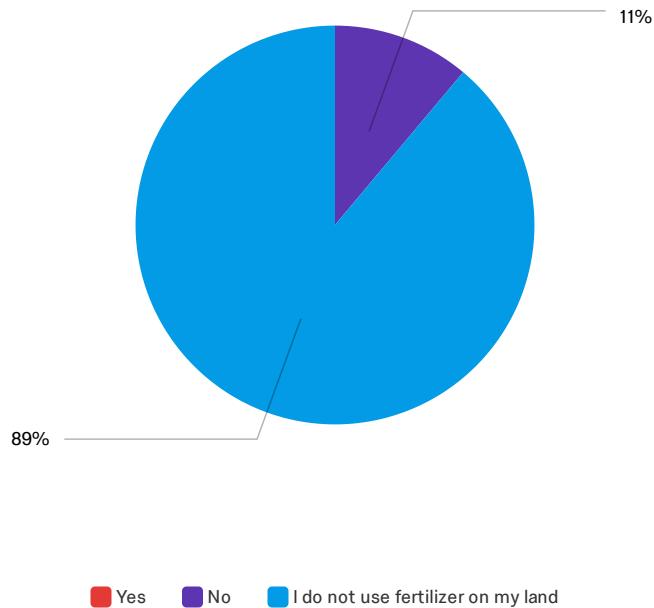


■ Lawn ■ Garden ■ Agricultural fields ■ Other ■ I do not use fertilizers or herbicides on my land

#	Field	Choice	Count
1	Lawn	22%	2
2	Garden	0%	0
3	Agricultural fields	0%	0
4	Other	0%	0
5	I do not use fertilizers or herbicides on my land	78%	7
			9

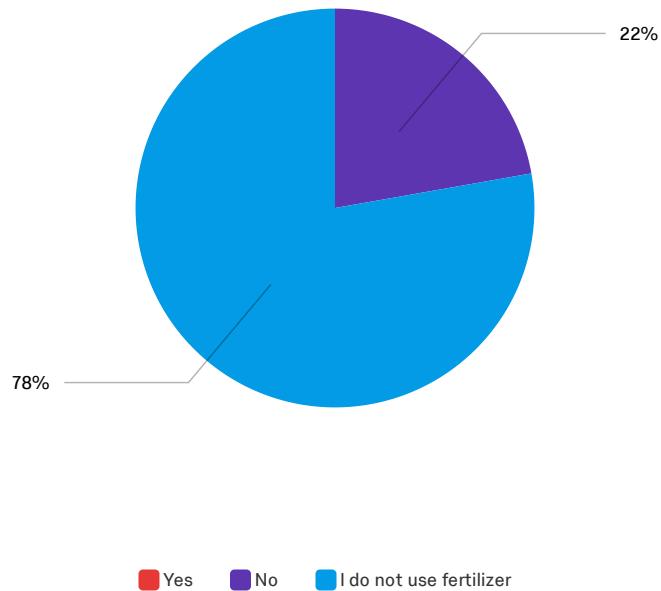
Showing rows 1 - 6 of 6

Q21 - Do you use fertilizer that contains phosphorus?



#	Field	Choice	Count
1	Yes	0%	0
2	No	11%	1
4	I do not use fertilizer on my land	89%	8
Showing rows 1 - 4 of 4			9

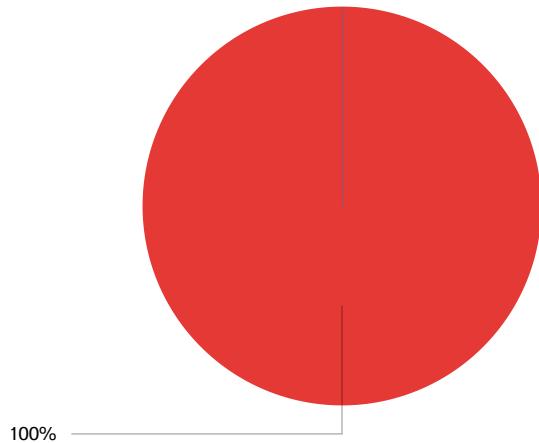
Q23 - Have you had your soil tested before using fertilizer?



#	Field	Choice	Count
1	Yes	0%	0
2	No	22%	2
3	I do not use fertilizer	78%	7
9			

Showing rows 1 - 4 of 4

Q22 - Do you have your septic tank pumped regularly (at least every 3 years)?

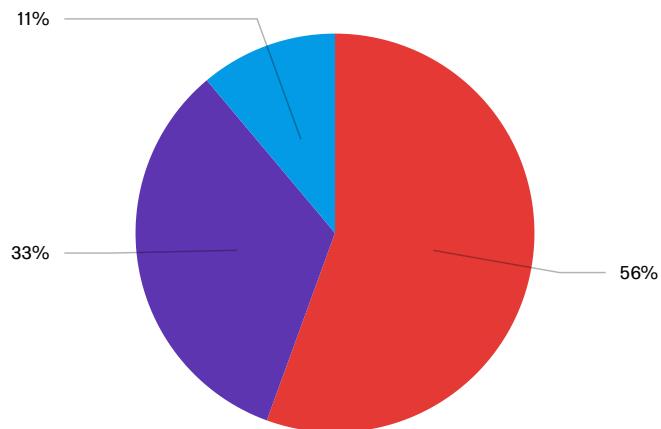


■ Yes ■ No ■ I don't have a septic tank

#	Field	Choice Count
1	Yes	100% 9
2	No	0% 0
3	I don't have a septic tank	0% 0
		9

Showing rows 1 - 4 of 4

Q25 - How do you currently manage the majority of your property within 35 feet of the lake?

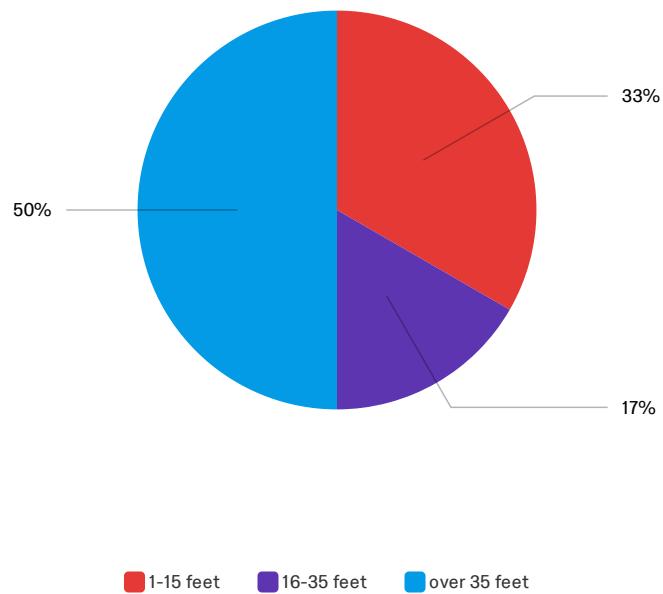


■ Mowed or weed-whacked ■ Natural except for access path ■ Restored shoreland/planted/landscaped

#	Field	Choice Count
1	Mowed or weed-whacked	56% 5
2	Natural except for access path	33% 3
3	Restored shoreland/planted/landscaped	11% 1
		9

Showing rows 1 - 4 of 4

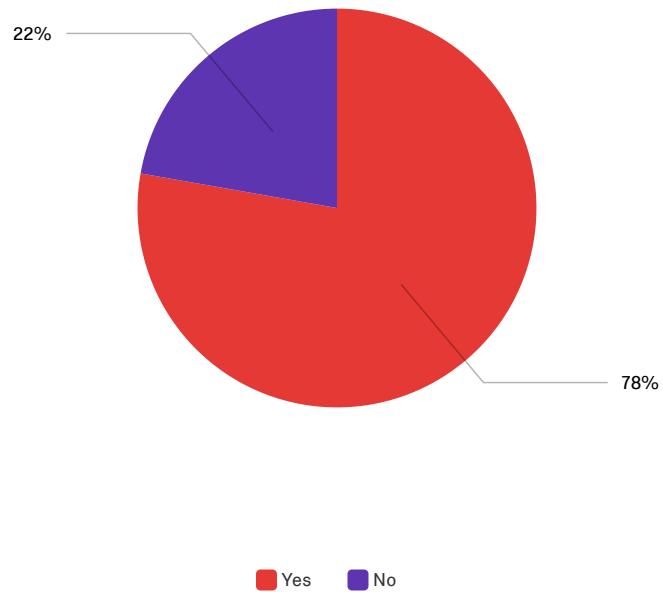
Q26 - If you have unmowed shoreland vegetation, how far inland from the water's edge does it extend?



#	Field	Choice	Count
1	1-15 feet	33%	2
2	16-35 feet	17%	1
3	over 35 feet	50%	3
			6

Showing rows 1 - 4 of 4

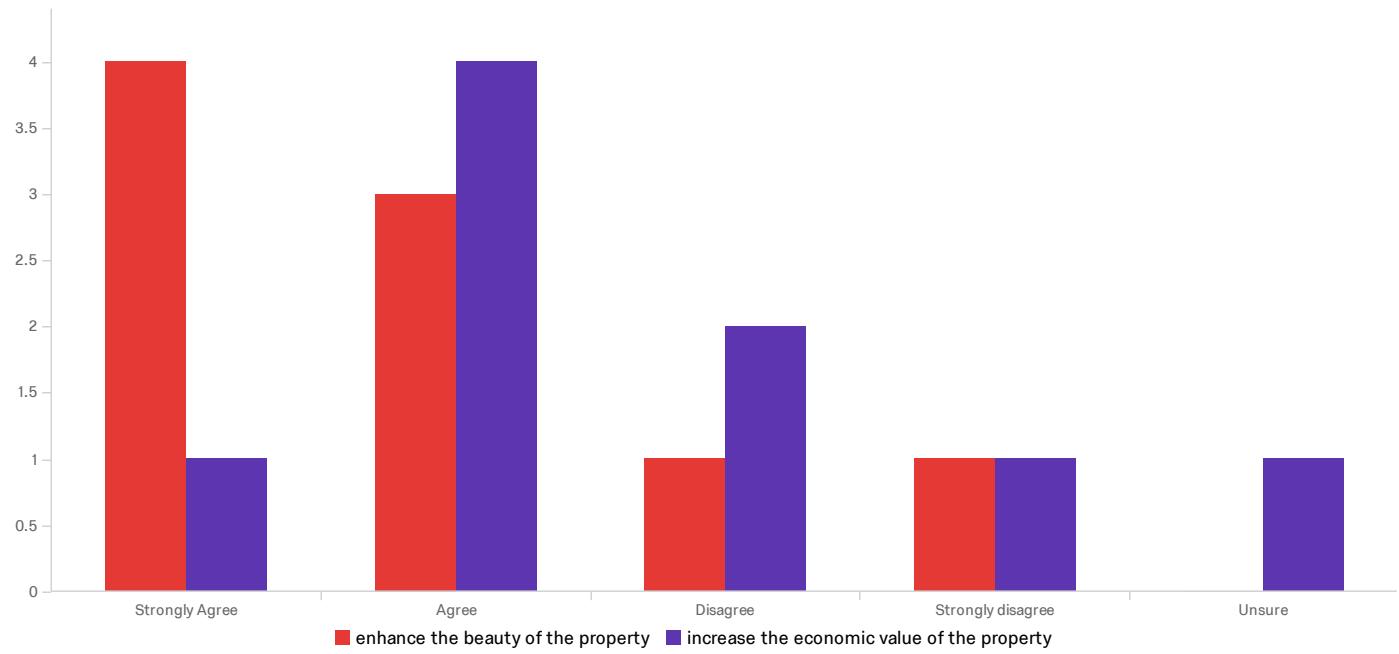
Q31 - Do you have woody structure such as fallen trees or large branches in the shallow water along your property?



#	Field	Choice	Count
1	Yes	78%	7
2	No	22%	2
			9

Showing rows 1 - 3 of 3

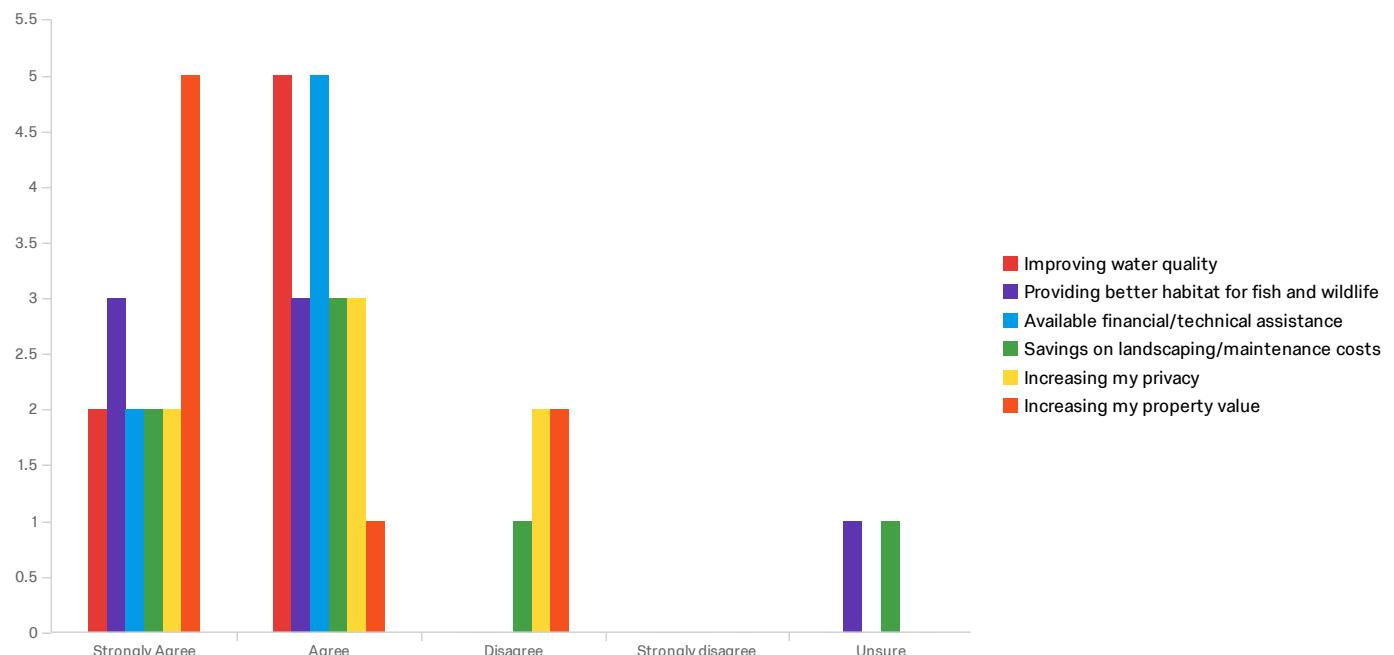
Q27 - In your opinion, does shoreland vegetation...



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	enhance the beauty of the property	44% 4	33% 3	11% 1	11% 1	0% 0	9
2	increase the economic value of the property	11% 1	44% 4	22% 2	11% 1	11% 1	9

Showing rows 1 - 2 of 2

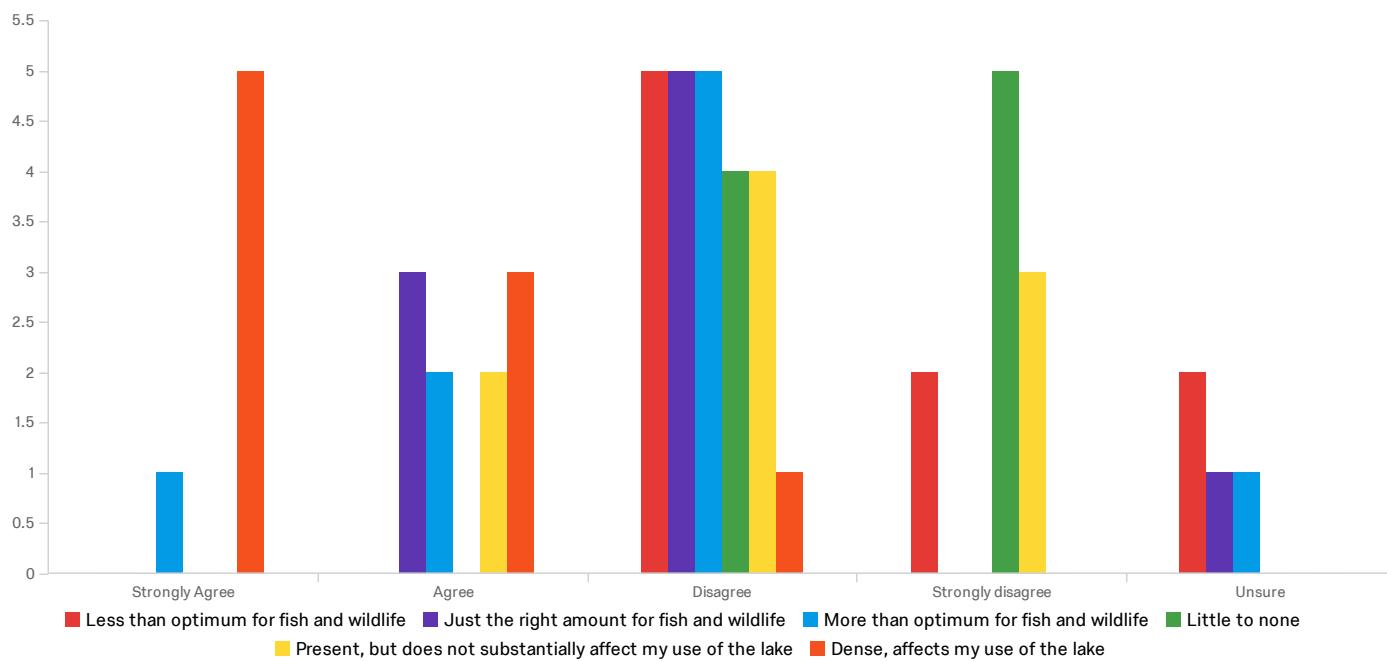
Q28 - What might motivate you to change how you manage your shoreland?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Improving water quality	29% 2	71% 5	0% 0	0% 0	0% 0	7
2	Providing better habitat for fish and wildlife	43% 3	43% 3	0% 0	0% 0	14% 1	7
3	Available financial/technical assistance	29% 2	71% 5	0% 0	0% 0	0% 0	7
4	Savings on landscaping/maintenance costs	29% 2	43% 3	14% 1	0% 0	14% 1	7
5	Increasing my privacy	29% 2	43% 3	29% 2	0% 0	0% 0	7
6	Increasing my property value	63% 5	13% 1	25% 2	0% 0	0% 0	8

Showing rows 1 - 6 of 6

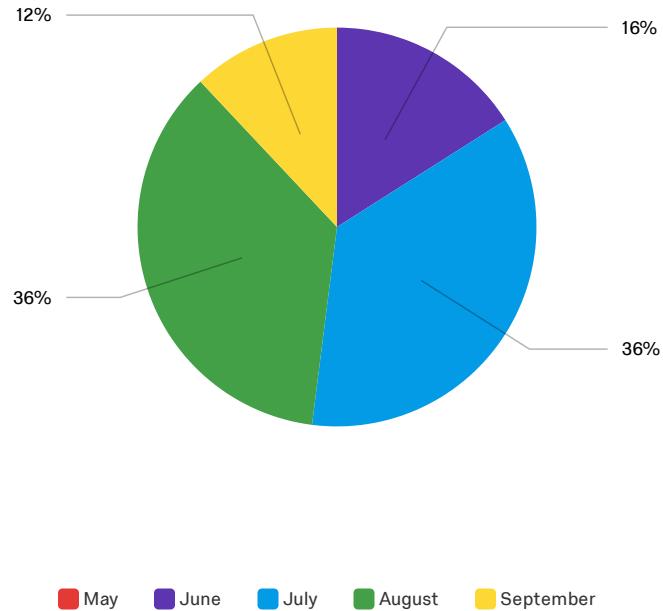
Q32 - In your opinion, which statement best describes the amount of aquatic plant growth in Lake John?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Less than optimum for fish and wildlife	0% 0	0% 0	56% 5	22% 2	22% 2	9
2	Just the right amount for fish and wildlife	0% 0	33% 3	56% 5	0% 0	11% 1	9
3	More than optimum for fish and wildlife	11% 1	22% 2	56% 5	0% 0	11% 1	9
4	Little to none	0% 0	0% 0	44% 4	56% 5	0% 0	9
5	Present, but does not substantially affect my use of the lake	0% 0	22% 2	44% 4	33% 3	0% 0	9
6	Dense, affects my use of the lake	56% 5	33% 3	11% 1	0% 0	0% 0	9

Showing rows 1 - 6 of 6

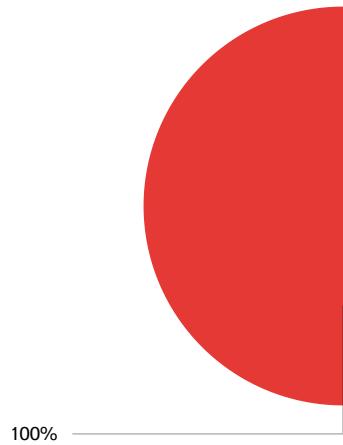
Q33 - If you think the plant growth in Lake John is dense, what month(s) do the problems occur? Check all that apply.



#	Field	Choice Count
1	May	0% 0
2	June	16% 4
3	July	36% 9
4	August	36% 9
5	September	12% 3
		25

Showing rows 1 - 6 of 6

Q34 - Do you believe aquatic plant control is needed on Lake John?

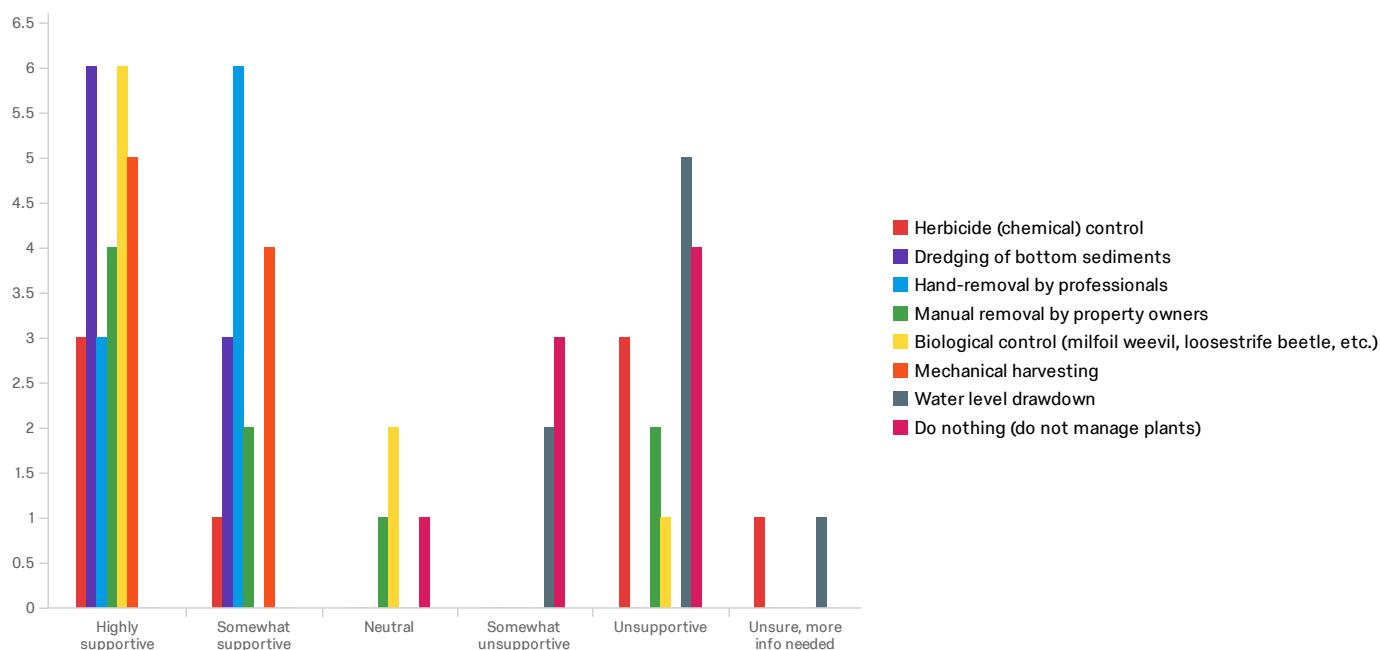


■ Yes ■ No ■ Unsure

#	Field	Choice Count
1	Yes	100% 9
2	No	0% 0
3	Unsure	0% 0
		9

Showing rows 1 - 4 of 4

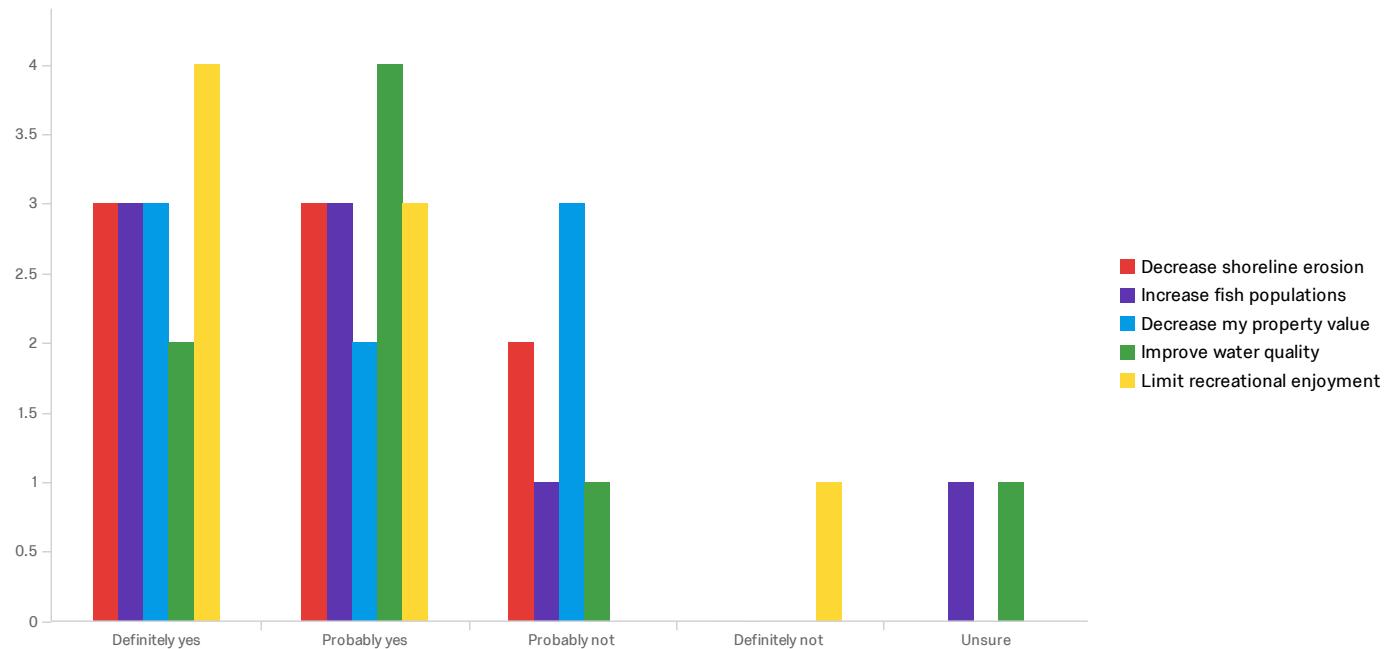
Q35 - What is your level of support for the responsible use of the following techniques to manage aquatic plants on Lake John?



#	Field	Highly supportive	Somewhat supportive	Neutral	Somewhat unsupportive	Unsupportive	Unsure, more info needed	Total
1	Herbicide (chemical) control	38% 3	13% 1	0% 0	0% 0	38% 3	13% 1	8
2	Dredging of bottom sediments	67% 6	33% 3	0% 0	0% 0	0% 0	0% 0	9
3	Hand-removal by professionals	33% 3	67% 6	0% 0	0% 0	0% 0	0% 0	9
4	Manual removal by property owners	44% 4	22% 2	11% 1	0% 0	22% 2	0% 0	9
5	Biological control (milfoil weevil, loosestrife beetle, etc.)	67% 6	0% 0	22% 2	0% 0	11% 1	0% 0	9
6	Mechanical harvesting	56% 5	44% 4	0% 0	0% 0	0% 0	0% 0	9
7	Water level drawdown	0% 0	0% 0	0% 0	25% 2	63% 5	13% 1	8
8	Do nothing (do not manage plants)	0% 0	0% 0	13% 1	38% 3	50% 4	0% 0	8

Showing rows 1 - 8 of 8

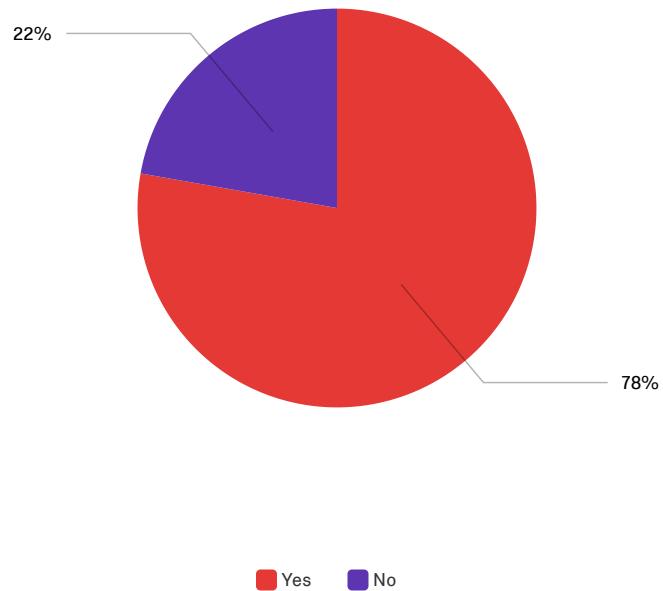
Q36 - In your opinion, does establishing or maintaining native vegetation in the water in the near-shore area...



#	Field	Definitely yes	Probably yes	Probably not	Definitely not	Unsure	Total
1	Decrease shoreline erosion	38% 3	38% 3	25% 2	0% 0	0% 0	8
2	Increase fish populations	38% 3	38% 3	13% 1	0% 0	13% 1	8
3	Decrease my property value	38% 3	25% 2	38% 3	0% 0	0% 0	8
4	Improve water quality	25% 2	50% 4	13% 1	0% 0	13% 1	8
5	Limit recreational enjoyment	50% 4	38% 3	0% 0	13% 1	0% 0	8

Showing rows 1 - 5 of 5

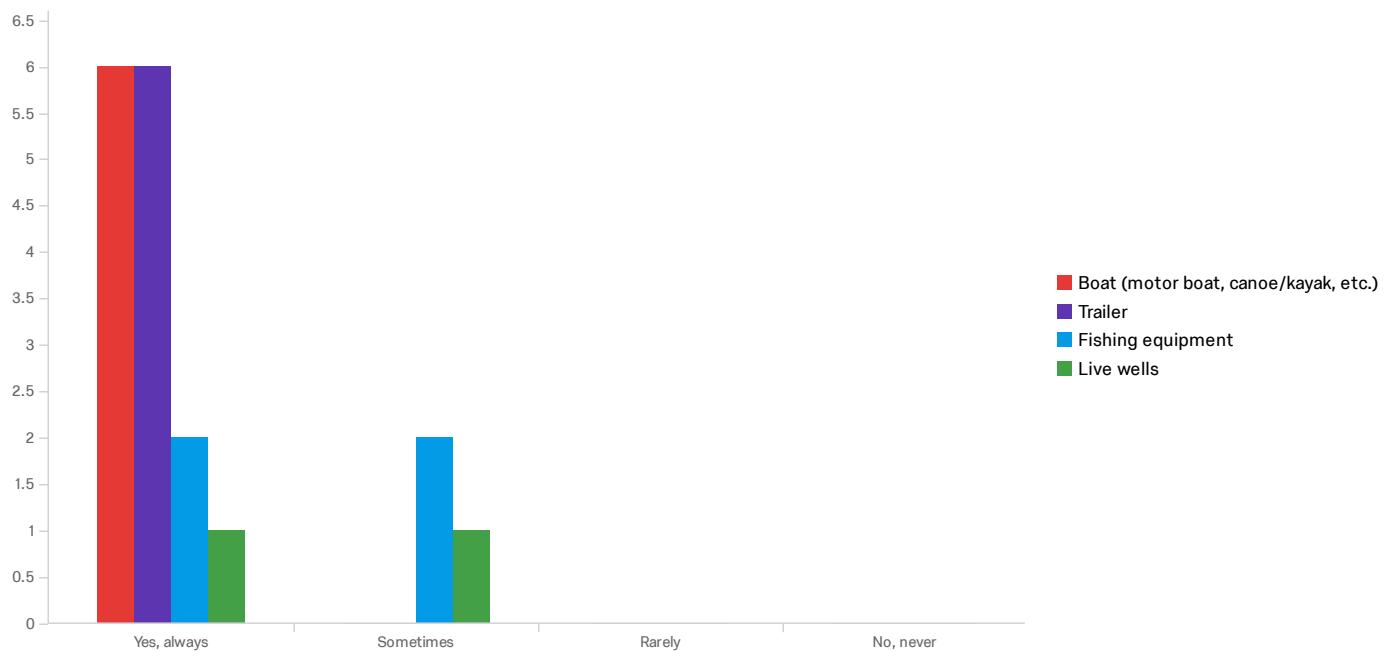
Q37 - Are you aware of invasive species (in general)?



#	Field	Choice Count
1	Yes	78% 7
2	No	22% 2
		9

Showing rows 1 - 3 of 3

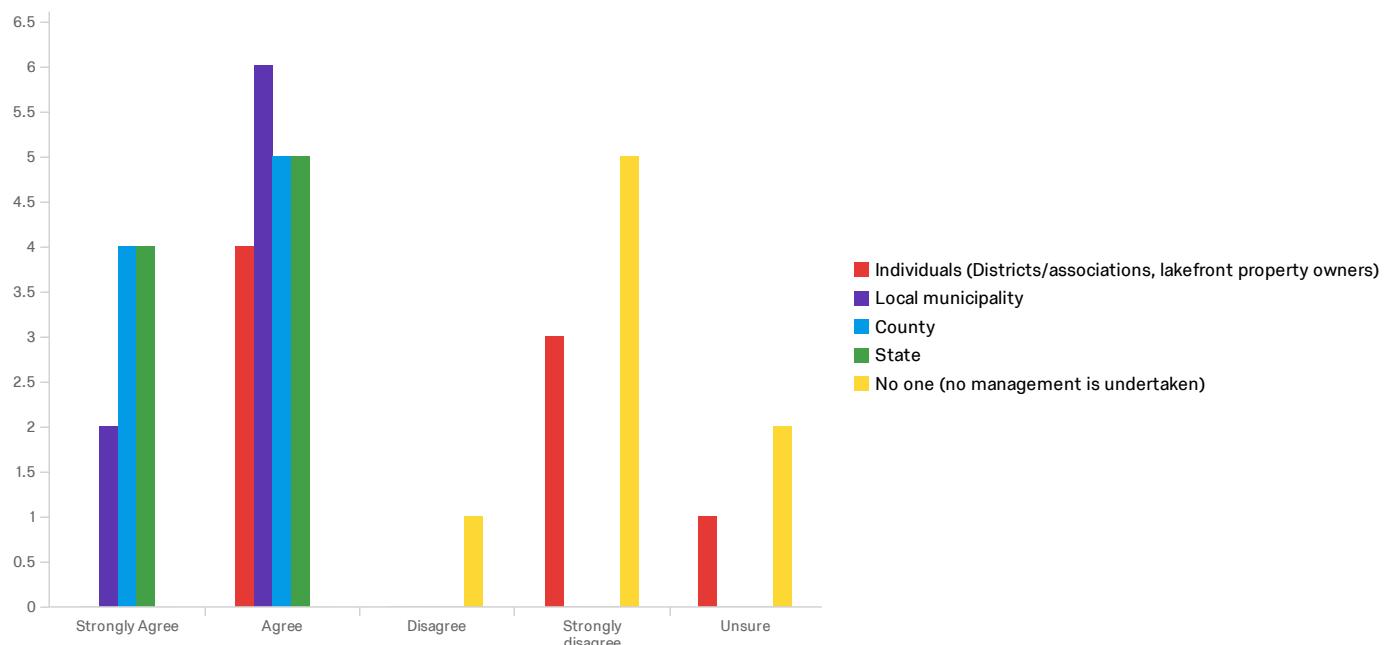
Q39 - After you have been to another lake, do you clean your.... before bringing it back to Lake John?



#	Field	Yes, always	Sometimes	Rarely	No, never	Total
1	Boat (motor boat, canoe/kayak, etc.)	100% 6	0% 0	0% 0	0% 0	6
2	Trailer	100% 6	0% 0	0% 0	0% 0	6
3	Fishing equipment	50% 2	50% 2	0% 0	0% 0	4
4	Live wells	50% 1	50% 1	0% 0	0% 0	2

Showing rows 1 - 4 of 4

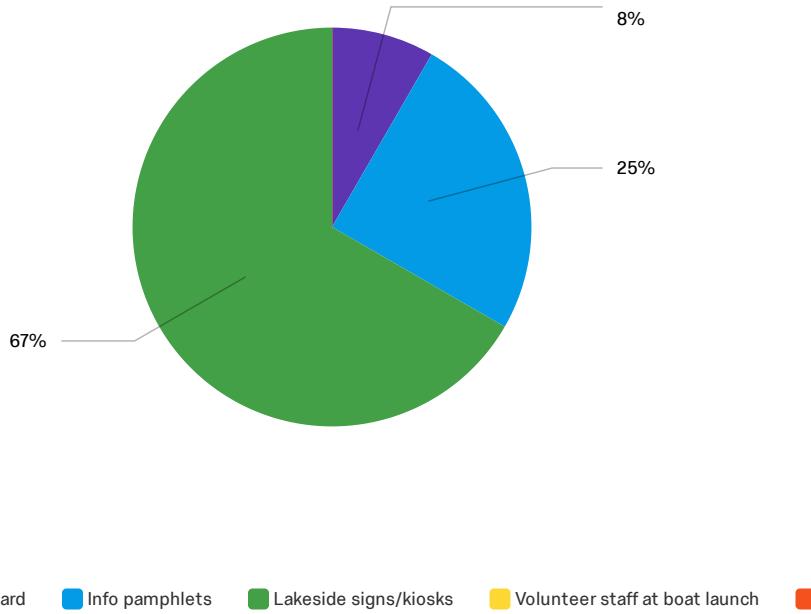
Q40 - Who should pay the cost of managing invasive aquatic plants?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Individuals (Districts/associations, lakefront property owners)	0% 0	50% 4	0% 0	38% 3	13% 1	8
2	Local municipality	25% 2	75% 6	0% 0	0% 0	0% 0	8
3	County	44% 4	56% 5	0% 0	0% 0	0% 0	9
4	State	44% 4	56% 5	0% 0	0% 0	0% 0	9
5	No one (no management is undertaken)	0% 0	0% 0	13% 1	63% 5	25% 2	8

Showing rows 1 - 5 of 5

Q41 - What is the most effective way to inform others about aquatic invasive species?



■ Newspaper ■ Billboard ■ Info pamphlets ■ Lakeside signs/kiosks ■ Volunteer staff at boat launch ■ Other

#	Field	Choice	Count
1	Newspaper	0%	0
2	Billboard	8%	1
3	Info pamphlets	25%	3
4	Lakeside signs/kiosks	67%	8
5	Volunteer staff at boat launch	0%	0
6	Other	0%	0

12

Showing rows 1 - 7 of 7

Q12 - In your opinion, what should be done to restore, maintain or improve Lake John?

In your opinion, what should be done to restore, maintain or improve Lake J...

control of the weeds or constant removal of floating vegetation.

Less water traffic

Dredging lake

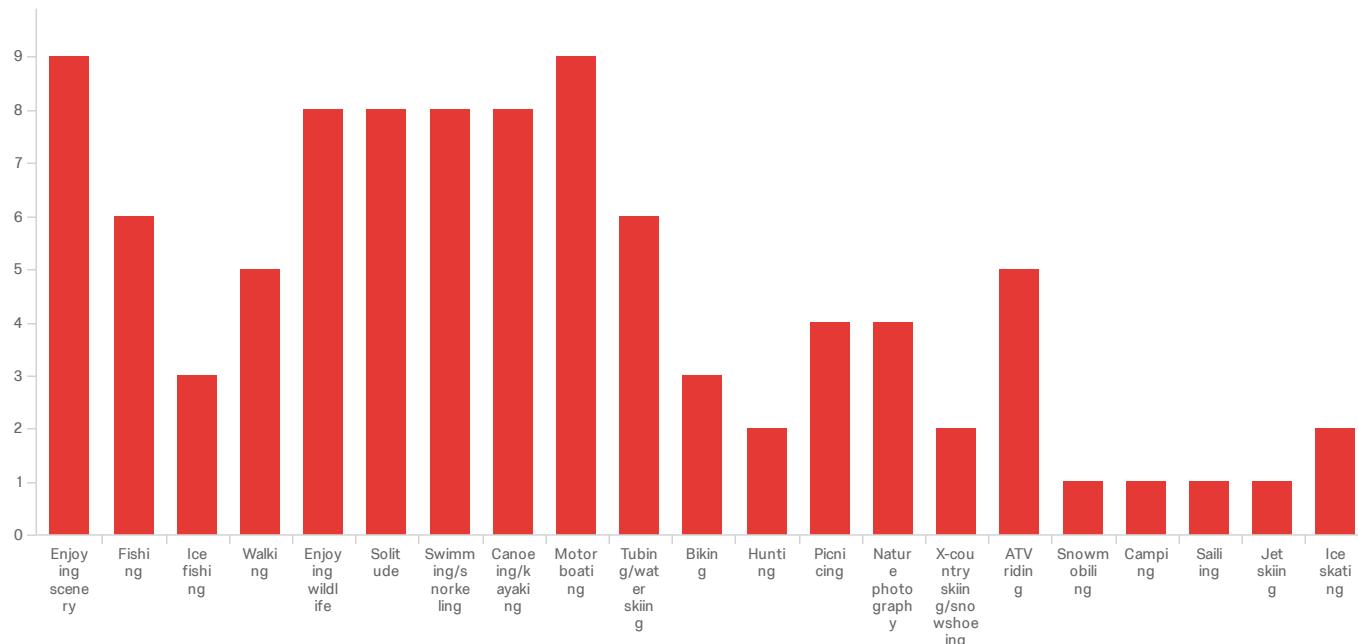
Reduce floating weeds.

Weed management is the most important thing to improve Lake John. Establishing habitat for walleye is another thing that will help improve Lake John.

Harvest floating weed bogs

Over fished, too much pressure

Q45 - What recreational activities do you partake in on Lake John (check all that apply)?



#	Field	Choice Count
1	Enjoying scenery	9% 9
2	Fishing	6% 6
3	Ice fishing	3% 3
4	Walking	5% 5
5	Enjoying wildlife	8% 8
6	Solitude	8% 8
7	Swimming/snorkeling	8% 8
8	Canoeing/kayaking	8% 8
9	Motor boating	9% 9
10	Tubing/water skiing	6% 6
11	Biking	3% 3
12	Hunting	2% 2
13	Picnicing	4% 4
14	Nature photography	4% 4
15	X-country skiing/snowshoeing	2% 2

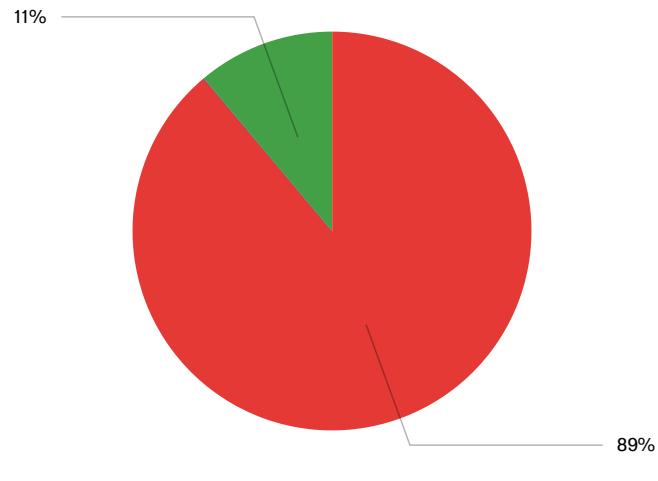
#	Field	Choice Count
16	ATV riding	5% 5
17	Snowmobiling	1% 1
18	Camping	1% 1
19	Sailiing	1% 1
20	Jet skiing	1% 1
21	Ice skating	2% 2
		96

Showing rows 1 - 22 of 22

Q46 - Other recreational activities not included above:

Other recreational activities not included above:

Q47 - "No Wake" is allowed on Lake John between 6pm and 11am. Do you like the current "No Wake" rules as they are?



■ Definitely Yes ■ Yes, most of the time ■ No, not most of the time ■ Definitely No ■ Unsure

#	Field	Choice Count
1	Definitely Yes	89% 8
2	Yes, most of the time	0% 0
3	No, not most of the time	0% 0
4	Definitely No	11% 1
5	Unsure	0% 0
		9

Showing rows 1 - 6 of 6

Q48 - If you think the "No Wake" rules should be adjusted...in what way?

If you think the "No Wake" rules should be adjusted...in what way?

Longer

They are not followed and neither is direction of boats. Sad

Q49 - What could be done to improve your recreation experience on Lake John?

What could be done to improve your recreation experience on Lake John?

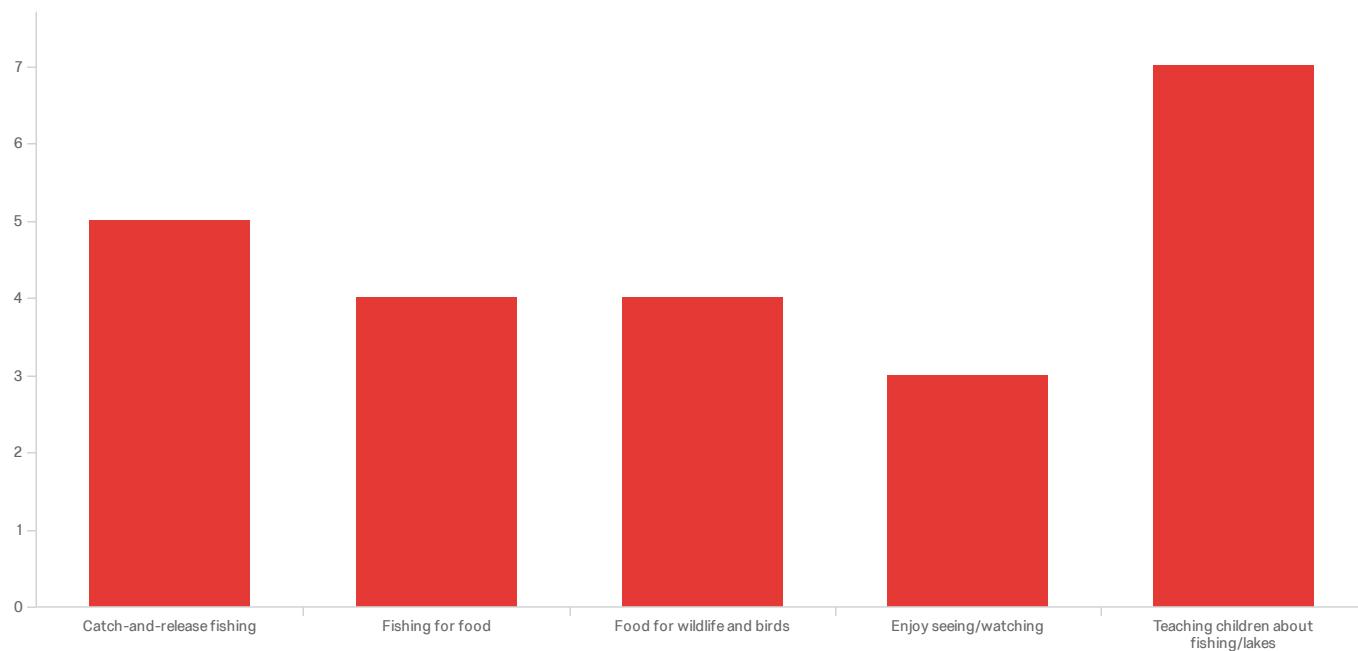
the removal of surface vegetation

Clean the weeds

Manage the weeds to prevent weed mats from forming in the lake especially when there is a lot of skiing, tubing, and jet skiing activity.

DNR needs to be out and present on Sat, especially in winter

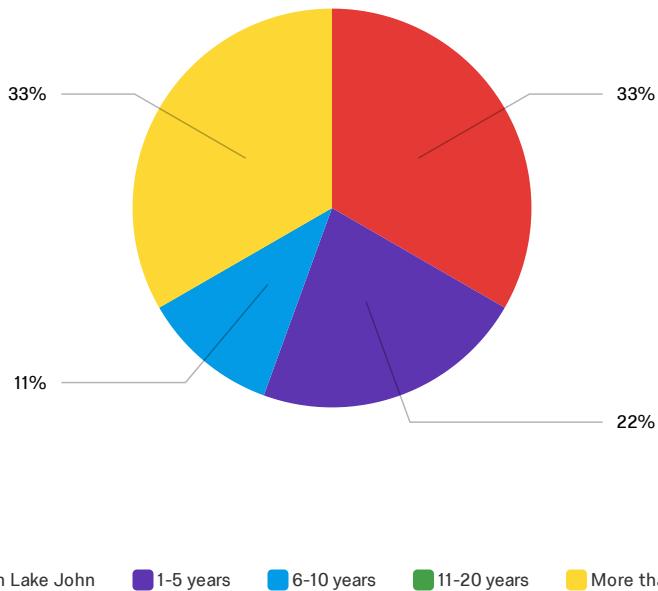
Q51 - For what purposes do you value the fishery in Lake John? (Check all that apply)



#	Field	Choice Count
1	Catch-and-release fishing	22% 5
2	Fishing for food	17% 4
3	Food for wildlife and birds	17% 4
4	Enjoy seeing/watching	13% 3
5	Teaching children about fishing/lakes	30% 7

Showing rows 1 - 6 of 6

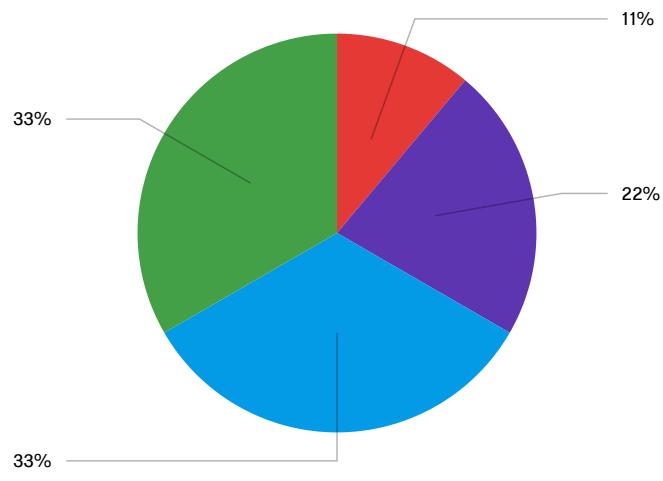
Q52 - How many years experience do you have fishing Lake John?



#	Field	Choice Count
1	I don't fish Lake John	33% 3
2	1-5 years	22% 2
3	6-10 years	11% 1
4	11-20 years	0% 0
5	More than 20 years	33% 3
		9

Showing rows 1 - 6 of 6

Q53 - In the time you have been fishing Lake John, would you say the quality of fishing has...



■ Improved ■ Stayed the same ■ Declined ■ Not sure/don't fish

#	Field	Choice	Count
1	Improved	11%	1
2	Stayed the same	22%	2
3	Declined	33%	3
4	Not sure/don't fish	33%	3
			9

Showing rows 1 - 5 of 5

Q54 - What do you think has contributed to the change in fishing?

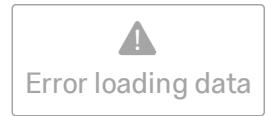
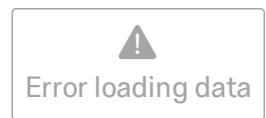
What do you think has contributed to the change in fishing?

Over fishing

Overfishing has increased with more and more people visiting the lake to fish. People are not abiding by the bag and size limits.

Pressure

Q55 - When and how often do you fish Lake John?



Q56 - What type of fish do you catch on Lake John?

What type of fish do you catch on Lake John?

bass, blugill and northern

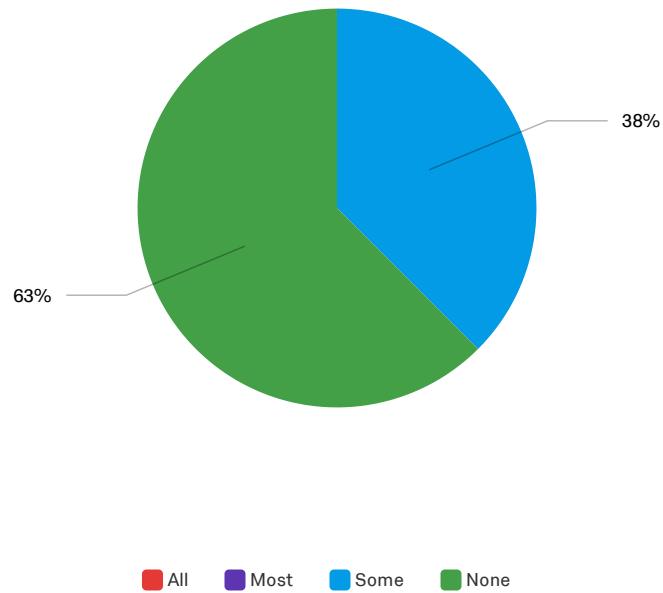
Panfish, Largemouth, Northern Pike

Pike

Blue gills, crappie, perch, northern.

Bass, crappie, blue gill, perch, northern

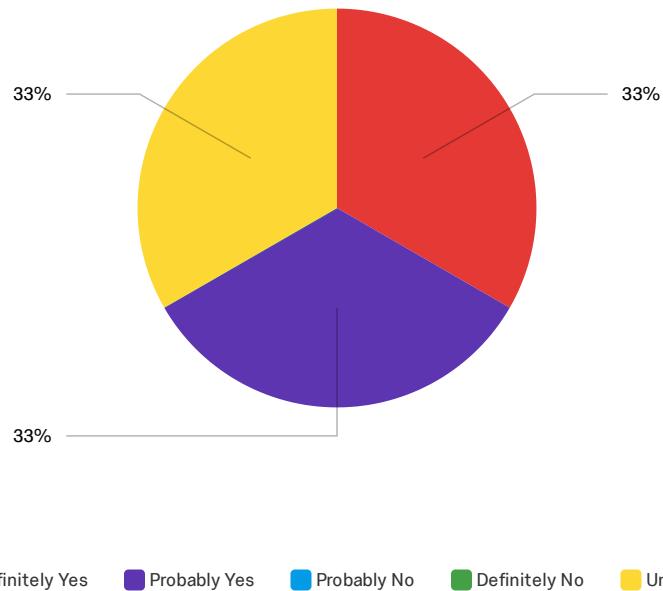
Q57 - In general, how many of the fish you catch are big enough to keep?



#	Field	Choice Count
1	All	0% 0
2	Most	0% 0
3	Some	38% 3
4	None	63% 5

Showing rows 1 - 5 of 5

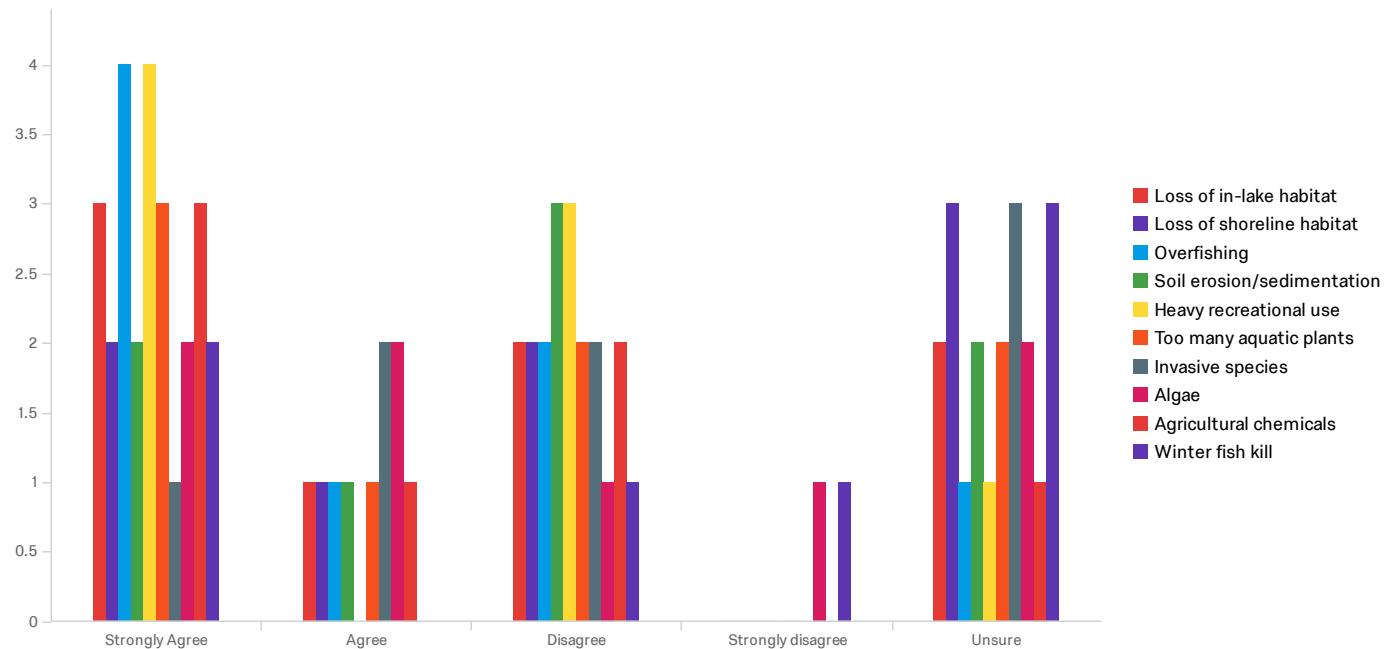
Q58 - Do you believe fish from Lake John are safe to eat?



#	Field	Choice	Count
1	Definitely Yes	33%	3
2	Probably Yes	33%	3
3	Probably No	0%	0
4	Definitely No	0%	0
5	Unsure	33%	3
			9

Showing rows 1 - 6 of 6

Q59 - What do you think is the greatest threat to the fishery in Lake John in the next 10 years?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Loss of in-lake habitat	38% 3	13% 1	25% 2	0% 0	25% 2	8
2	Loss of shoreline habitat	25% 2	13% 1	25% 2	0% 0	38% 3	8
3	Overfishing	50% 4	13% 1	25% 2	0% 0	13% 1	8
4	Soil erosion/sedimentation	25% 2	13% 1	38% 3	0% 0	25% 2	8
5	Heavy recreational use	50% 4	0% 0	38% 3	0% 0	13% 1	8
6	Too many aquatic plants	38% 3	13% 1	25% 2	0% 0	25% 2	8
7	Invasive species	13% 1	25% 2	25% 2	0% 0	38% 3	8
8	Algae	25% 2	25% 2	13% 1	13% 1	25% 2	8
9	Agricultural chemicals	43% 3	14% 1	29% 2	0% 0	14% 1	7
10	Winter fish kill	29% 2	0% 0	14% 1	14% 1	43% 3	7

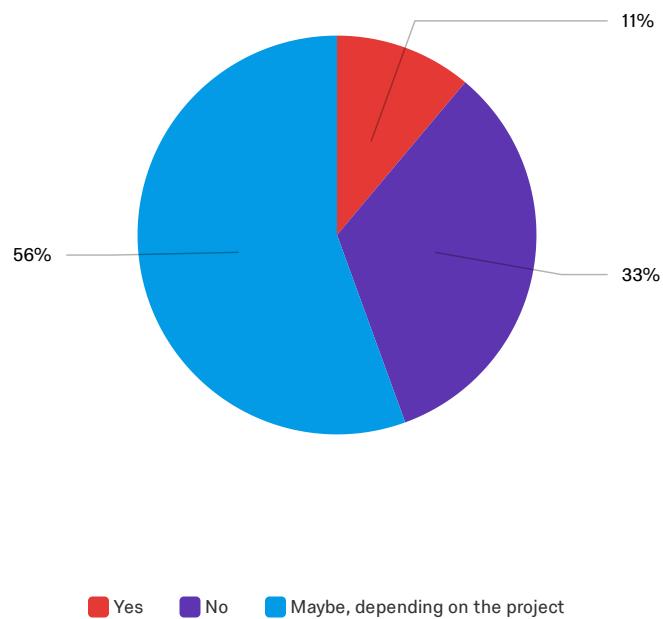
Showing rows 1 - 10 of 10

Q61 - Do you have any additional comments regarding Lake John?

Do you have any additional comments regarding Lake John?

Love the lake , swimming and boating all my life here

Q63 - Would you be interested in volunteering on a project on your lake (such as shoreland restoration planting, invasive species monitoring/removal, water quality monitoring, highway cleanup, etc.)?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Would you be interested in volunteering on a project on your lake (such as shoreland restoration planting, invasive species monitoring/removal, water quality monitoring, highway cleanup, etc.)?	1	3	2	1	0	9

#	Field	Choice Count
1	Yes	11% 1
2	No	33% 3
3	Maybe, depending on the project	56% 5
		9

Showing rows 1 - 4 of 4

Q64 - Are you aware of the following programs available to you from Oconto County?

(Check all that apply)



#	Field	Choice Count
1	Healthy Waters Cost Share Program	0% 0
2	Oconto County Cost Share Program	0% 0
		0

Showing rows 1 - 3 of 3

End of Report