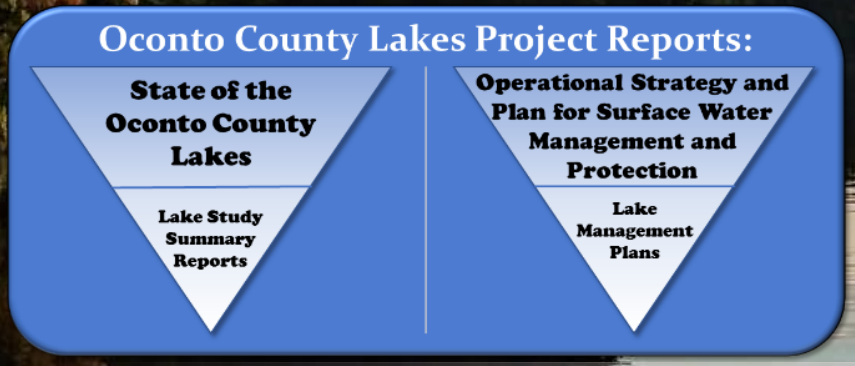
Oconto County Lakes Project

OCONTO FALLS POND MANAGEMENT PLAN

2020



VISION

Oconto Falls Pond will remain a place of great natural beauty, with great fishing, boating and swimming right at the edge of town.

Oconto Falls Pond Management Plan

The authors would like to acknowledge the support 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 Oconto Falls Pond 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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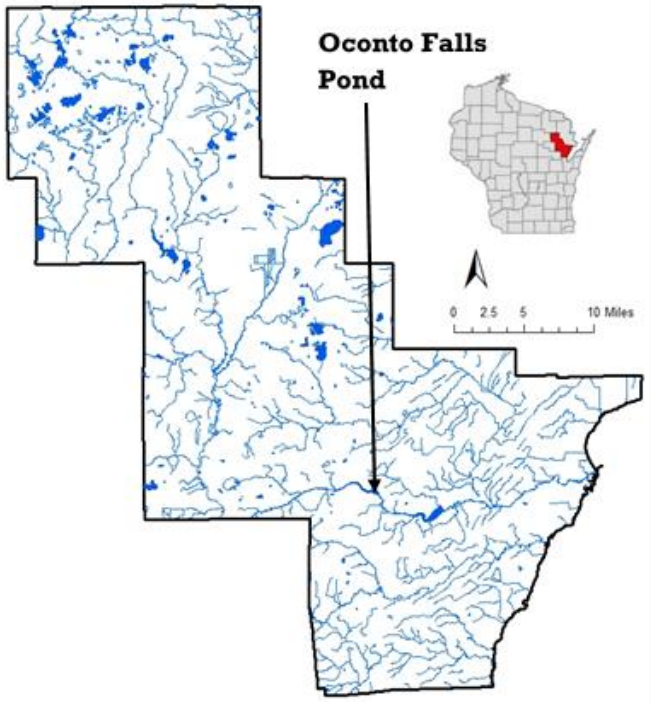
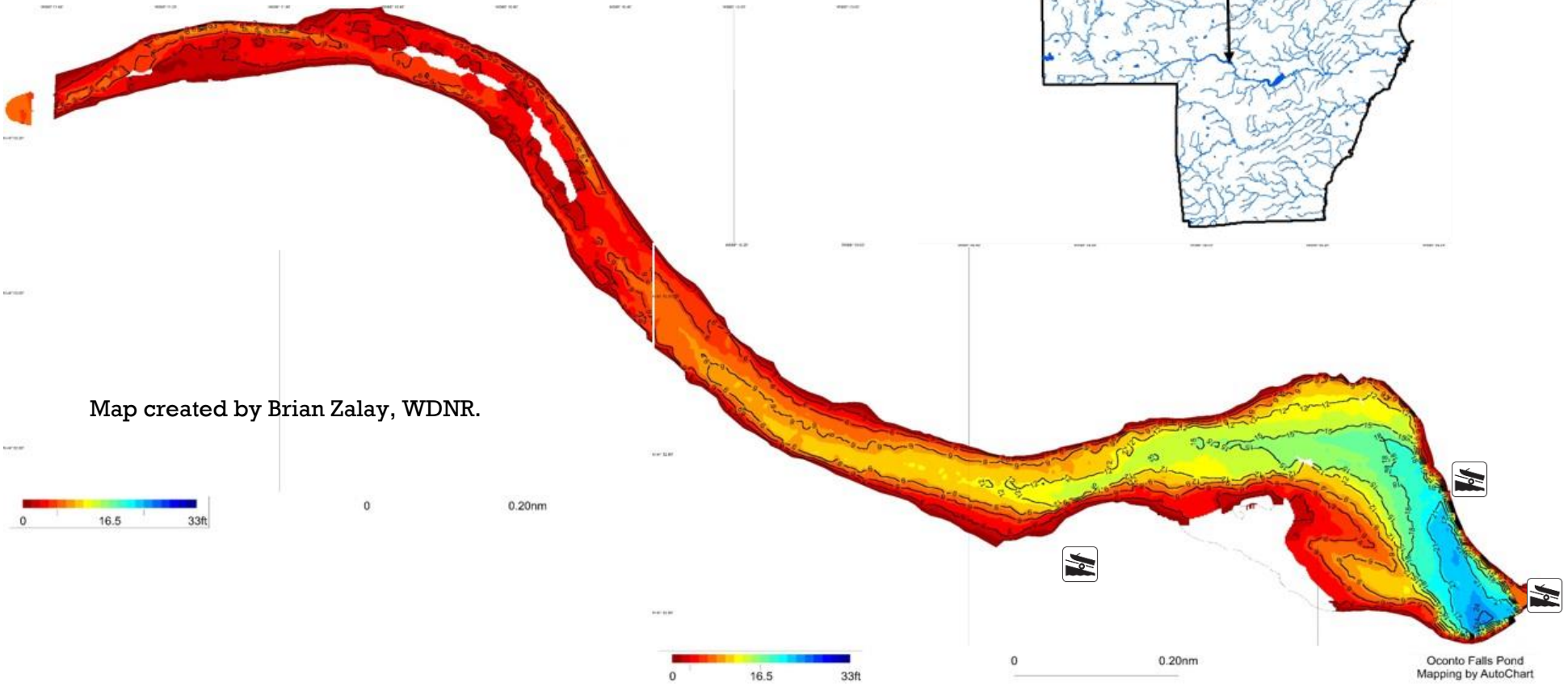
Background

ABOUT OCONTO FALLS POND

Oconto Falls Pond is located in the City of Oconto Falls. This 180-acre impoundment on the Oconto River has a maximum depth of 28 feet and approximately 4.3 miles of shoreline. Its bottom sediments are primarily sand, muck and rock/gravel. Visitors have access to the lake from three public boat landings, owned by the City of Oconto Falls and/or NEW Hydro, located on the west and east sides of the main pond. The City of Oconto Falls maintains all three access locations.

The lake is formed as a result of a dam on the Oconto River which flows east toward the Green Bay.





Map created by Brian Zalay, WDNR.

What Is A Lake Management Plan?

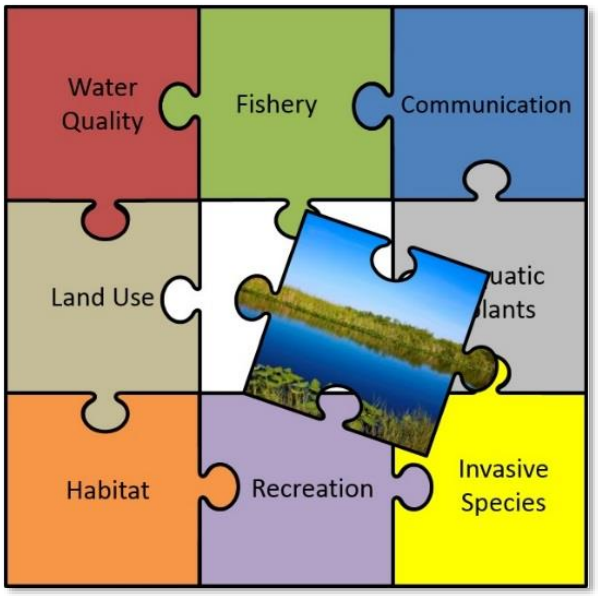
LAKE MANAGEMENT PLANS (LMP)

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 LMP 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.

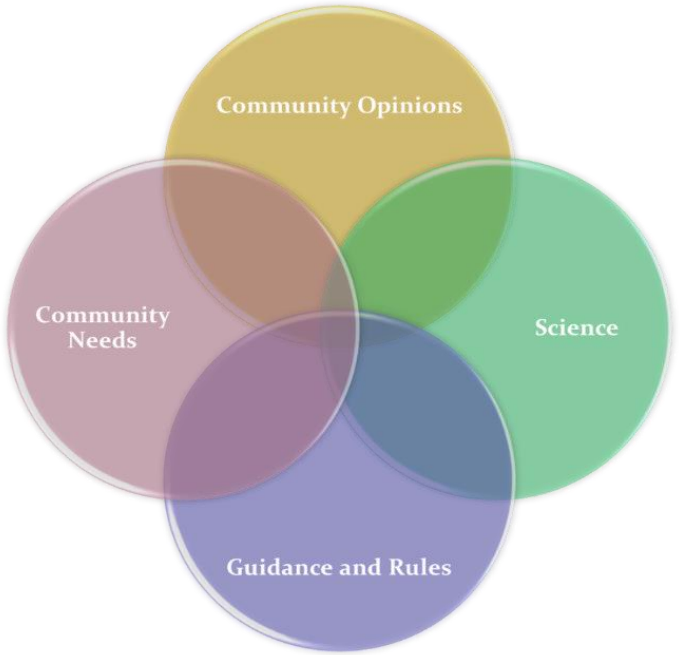
What is the purpose of this LMP?

This plan was created to ensure that Oconto Falls Pond is healthy now and for future generations. It was designed to learn about Oconto Falls Pond and identify features important to the lake community to provide a framework for the protection and improvement of the lakes.



Implementing the content of this LMP will enable citizens and others to work together to achieve the vision for Oconto Falls Pond 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 2016-2017 alongside 8 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 Oconto Falls Pond 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 August 23, 2018 at the Oconto Falls Senior Center to learn from one another and make decisions about the fishery, water quality, habitat, and land management in the Munger/Bear Lake watershed. Technical assistance during the planning process was provided by the Oconto County Conservationist, and staff from WDNR, UWEX, and the CWSE.

How were various opinions incorporated?

Participation in the planning process was open to everyone and was encouraged by letters mailed to Oconto Falls Pond 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 Oconto Falls Pond can have the greatest influence on the lake by understanding and choosing lake-friendly options to manage their land and the lakes.
- **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 City of Oconto Falls:** 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 lakes.
- **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 following table 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 OCONTO FALLS POND

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 Oconto Falls Pond. 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

Oconto Falls Pond Management Plan Goals

Goals for Oconto Falls Pond

The following goals and actions were derived from the values and concerns of citizens interested in Oconto Falls Pond and members of the planning committee, as well as the known science about the lakes, their ecosystems and the landscape within their 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	**Oconto Falls Pond will have a healthy, well-balanced and sustainable fish population.**
Goal 2	**Maintain a healthy and diverse aquatic plant community free.**
Goal 3	**Sensitive areas in and around Oconto Falls Pond that offer essential habitat and/or water quality benefits, will be protected.**
Goal 4	**Watershed and shoreland property owners will understand their connection to the lake and will know about and utilize resources for healthy land management practices.**
Goal 5	**Oconto Falls Pond will have healthy shorelands that protect water quality and provide essential habitat.**
Goal 6	**Water quality in Oconto Falls Pond will continue to improve and be closely monitored.**
Goal 7	**Lake users will be informed about and respectful of Oconto Falls Pond.**
Goal 8	**Increase participation in lake stewardship.**
Goal 9	**Review plan annually and update as needed.**

Fish Community

LAKE HABITAT AND A HEALTHY LAKE

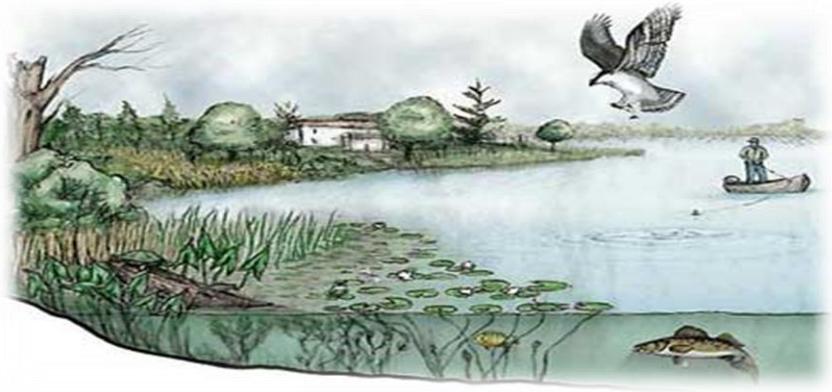
The health of one part of the lake system affects the health of the rest of the plant and animal community, the experiences of the people seeking pleasure at the lake, and the quality and quantity of water in the lake. Habitat is the structure for a healthy fishery and wildlife community. It can provide 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 Oconto Falls Pond 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, 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.

What People Value about Oconto Falls Pond

Beauty and all the wildlife
Recreation and wildlife
Water in close proximity to where I live
Kayaking
Fishing



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.

Habitat provides shelter and food for fish and wildlife.

Fish Community

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

Can the fishery be improved?

Habitat can be improved by allowing shoreland vegetation to grow, minimizing the removal of aquatic plants, providing fallen trees or limbs in suitable areas, and protecting wetlands and other areas of critical habitat.

People are an important part of a sustainable fish community; their actions on the landscape and the numbers and sizes of fish taken out of the lake can influence the entire lake ecosystem. Putting appropriate fishing regulations in place and adhering to them can help to balance the fishery with healthy prey and predatory species. Regulations can be adjusted as the fish community changes and can provide for excellent fishing.

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.

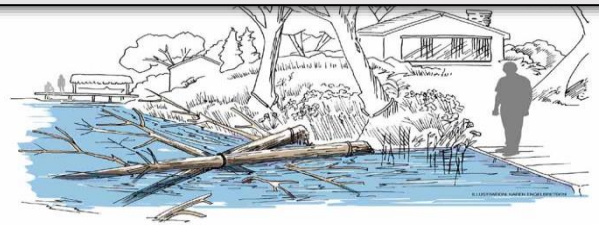
Oconto Falls Pond 2018 Fish Survey Highlights

- ✓ The most recent previous survey was in 2007.
- ✓ The 2018 survey captured significantly fewer fish overall than the 2007 survey. Lower catches may have been influenced by high flows and reduced fishability of the nets during the 2018 survey.
- ✓ 18 species were collected. Bluegill, black crappies, rock bass, bowfin, northern pike and smallmouth bass were common.
- ✓ Black crappie average length was 9.1” with excellent size structure.
- ✓ There are fewer bluegill compared to the 2007 survey, but growth rates have improved, possibly due to lower density. Bluegill average length was 5.9”, but very few over 8” were sampled.
- ✓ Northern pike were the dominant predator species captured with a population estimate of 1.2/acre, which is considered low density. Size structure was good with 34% of the pike being greater than 21”.
- ✓ Size structure for largemouth bass was very good with 65% over the 14” size minimum. It takes approximately 5 years for a largemouth bass to reach 14” in Oconto Falls Pond, and growth rates are normal for area lakes.
- ✓ Average length of smallmouth bass was 13.4” with a range from 5.8” to 17.5”.
- ✓ The next comprehensive fish survey is scheduled for 2028.

Fish Community

Stocking Date	Species	# Stocked	Avg. Length (in)
Pre-1966	Walleye	-	-
1995	Largemouth Bass	3000	3.9
2012	Yellow perch	5500	5
2015	Bluegill	5000	4
2015	Black Crappie	5000	4
2016	Bluegill	5000	3
2016	Black Crappie	5000	3

Fish Sticks are large woody habitat structures using single or clustered trees that are anchored to shore and partially or fully submerged in shallow water. These structures provide shelter and feeding areas for fish and essential nesting and sunning areas for birds, turtles, and other animals.



Goal 1. Oconto Falls Pond will have a healthy, well-balanced and sustainable fish population.

Objective 1.1 Continue to enhance fish and wildlife habitat in and around the lake. At least 20 fish stick clusters will be installed in the next 5 years (Currently, Oconto Falls Pond has 32 logs/mile; at least 250 logs/mile is recommended, though any additions will help).

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 or purchased using grant funding.		WDNR-Tammie Paoli Healthy Lakes Program Grants	Ongoing
Educate and encourage landowners to leave logs, tree branches and limbs in place in the water, whenever possible.		WDNR-Tammie Paoli UWEX-Pat Goggin	Ongoing
Continue to protect and restore shoreland areas and avoid shoreland alterations to improve fish habitat.	Shoreland property owners	WDNR-Brenda Nordin	Ongoing

Objective 1.2 Continue working toward a sustainable fishery using adaptive management techniques.

Actions	Lead person/group	Resources	Timeline
Obtain results of 2018 fish survey when available and discuss recommendations with WDNR fish biologist.		WDNR-Tammie Paoli	2021

Aquatic Plant Community

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

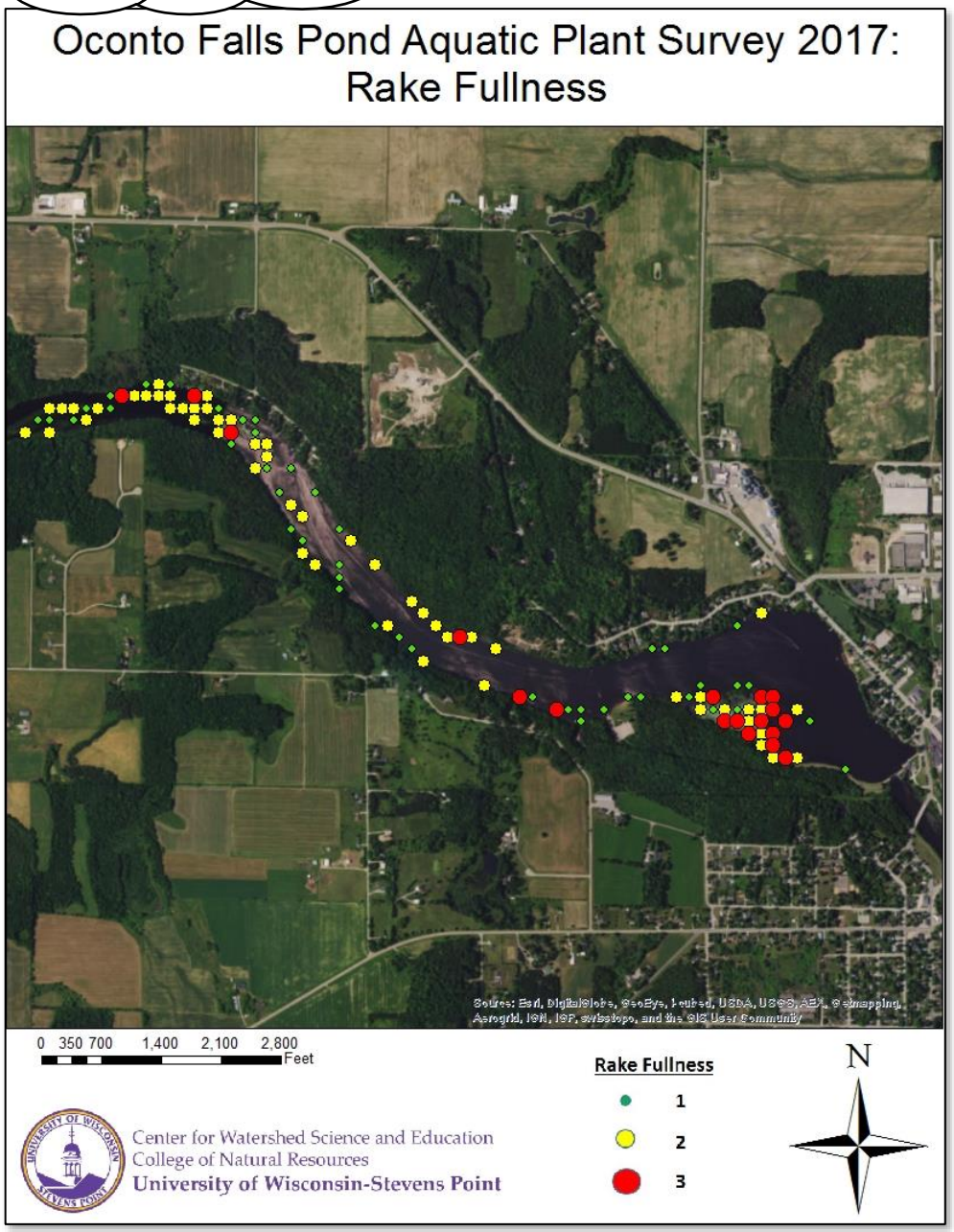
Aquatic Plants

Aquatic plants provide the forested landscape within a lake. 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 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. The aquatic plants that attract the animals to these areas contribute to the beauty of the lake.

Oconto Falls Pond 2017 Aquatic Plant Survey Highlights

- ✓ 30% (116 of 393) of the sites visited had vegetative growth.
- ✓ Greatest depth aquatic plants were found was 6.5 feet.
- ✓ 24 species of aquatic plants were identified. This is above the North Central Hardwood average of 16.2.
- ✓ The three most dominate species were coontail (46%), wild celery (41%), and common waterweed (36%).
- ✓ The Floristic Quality Index (FQI) was 22.1. The North Central Hardwood average is 23.3.
- ✓ Two invasive species, Eurasian water-milfoil and curly-leaf pondweed, were observed.



Aquatic Plant Community

Aquatic plants also serve as indicator species for environmental stressors that could be occurring in a lake or river, such as a runoff event.

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.

Wild celery has long, thin, ribbon-like leaves that are up to four feet long. The seeds, roots and leaves are consumed by ducks and other waterfowl. Water celery provides excellent habitat for fish.

Common waterweed is a common and widespread plant in Wisconsin lakes. It is important forage and cover for aquatic animals and an important food source for waterfowl.

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, AIS 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.

Eurasian water-milfoil (EWM) was documented in Oconto Falls Pond in 2000. **Curly-leaf pondweed** (CLP) was documented in Oconto Falls Pond in 2013. EWM and CLP were both observed during the 2017 aquatic plant survey. A point-intercept survey per WDNR protocol is recommended every 5 years to detect changes in the plant community and detect and AIS. If EWM is found and the lake chooses to address it, it is important to separate the surveyor from the herbicide applicator or the firm who is doing the control work. This eliminates the "fox guarding the henhouse" factor.

Aquatic Plant Management in Oconto Falls Pond

Management strategies in Oconto Falls Pond were designed to achieve a balance between healthy aquatic habitat, good water quality, and recreation. A variety of management options were discussed during the development of this plan.

Management Options for Excessive Native Aquatic Plants

Planning session participants identified management options that offer the most practical and effective approaches for managing native plants, while minimizing impacts to Oconto Falls Pond as a whole. Depending upon conditions, the following options may be used alone or in combination with others.

Hand-pulling. No permit required.

Lakefront property owners are allowed to remove aquatic plants from an area no more than 30 feet wide without a permit for swimming and boat access. 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 EWM should be avoided to prevent its fragmentation and spread** unless it is specified in the plan. In some lakes the EWM can't be target for chemical control due to flow or location. This is when the harvester is recommended. 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 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 Oconto Falls Pond. 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. It is important to coordinate and work with the dam owner and FERC liaison during such endeavors as they are critical partners in management of the flowage.

Water level manipulation (drawdown), target species: EWM/HWM, CLP. Permit required.

Temporary reduction of the water levels in Oconto Falls Pond can be used to reduce AIS populations and has the added benefit of compacting sediment. This technique has the greatest effect on vegetation located in the shallows. If done during late fall and winter, the exposed crowns of plants will desiccate, killing them. Consultation with WDNR lake and fisheries biologists and the dam owner is essential to determine the appropriate timing and duration needed for current conditions.

Aquatic Plant Management Plan Review

A good aquatic plant management strategy should reduce the amount of management activity needed as time goes on. In Oconto Falls Pond, a series of successful strategies should lead to a balance between healthy aquatic habitat, water quality, and

recreation with minimal annual management. To evaluate if management strategies are succeeding, updates to aquatic plant point-intercept surveys should be conducted at least every five years. Assistance in updating surveys can be provided by the WDNR Aquatic Plant Specialist and/or consultants.

Goal 2. Maintain a healthy and diverse aquatic plant community.

Objective 2.1 Control EWM and CLP populations in Oconto Falls Pond. Ensure no new AIS are introduced.

Actions	Lead person/group	Resources	Timeline
Work with Eagle Creek Renewable Energy (dam operators) to coordinate a winter drawdown to manage EWM/excessive plants (particularly around island) and compact bottom sediments. Perhaps incorporate this into the dam's FERC license renewal. WDNR grant funding may be available to offset costs.		WDNR-Brenda Nordin WDNR FERC Liason	To be determined.
Encourage/host training, post signage at boat landing, develop coasters or placemats for area businesses, provide brochures for rental properties, etc. on how to identify and properly remove invasive species, particularly EWM. The more people who know how to recognize EWM, the more eyes there are on the lake.		WDNR LRCD	Summer 2021
Educate lake users on importance of native aquatic plants for preventing AIS. Bring in speaker for annual meeting, mail literature to property owners, include information in a newsletter, etc.		WDNR UWEX-Lakes LRCD	Ongoing, Summer 2021
Participate in Clean Boats Clean Waters program. Identify volunteers or consider paying someone to staff the boat launch on busy days. Perhaps OCLWA can apply for the grant and distribute the hours over multiple landings throughout the county.		CBCW OCLWA	Ongoing, in summer
Consider hiring professionals for EWM survey/removal annually (or as needed) to assess EWM population and identify new populations.		Consultants WDNR	Annually

Objective 2.2 Minimize disturbance to native aquatic plants while maintaining access and navigation.

Actions	Lead person/group	Resources	Timeline
Consider applying for an AEPP grant to obtain an Aquatic Plant Management plan (a blueprint that is more detailed and		WNDR-Brenda Nordin Consultants	2021

specific to aquatic plant management than the comprehensive management plan).			
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, direct mailings and in a newsletter.		WNDR-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 5-10 years.
Reduce nutrient and sediment loading to lake by improving shoreland buffers (see **Shorelands** section) and implementing BMPs in the watershed (see **Watershed** section).		WDNR-Brenda Nordin OCLCD	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 Oconto Falls Pond does not have an official critical habitat area designation, there are areas within the lake 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 examples 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 and around Oconto Falls Pond that offer essential habitat and/or water quality benefits, will be protected.

Objective 3.1 Identify and inform others of quality habitat areas in and around Oconto Falls Pond.

Actions	Lead person/group	Resources	Timeline
Request a Critical Habitat Designation from WDNR.		WDNR-Brenda Nordin	2021
If critical habitat is designated on Oconto Falls Pond, communicate to property owners, visitors, and City as to why these areas are important.			TBD
Support landowners (particularly those with large stretches of natural shoreline such as the southeast side) interested in preserving natural and sensitive areas around the lake.		WDNR UWEX Northeast Wisconsin Land Trust	As available.

LANDSCAPES AND THE LAKE

Oconto Falls Pond Watershed

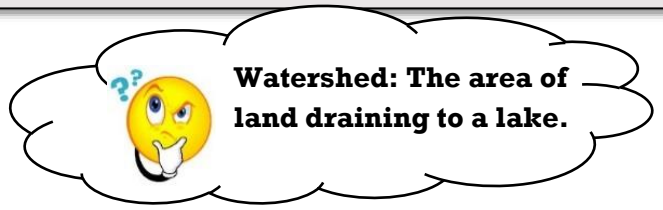
A Lake is a Reflection of its Watershed…

Understanding where a lake'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 Oconto Falls Pond; the ground watershed may be slightly different than the surface watershed.

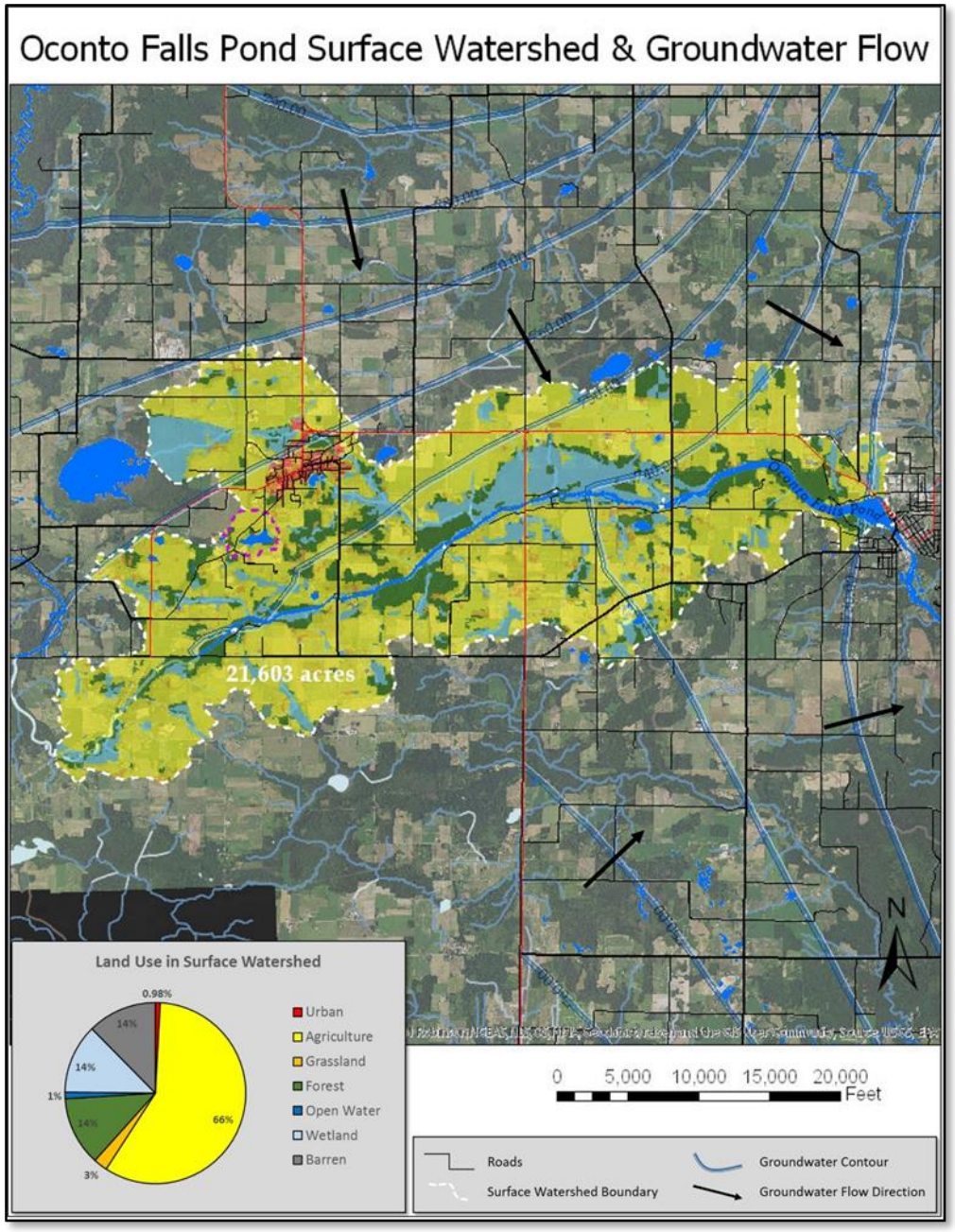
Less runoff is desirable because it allows more water to infiltrate the soils and recharge the groundwater. Groundwater then feeds the lake steadily, year-round (even during dry periods or when the lake is covered with ice). The capacity of the landscape to hold (or shed) water and filter (or contribute) particles determines the amount of erosion that may occur and the amount of groundwater feeding a lake, and, thus, the lake's water quality and quantity.

Oconto Falls Pond Watershed

The Oconto Falls Pond watershed is 21,603 acres. Primary land use is agriculture. 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.



Watershed: The area of land draining to a lake.



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 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.

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:

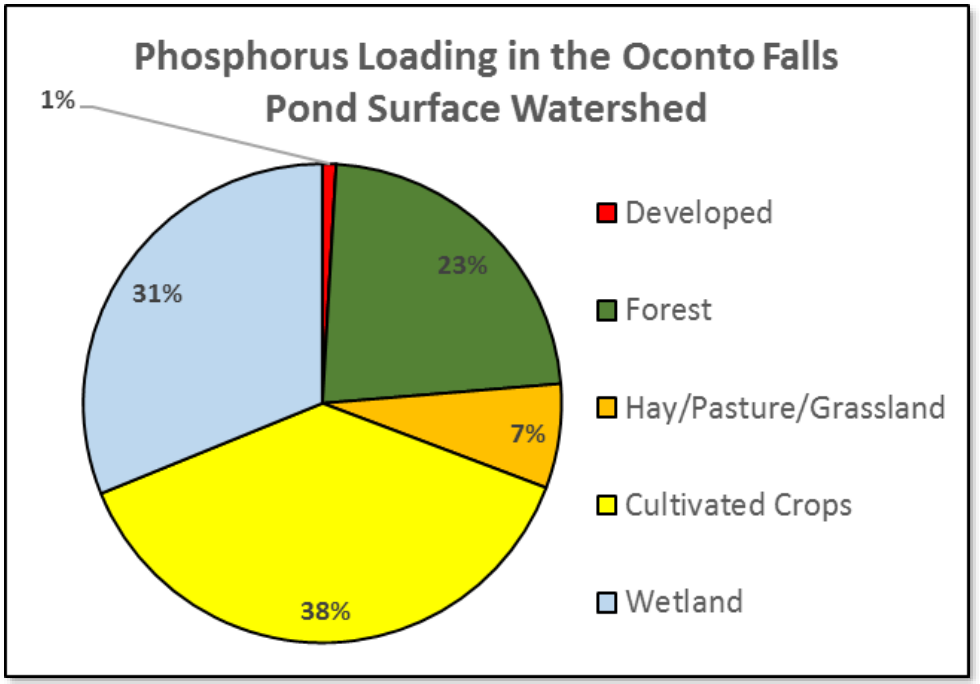
- eliminating/reducing the use of fertilizers,
- increasing the distance between the lake and a septic drainfield,
- protecting/restoring wetlands and native vegetation in the shoreland,
- controlling erosion,
- manure management and cropping practices.

Most of these activities are eligible for cost share and grant assistance!

Watershed

Phosphorus Modeling

Estimates of phosphorus from the landscape can help to understand the phosphorus sources to Oconto Falls Pond. 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).



Phosphorus Loading in Oconto Falls Pond Watershed

Based on modeling results, agriculture had the greatest percentage of phosphorus contributions from the watershed. Efforts to reduce nutrient inputs to the lake must be focused on land uses that we have some control over such as agriculture and developed areas.

Goal 4. Watershed and shoreland property owners will understand their connection to the lake and will know about and utilize resources for healthy land management practices.

Objective 4.1 Support healthy land management practices in the Oconto Falls Pond watershed and reduce sediment and 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.		OCLCD County Board Supervisors	Ongoing
Support landowners (consider financial support) interested in the protection of their land via a land conservation program		WDNR Lake Protection Grants Knowles-Nelson Stewardship Fund	As needed

(i.e. Conservation Easement, Purchase of Development Rights, or sale of land for protection).		Northeast WI Land Trust	
Encourage any new developments to manage runoff on site and consider ways to minimize impacts from septic systems.		City of Oconto Falls Developers/Builders	As needed
Encourage design of road and construction projects that will minimize impacts to the lakes.		City of Oconto Falls OC Highway Department/WDOT	As needed

Shorelands

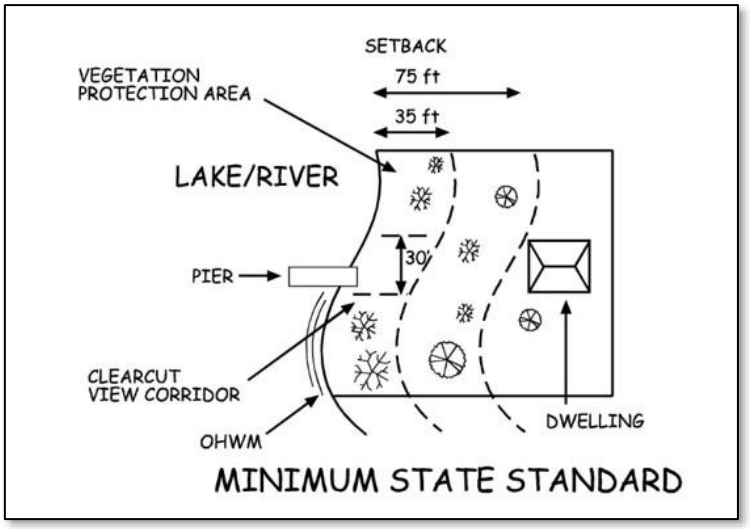
90% of lake life spends all or part of their life in the near shore zone.

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 protect and improve lake water quality and habitat. To protect our lakes, county and state shoreland ordinances (NR 115) 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.



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.

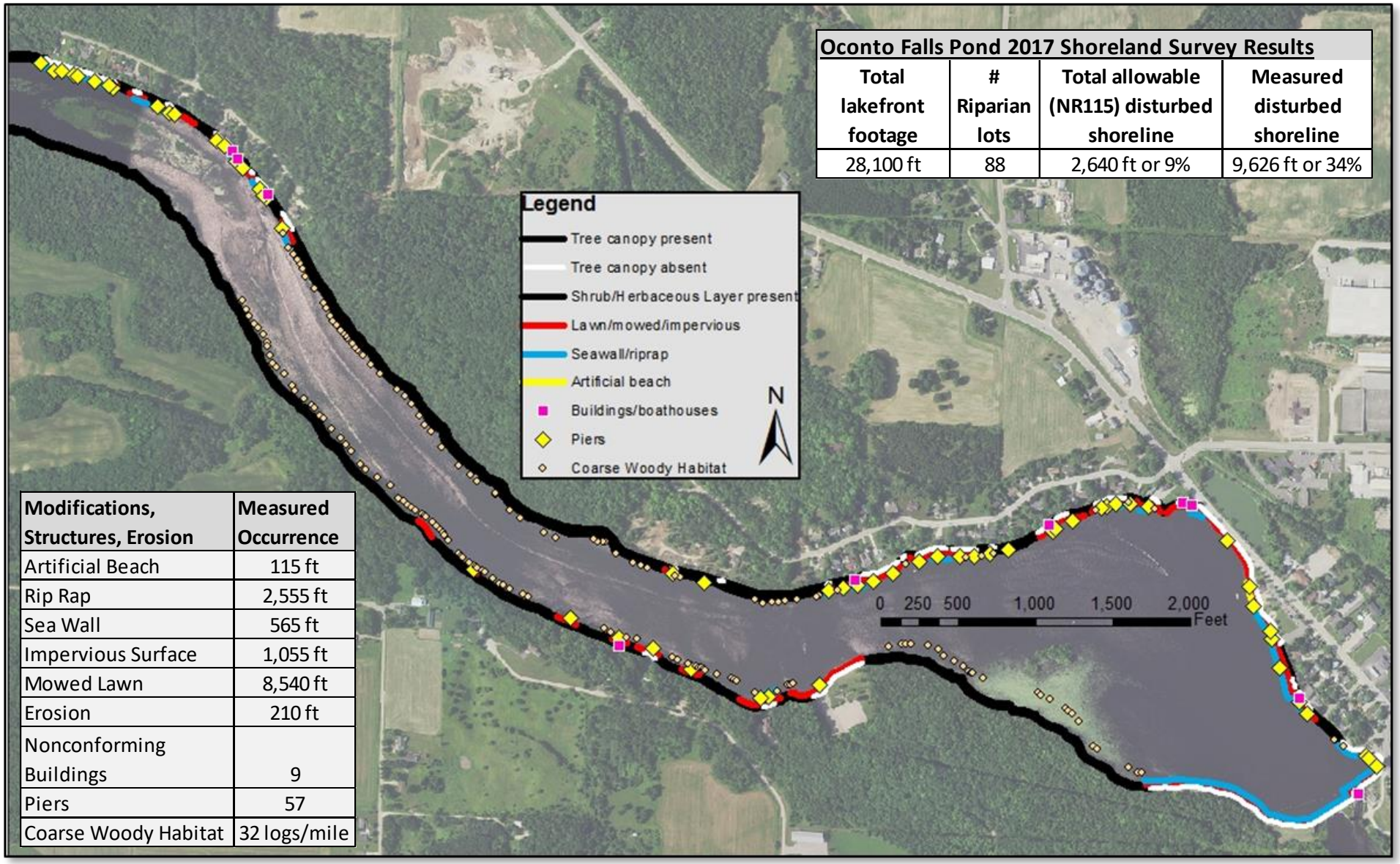
State Shoreland Zoning Ordinance

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



Oconto Falls Pond 2017 Shoreland Survey Results

Total lakefront footage	# Riparian lots	Total allowable (NR115) disturbed shoreline	Measured disturbed shoreline
28,100 ft	88	2,640 ft or 9%	9,626 ft or 34%

Modifications, Structures, Erosion	Measured Occurrence
Artificial Beach	115 ft
Rip Rap	2,555 ft
Sea Wall	565 ft
Impervious Surface	1,055 ft
Mowed Lawn	8,540 ft
Erosion	210 ft
Nonconforming Buildings	9
Piers	57
Coarse Woody Habitat	32 logs/mile

Shorelands

Oconto Falls Pond's Shorelands

To better understand the health of Oconto Falls Pond, shorelands were evaluated in July-August 2017. The survey inventoried shoreland vegetation, erosion, riprap, barren ground, seawalls, structures, and docks.

- With 88 lakefront lots, 2,640 feet (9%) of disturbed shoreland is permitted. Based on the 2017 shoreland inventory, 34% (9,626 feet) of Oconto Falls Pond's shoreland was disturbed (however, much of this is associated with the dam).
- As a whole, Oconto Falls Pond had average shoreland health compared to other lakes in the study. Some stretches of Oconto Falls Pond's shorelands are in good shape, but many portions have challenges that should be addressed.

Areas that are healthy will need conservation strategies to keep them healthy. Potential problem areas where management may be warranted may need strategies for improvement.

Goal 5. Oconto Falls Pond 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 10 years, 3,000 feet (about 22 properties) of disturbed shoreline 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

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. The dam property and/or Oconto County park properties may be good places to focus on.		OCLCD WDNR Healthy Lakes Grants	Ongoing
Host a speaker/demonstration: "How to restore your shoreline."		UWEX Lakes-Pat Goggin	2021
Consider restoring and showcasing a "demonstration site" with a sign at the water's edge about shoreland restoration (perhaps at the boat launch or city park).		OCLCD UWEX Lakes-Pat Goggin WDNR Healthy Lakes Grants	2021
Explore purchase of undeveloped shoreland property.		UWEX Lakes Knowles-Nelson Stewardship Fund	As available
Work with city to design and install a water diversion structure at the boat ramps to keep runoff from flowing directly into lake.		City of Oconto Falls WDNR	2021

Water Quality

Water Quality

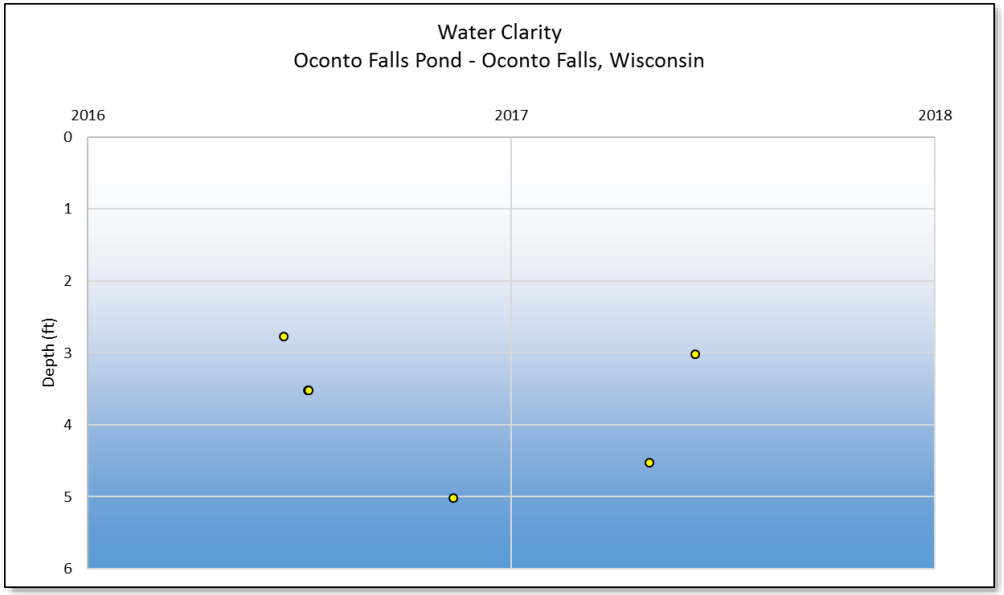
A variety of water chemistry measurements were used to characterize the water quality in Oconto Falls Pond. Water quality was assessed during the 2016-2017 lake study and involved a number of measures including temperature, dissolved oxygen, water chemistry, and nutrients (phosphorus and nitrogen). Nutrients 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. No historic water quality data was found for Oconto Falls Pond. As such, all interpretations are based on limited, two-year data. Future data collection is necessary to determine trends and monitor changes over time.

Oconto Falls Pond Water Quality Summary

- ✓ Sufficient **dissolved oxygen** was present in at least the upper 8 feet of water at all times during the study.
- ✓ **Water clarity** ranged from 2.74-5 feet (considered poor), which is consistent with historic measurements.
- ✓ Slightly elevated concentrations of **contaminants** were measured during the study. Atrazine was not detected.
- ✓ **Phosphorus** concentrations were routinely above the Wisconsin state standard of 40 ug/L for shallow drainage lakes throughout the study. Inorganic nitrogen remained well below concentrations that spur algal blooms.

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.

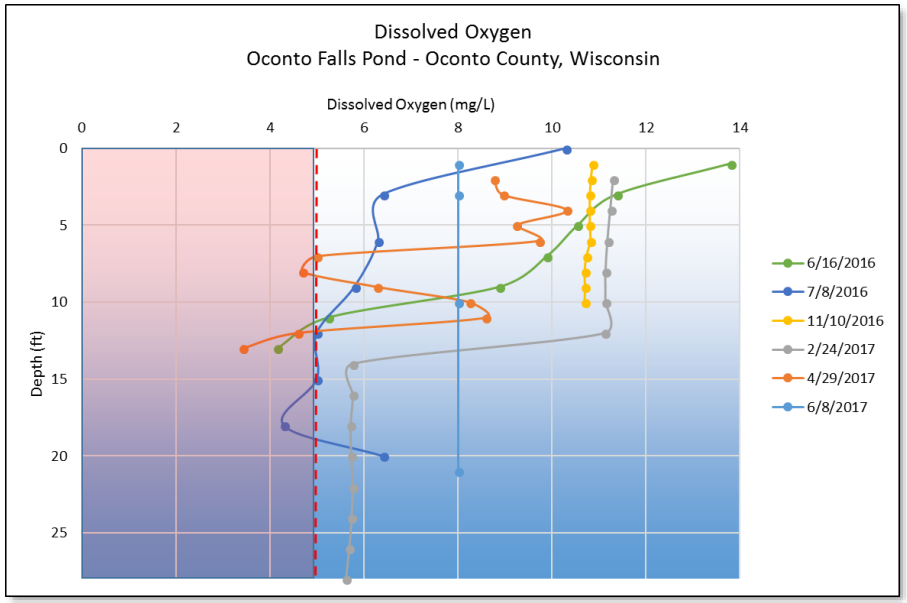


Dissolved Oxygen

Dissolved oxygen is an important measure because most 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, but the decomposition of excessive amounts of dead plants and algae reduces oxygen in the lake.

Water Quality

Oconto Falls Pond shows sufficient oxygen in the top 6 feet of the water column throughout the year. However, concentrations decline with depth during some parts of the year. Though common in a deeper lake where deep water is not replenished with oxygen from the surface, in a shallow impoundment such as Oconto Falls Pond, this is likely due to decomposition of excessive aquatic plants. Algae blooms are evident in the April 2017 profile below where sudden 'bumps' in oxygen concentrations are seen at about 4 feet and 10 feet below the surface.

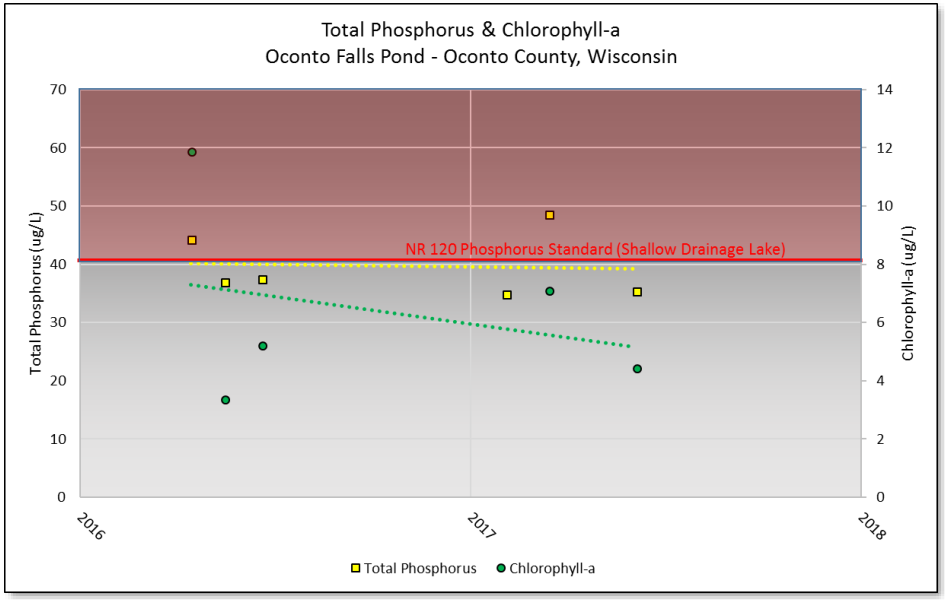


Contaminants

Chloride, sodium, potassium and atrazine 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 usually not detrimental to the aquatic ecosystem, they indicate that sources of contaminants such as road salt, fertilizer, animal waste, septic system or pesticides effluent may be entering the lake from either surface runoff or via groundwater. Measurements of contaminants from Oconto Falls Pond were considered low or not detected.

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 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. One pound of phosphorus can produce up to 500 pounds of algae. NR 120,



Water Quality

Wisconsin Administrative Code lists phosphorus limits for different lake types. Shallow drainage lakes such as Oconto Falls Pond have a standard of 40 ug/L they must remain below to remain healthy.

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. The concentration in Oconto Falls Pond was 0.28 mg/L in 2017.

Be part of the solution!

Managing nitrogen, phosphorus and soil erosion throughout the Oconto Falls Pond 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.

Goal 6. Water quality in Oconto Falls Pond will continue to improve and be closely monitored.

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

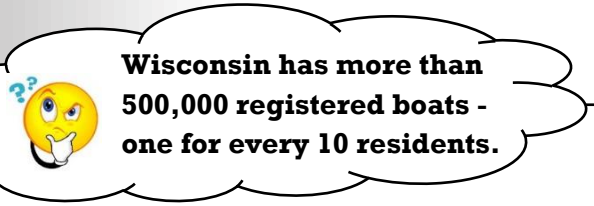
Actions	Lead person/group	Resources	Timeline
Inform others around the lake about the impact of nutrients and land management on water quality through the distribution of a newsletter and/or hosting a guest speaker.		OCLWA WNDR UWEX Lakes	Ongoing, 2019
Refrain from the use of fertilizers. Encourage soil 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
Support the County in its efforts to implement best management practices throughout the watershed to reduce runoff and control erosion.		OCLCD	Ongoing

Water Quality

Objective 6.1 Track and document water quality in Oconto Falls Pond to monitor trends, declines and improvements over time.

Actions	Lead person/group	Resources	Timeline
Identify volunteers for participation in CLMN and support those involved.	Interested citizens	CLMN	3+ times annually in summer
Submit all collected data to WDNR for archival and use by scientists and resource managers.		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 district, community, and suite of lake users are essential to maximize the effects of plan implementation.

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 are three public boat launches located on the east and west sides of the main pond (owned by the City of Oconto Falls). Participants at the planning session indicated that jet skis tend to be an ongoing nuisance (noise, not abiding by No Wake rules) and expressed and interest in more restrictive wake hours.

Dam(s)

The level of Oconto Falls Pond is controlled by N.E.W. Hydro, Inc. (now Eagle Creek Renewable Energy) which operates the Oconto Falls Hydroelectric Project incorporated at the dams (upper and lower). In 1995, the Federal Regulatory Commission (FERC) re-licensed the Oconto Falls Hydroelectric Project and ended the practice of peaking the outflow of the impoundment which stabilized the lake's water level. The dams are now operated at run-of-river mode and the pool elevation is maintained at 729 feet above sea level.

The upper facility has three turbines that began commercial operation in 1915 and is currently licensed (FERC Project No. 2523) until 2027. The lower facility has two turbine units and is currently licensed (FERC Project No. 2689) until 2024.


Oconto Falls Upper Power Station

Goal 7. Lake users will be informed about and respectful of Oconto Falls Pond.

Objective 7.1 Foster and 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.		City of Oconto Falls OCLWA OC UWEX	Ongoing
Inform residents and consider posting signage of "DNR Hotline" to report unlawful behavior. (1-800-TIP-WDNR)		WDNR	Ongoing
Ensure signage is up-to-date and clear. Consider updating sign board/kiosk with basic information on regulations and expectations. This can convey to lake users that there is an active and watchful group on the lake.		City of Oconto Falls UWEX Lakes	Ongoing
Explore implementation of more restrictive wake hours than the state default currently in effect on Oconto Falls Pond.		City of Oconto Falls WDNR	2021

Communication & Organization

LakeKit.net is a network of lake groups helping others to build and maintain websites.

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 City of Oconto Falls, 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.

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

Goal 8. Increase participation in lake stewardship.

Objective 8.1 Develop opportunities and incentives for active participation in the management of Oconto Falls Pond.

Actions	Lead person/group	Resources	Timeline
Form a lake association or 'friends group' to consolidate efforts, information and communication.	Interested citizens	UWEX Lakes	Ongoing
Maintain an email list of shoreland property owners and others interested in Oconto Falls Pond.		OC UWEX	Ongoing
Distribute a welcome packet/mailing to all new shoreland property owners with basic lake stewardship information and brochures. WDNR small-scale planning grants can help 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 (and WDNR) via email list and/or newsletter.			Ongoing
Host an annual meeting to discuss lake management and opportunities for those interested in Oconto Falls Pond.			Annually
Host gatherings to learn about topics identified in this plan. Invite speakers or conduct demonstrations.			
Support interested persons in Lake Leaders Institute and/or Wisconsin Lakes Convention.		UWEX Lakes WDNR OCLCD	Ongoing

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 complied. 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 annually and discuss accomplishments and identification of goals/objectives/actions for the coming year.			Annually
Formally update this plan every 5 years.		OC UWEX UWEX Lakes WDNR	2025

REFERENCES

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APPENDICES

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: Tammie Paoli
Wisconsin Department of Natural Resources
101 N. Ogden Road, Peshtigo, WI 54157
Phone: 715-582-5052
E-mail: Tammie.Paoli@wisconsin.gov

Website: http://dnr.wi.gov/org/land/facilities/boataccess/

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

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/dsfm/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: Tammie Paoli
Wisconsin Department of Natural Resources
101 N. Ogden Road, Peshtigo, WI 54157
Phone: 715-582-5052
E-mail: Tammie.Paoli@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

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/

Appendices-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

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

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

Woody Habitat

Contact: Tammie Paoli
Wisconsin Department of Natural Resources
101 N. Ogden Road, Peshtigo, WI 54157
Phone: 715-582-5052
E-mail: Tammie.Paoli@wisconsin.gov

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)

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

Appendices-Appendix C

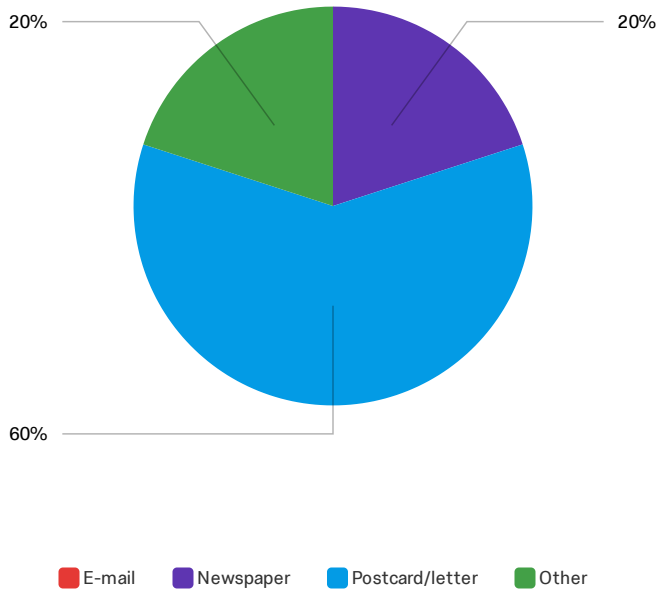
Appendix C. Lake User Survey Results

Default Report

Oconto Falls Pond Survey - Oconto County Lakes Project

November 26, 2018 1:23 PM MST

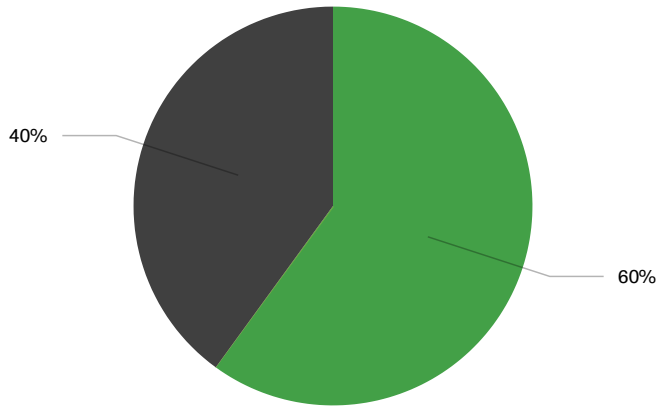
Q2 - How did you hear about this survey?



#	Field	Choice Count	
1	E-mail	0.00%	0
2	Newspaper	20.00%	1
3	Postcard/letter	60.00%	3
4	Other	20.00%	1
			5

Showing rows 1 - 5 of 5

Q3 - Do you own or rent property...

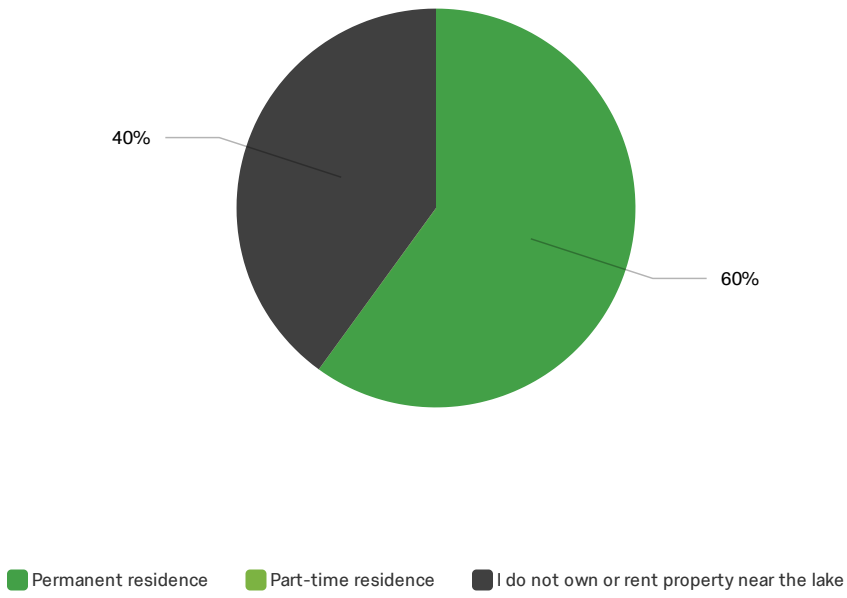


Around the lake | Less than 1/2 mile from the lake | Near the lake, but more than 1/2 mile away | I do not own or rent property near the lake

#	Field	Choice Count	
1	Around the lake	60.00%	3
2	Less than 1/2 mile from the lake	0.00%	0
3	Near the lake, but more than 1/2 mile away	0.00%	0
4	I do not own or rent property near the lake	40.00%	2
			5

Showing rows 1 - 5 of 5

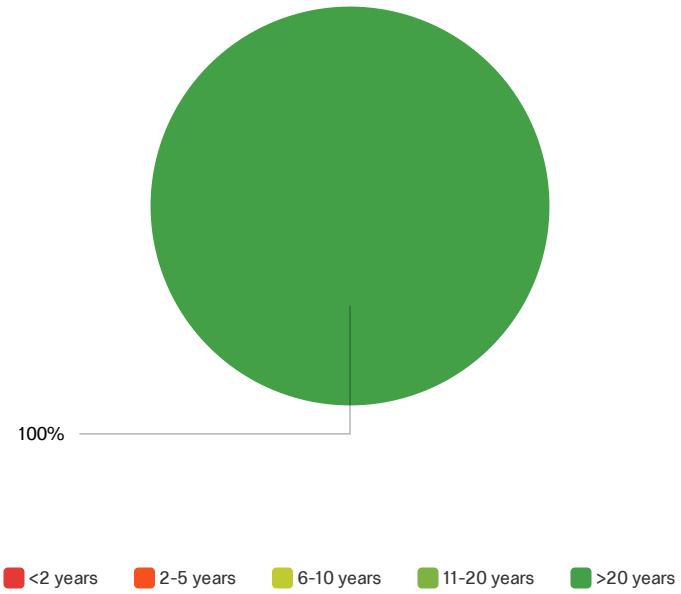
Q4 - If you own or rent property near the lake, is this property your...



#	Field	Choice Count	
1	Permanent residence	60.00%	3
2	Part-time residence	0.00%	0
3	I do not own or rent property near the lake	40.00%	2
			5

Showing rows 1 - 4 of 4

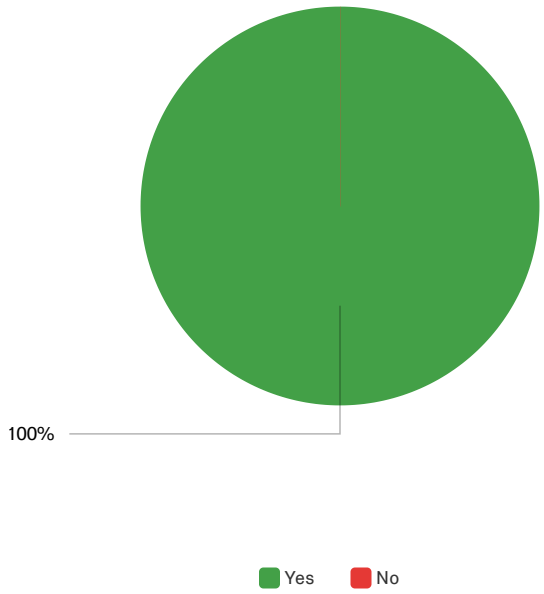
Q5 - How long have you lived on, visited or recreated on the lake?



#	Field	Choice Count	
1	<2 years	0.00%	0
2	2-5 years	0.00%	0
3	6-10 years	0.00%	0
4	11-20 years	0.00%	0
5	>20 years	100.00%	5
			5

Showing rows 1 - 6 of 6

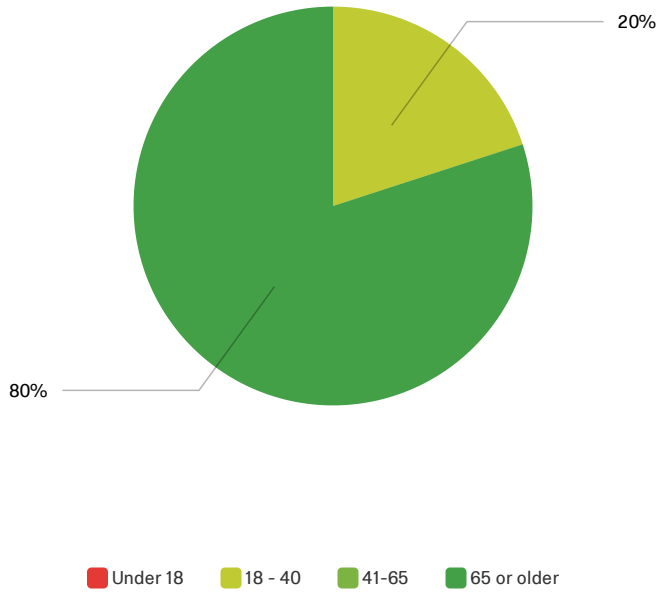
Q6 - Would you be interested in an Oconto Falls Pond Association?



#	Field		Choice Count
1	Yes	100.00%	5
2	No	0.00%	0
			5

Showing rows 1 - 3 of 3

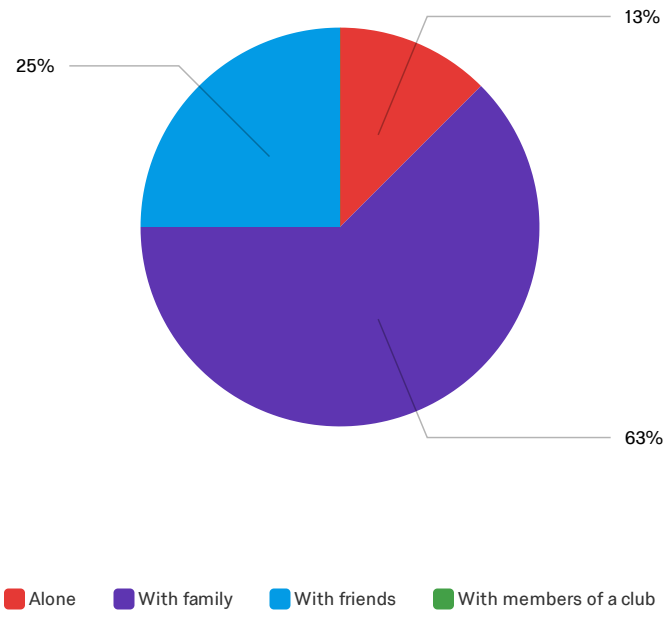
Q8 - Which category below includes your age?



#	Field		Choice Count
1	Under 18	0.00%	0
2	18 - 40	20.00%	1
3	41-65	0.00%	0
4	65 or older	80.00%	4
			5

Showing rows 1 - 5 of 5

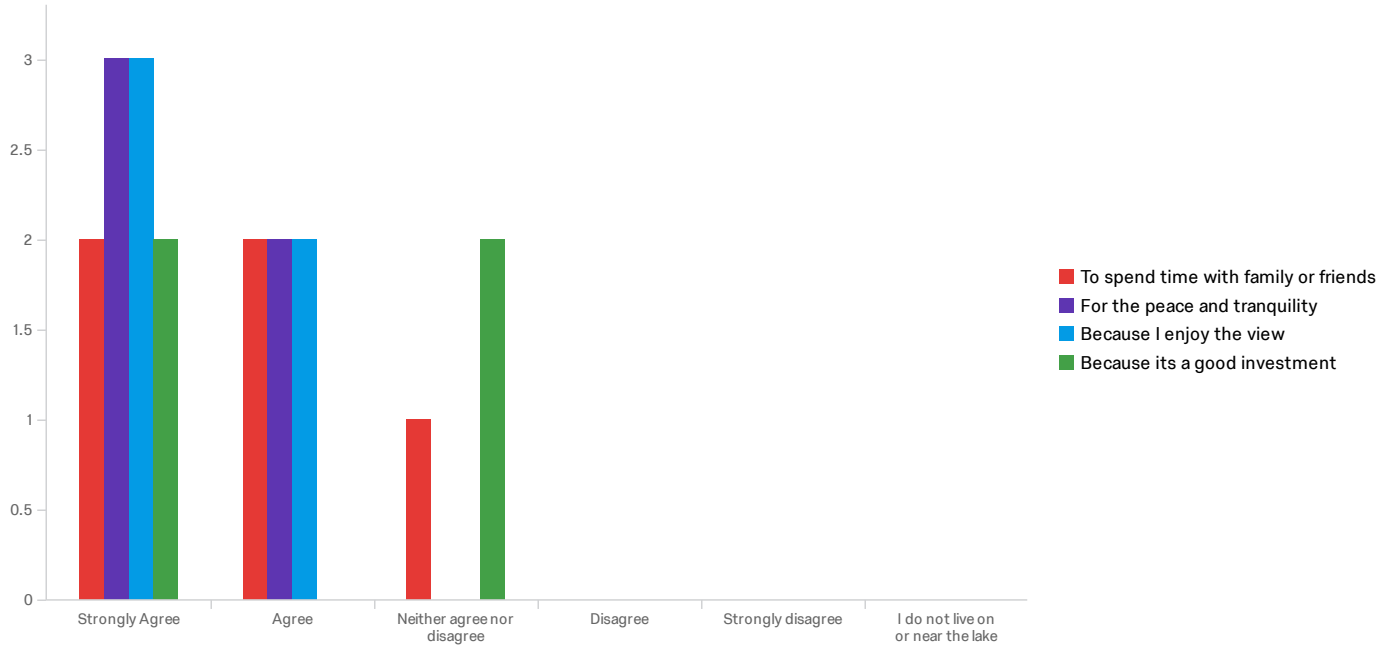
Q9 - When you visit Oconto Falls Pond, are you typically ...(check all that apply)



#	Field	Choice Count
1	Alone	12.50% 1
2	With family	62.50% 5
3	With friends	25.00% 2
4	With members of a club	0.00% 0
		8

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	40.00% 2	40.00% 2	20.00% 1	0.00% 0	0.00% 0	0.00% 0	5
2	For the peace and tranquility	60.00% 3	40.00% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	5
3	Because I enjoy the view	60.00% 3	40.00% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	5
4	Because its a good investment	50.00% 2	0.00% 0	50.00% 2	0.00% 0	0.00% 0	0.00% 0	4

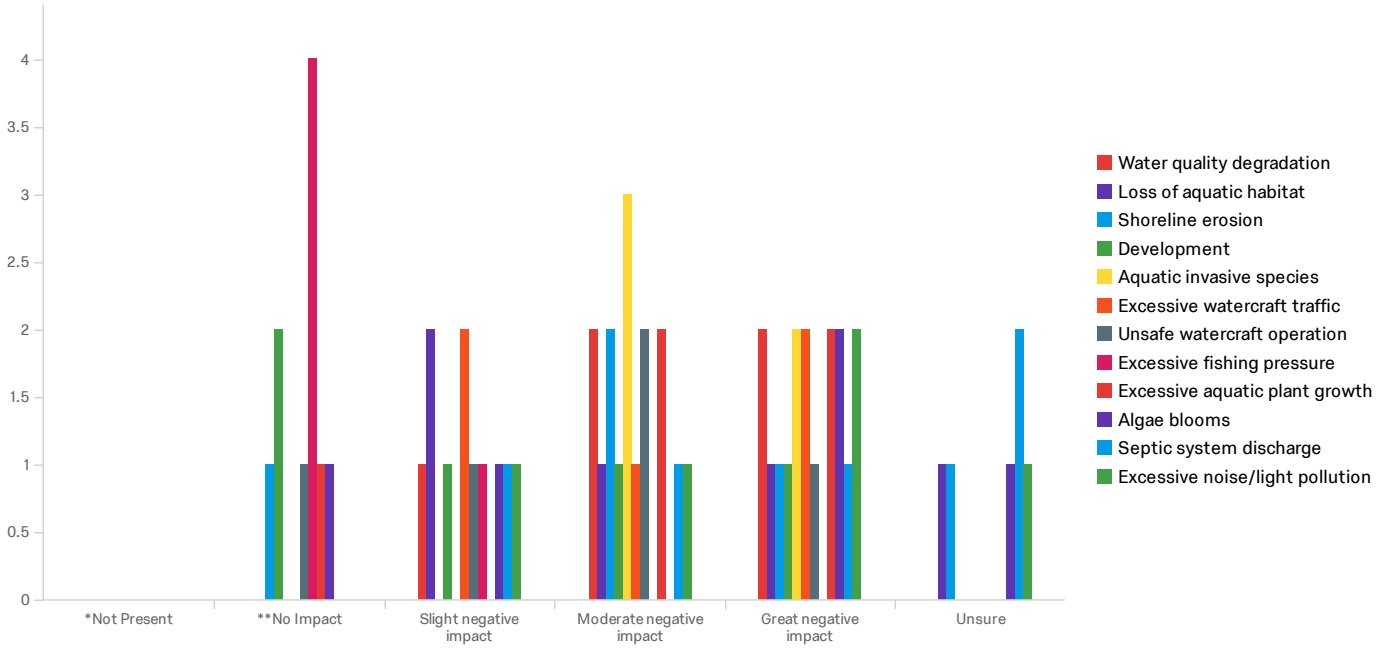
Showing rows 1 - 4 of 4

Q11 - What do you value most about Oconto Falls Pond?

What do you value most about Oconto Falls Pond?
I love the beauty and all the wildlife.
We are losing what we value most. All the jet skis and the tubers at all hours, especially at evening. The river needs to be treated better. They're pounding out way to many weed by the roots.
recreation and wildlife
Water in a close proximity to where I live. Kayaking on the Pond
Fishing

Showing records 1 - 5 of 5

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 Oconto Falls Pond? *Not Present means that you believe the issue does not exist on Oconto Falls Pond**No Impact means that the issue may exist, but is not negatively impacting Oconto Falls Pond

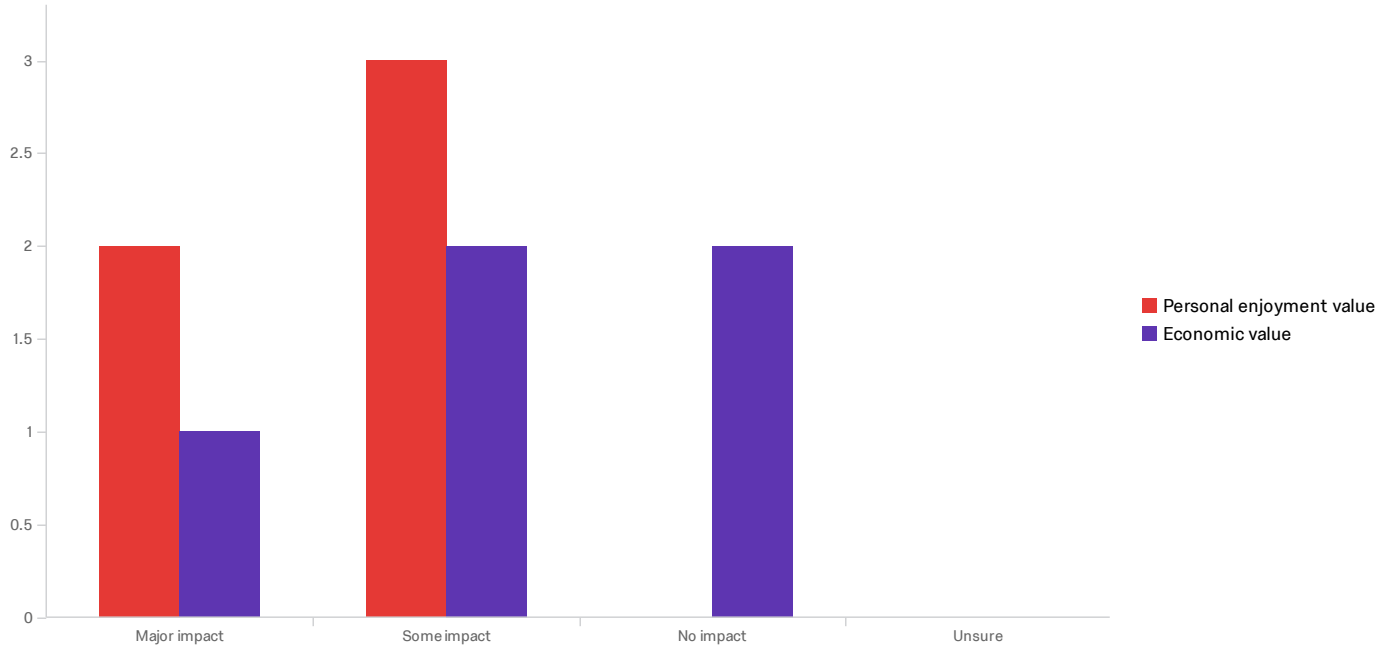


#	Field	*Not Present	**No Impact	Slight negative impact	Moderate negative impact	Great negative impact	Unsure	Total
1	Water quality degradation	0.00% 0	0.00% 0	20.00% 1	40.00% 2	40.00% 2	0.00% 0	5
2	Loss of aquatic habitat	0.00% 0	0.00% 0	40.00% 2	20.00% 1	20.00% 1	20.00% 1	5
3	Shoreline erosion	0.00% 0	20.00% 1	0.00% 0	40.00% 2	20.00% 1	20.00% 1	5
4	Development	0.00% 0	40.00% 2	20.00% 1	20.00% 1	20.00% 1	0.00% 0	5
5	Aquatic invasive species	0.00% 0	0.00% 0	0.00% 0	60.00% 3	40.00% 2	0.00% 0	5
6	Excessive watercraft traffic	0.00% 0	0.00% 0	40.00% 2	20.00% 1	40.00% 2	0.00% 0	5
7	Unsafe watercraft operation	0.00% 0	20.00% 1	20.00% 1	40.00% 2	20.00% 1	0.00% 0	5
8	Excessive fishing pressure	0.00% 0	80.00% 4	20.00% 1	0.00% 0	0.00% 0	0.00% 0	5

#	Field	*Not Present	**No Impact	Slight negative impact	Moderate negative impact	Great negative impact	Unsure	Total
9	Excessive aquatic plant growth	0.00% 0	20.00% 1	0.00% 0	40.00% 2	40.00% 2	0.00% 0	5
10	Algae blooms	0.00% 0	20.00% 1	20.00% 1	0.00% 0	40.00% 2	20.00% 1	5
11	Septic system discharge	0.00% 0	0.00% 0	20.00% 1	20.00% 1	20.00% 1	40.00% 2	5
12	Excessive noise/light pollution	0.00% 0	0.00% 0	20.00% 1	20.00% 1	40.00% 2	20.00% 1	5

Showing rows 1 - 12 of 12

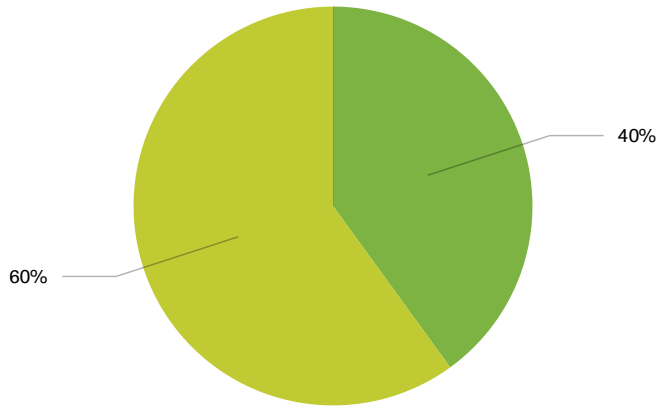
Q16 - How much impact does the water quality of Oconto Falls Pond have on the following?



#	Field	Major impact	Some impact	No impact	Unsure	Total
1	Personal enjoyment value	40.00% 2	60.00% 3	0.00% 0	0.00% 0	5
2	Economic value	20.00% 1	40.00% 2	40.00% 2	0.00% 0	5

Showing rows 1 - 2 of 2

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

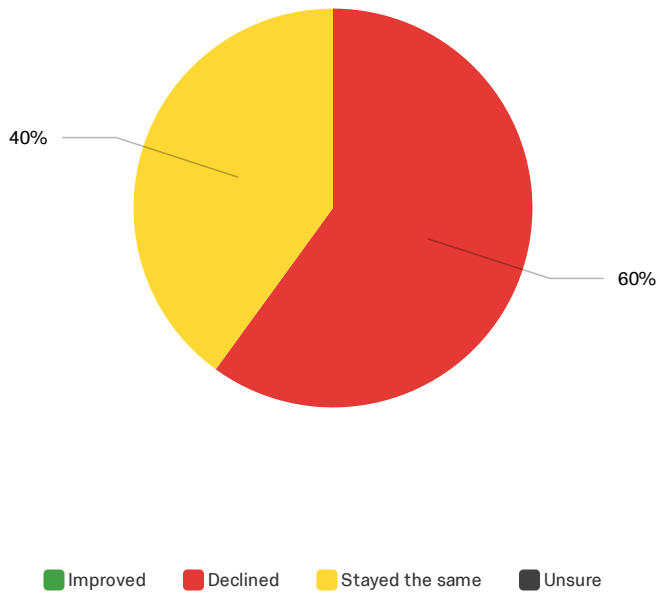


Beautiful, could not be any nicer
Very minor aesthetic problems; excellent for swimming and boating enjoyment
Enjoyment of the lake is moderately impaired because of algae or other water quality problems
Enjoyment of the lake is substantially impaired because of algae or other water quality problems

#	Field	Choice Count	
1	Beautiful, could not be any nicer	0.00%	0
2	Very minor aesthetic problems; excellent for swimming and boating enjoyment	40.00%	2
3	Enjoyment of the lake is moderately impaired because of algae or other water quality problems	60.00%	3
4	Enjoyment of the lake is substantially impaired because of algae or other water quality problems	0.00%	0
			5

Showing rows 1 - 5 of 5

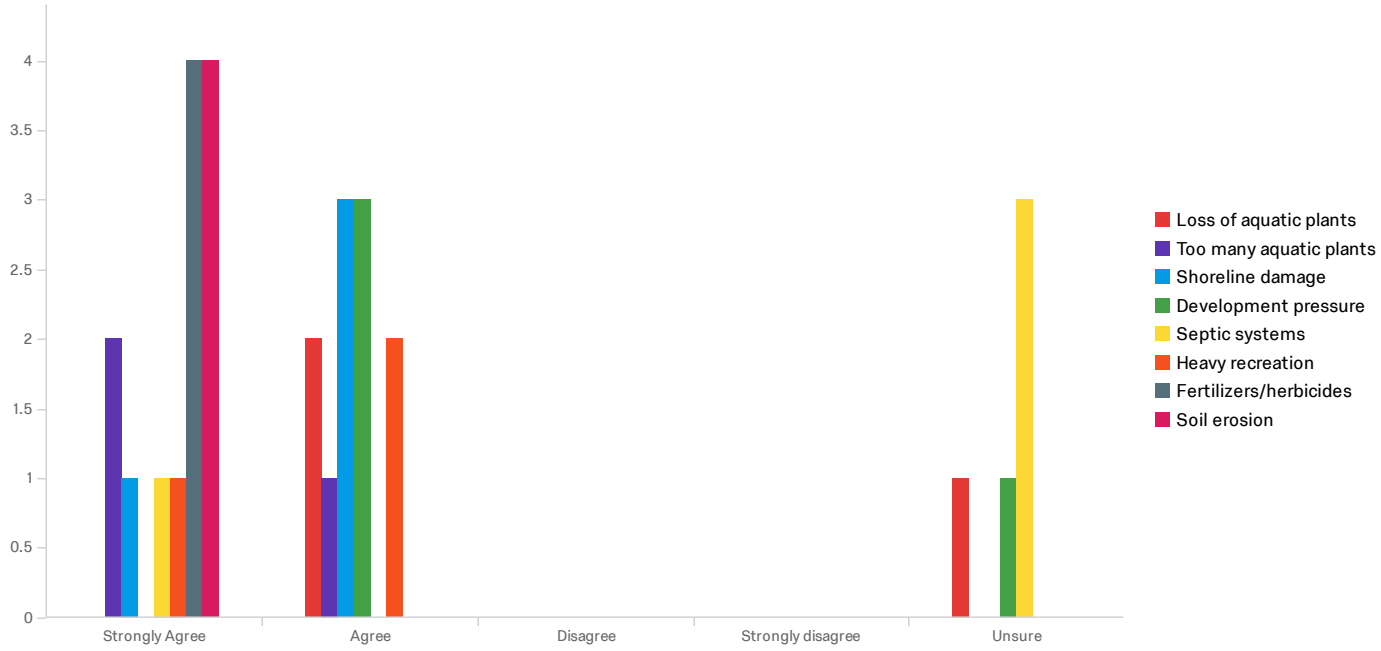
Q18 - During the time that you have lived on, visited or recreated on the lake, how would you say the water quality has changed?



#	Field	Choice Count	
1	Improved	0.00%	0
2	Declined	60.00%	3
3	Stayed the same	40.00%	2
4	Unsure	0.00%	0
			5

Showing rows 1 - 5 of 5

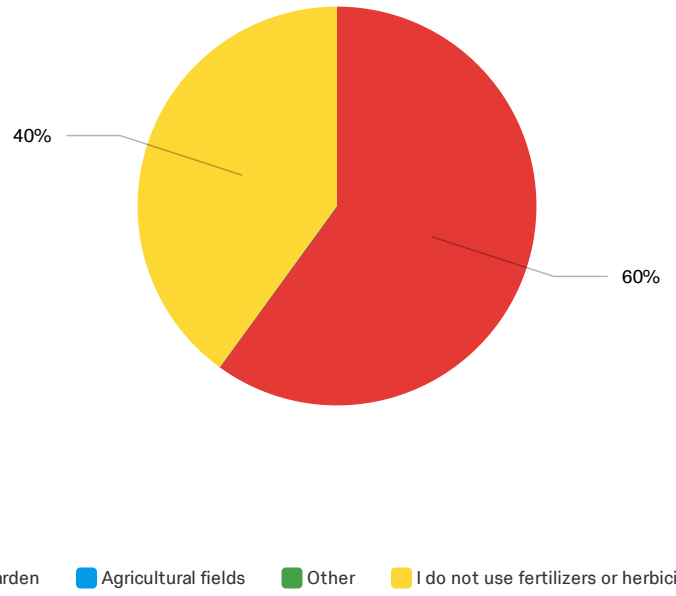
Q19 - If you think it has declined, what, in your opinion, are the primary causes?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Loss of aquatic plants	0.00% 0	66.67% 2	0.00% 0	0.00% 0	33.33% 1	3
2	Too many aquatic plants	66.67% 2	33.33% 1	0.00% 0	0.00% 0	0.00% 0	3
3	Shoreline damage	25.00% 1	75.00% 3	0.00% 0	0.00% 0	0.00% 0	4
4	Development pressure	0.00% 0	75.00% 3	0.00% 0	0.00% 0	25.00% 1	4
5	Septic systems	25.00% 1	0.00% 0	0.00% 0	0.00% 0	75.00% 3	4
6	Heavy recreation	33.33% 1	66.67% 2	0.00% 0	0.00% 0	0.00% 0	3
7	Fertilizers/herbicides	100.00% 4	0.00% 0	0.00% 0	0.00% 0	0.00% 0	4
8	Soil erosion	100.00% 4	0.00% 0	0.00% 0	0.00% 0	0.00% 0	4

Showing rows 1 - 8 of 8

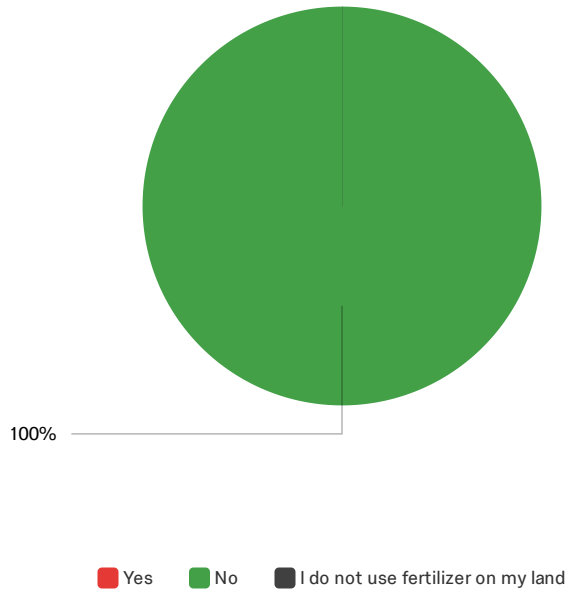
Q20 - If you use fertilizers or herbicides on your land, where are they applied?



#	Field	Choice Count	
1	Lawn	60.00%	3
2	Garden	0.00%	0
3	Agricultural fields	0.00%	0
4	Other	0.00%	0
5	I do not use fertilizers or herbicides on my land	40.00%	2
			5

Showing rows 1 - 6 of 6

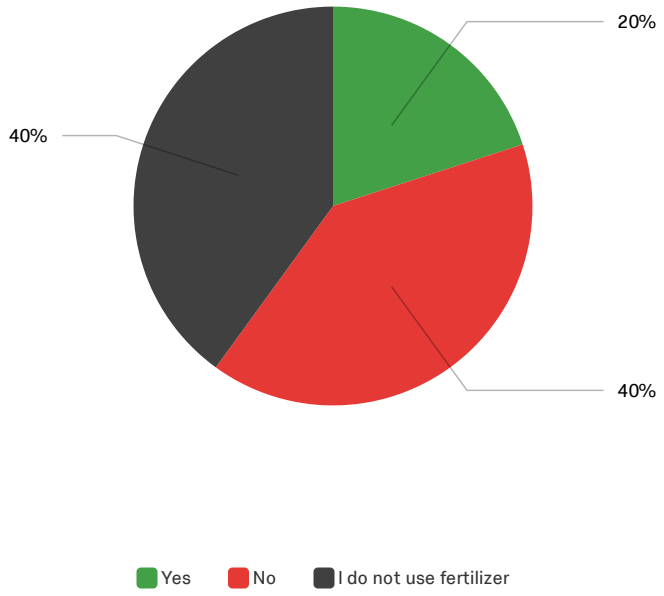
Q21 - Do you use fertilizer that contains phosphorus?



#	Field	Choice Count	
1	Yes	0.00%	0
2	No	100.00%	5
4	I do not use fertilizer on my land	0.00%	0
			5

Showing rows 1 - 4 of 4

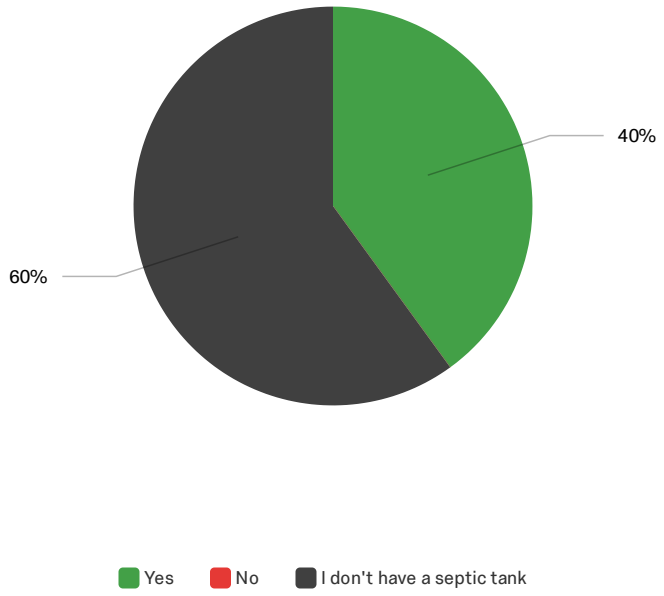
Q23 - Have you had your soil tested before using fertilizer?



#	Field	Choice Count	
1	Yes	20.00%	1
2	No	40.00%	2
3	I do not use fertilizer	40.00%	2
			5

Showing rows 1 - 4 of 4

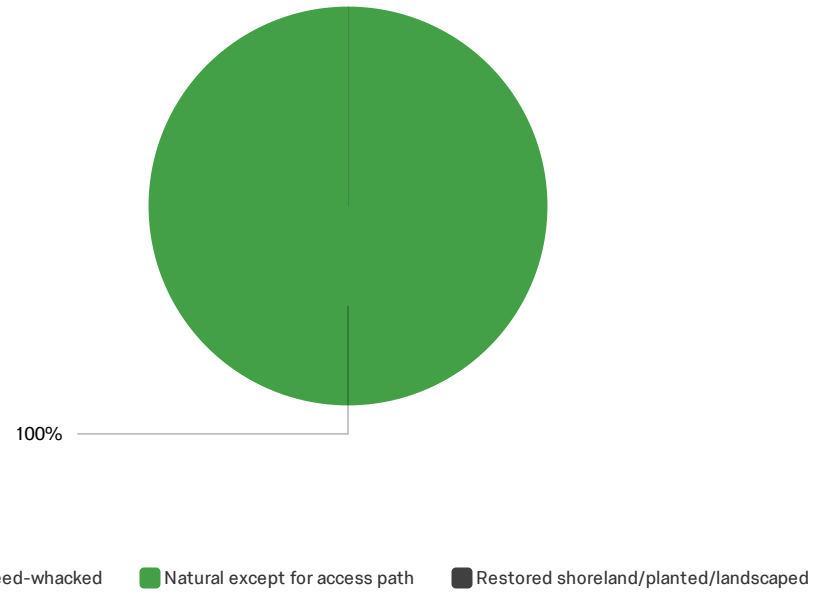
Q22 - Do you have your septic tank pumped regularly (at least every 3 years)?



#	Field		Choice Count
1	Yes	40.00%	2
2	No	0.00%	0
3	I don't have a septic tank	60.00%	3
			5

Showing rows 1 - 4 of 4

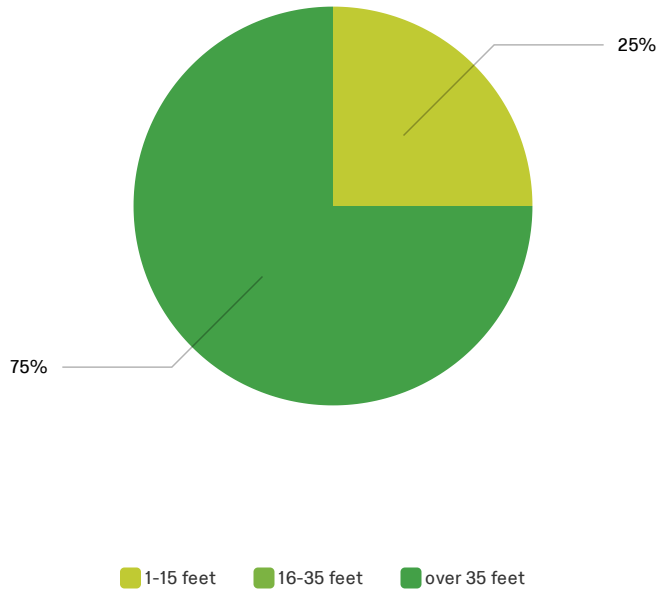
Q25 - How do you currently manage the majority of your property within 35 feet of the lake?



#	Field	Choice Count	
1	Mowed or weed-whacked	0.00%	0
2	Natural except for access path	100.00%	4
3	Restored shoreland/planted/landscaped	0.00%	0
			4

Showing rows 1 - 4 of 4

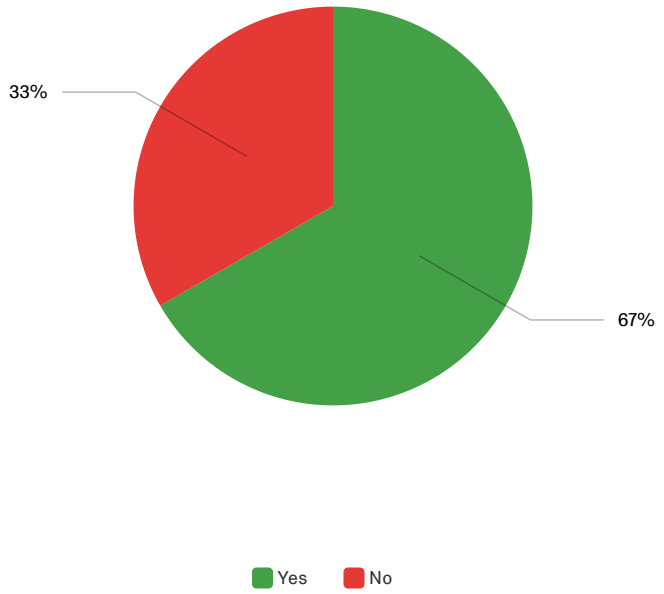
Q26 - If you have unmowed shoreland vegetation, how far inland from the water's edge does it extend?



#	Field	Choice Count	
1	1-15 feet	25.00%	1
2	16-35 feet	0.00%	0
3	over 35 feet	75.00%	3
			4

Showing rows 1 - 4 of 4

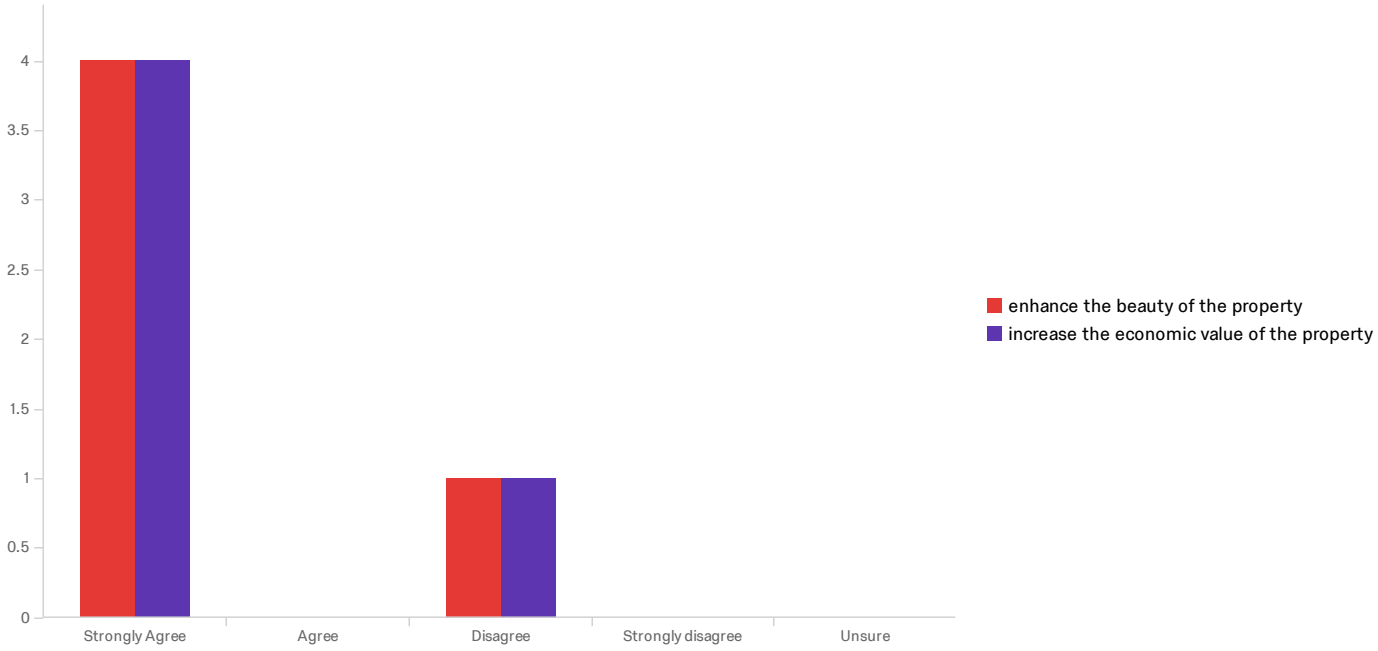
Q31 - Do you have woody structure such as fallen trees or large branches in the shallow water along your property?



#	Field	Choice Count
1	Yes	66.67% 2
2	No	33.33% 1
		3

Showing rows 1 - 3 of 3

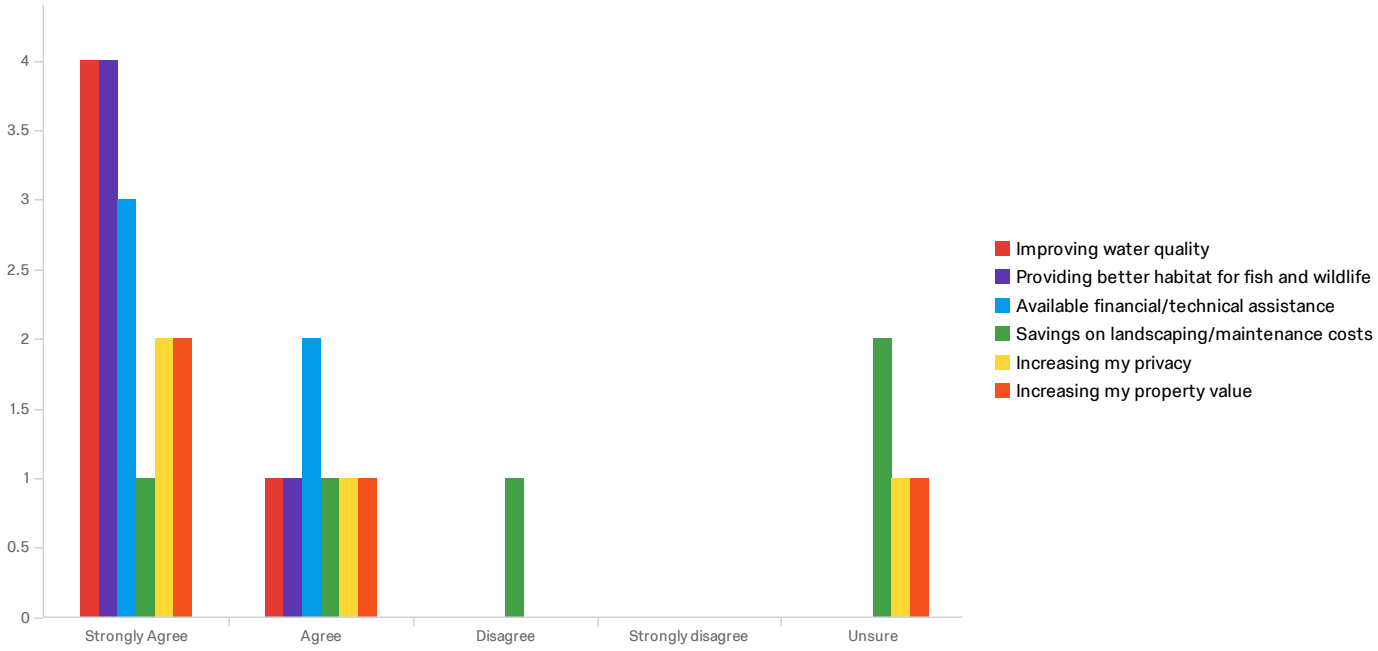
Q27 - In your opinion, does shoreland vegetation...



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	enhance the beauty of the property	80.00% 4	0.00% 0	20.00% 1	0.00% 0	0.00% 0	5
2	increase the economic value of the property	80.00% 4	0.00% 0	20.00% 1	0.00% 0	0.00% 0	5

Showing rows 1 - 2 of 2

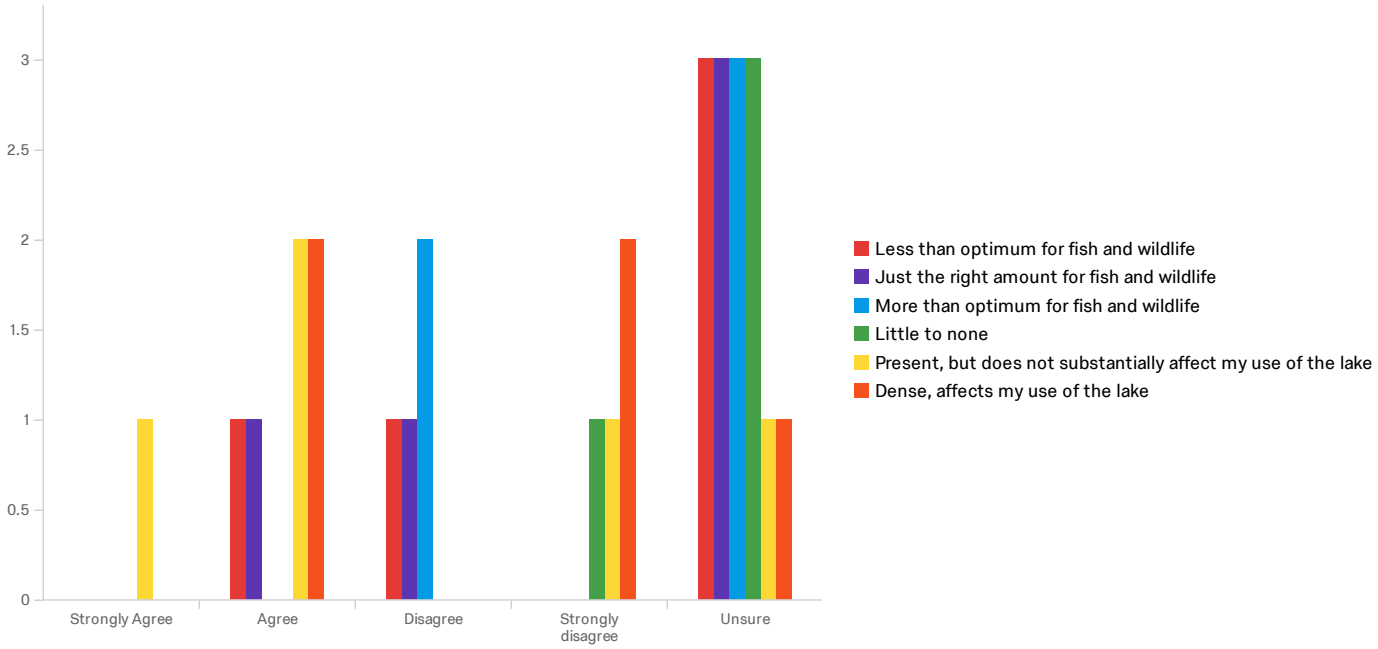
Q28 - What might motivate you to change how you manage your shoreland?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Improving water quality	80.00% 4	20.00% 1	0.00% 0	0.00% 0	0.00% 0	5
2	Providing better habitat for fish and wildlife	80.00% 4	20.00% 1	0.00% 0	0.00% 0	0.00% 0	5
3	Available financial/technical assistance	60.00% 3	40.00% 2	0.00% 0	0.00% 0	0.00% 0	5
4	Savings on landscaping/maintenance costs	20.00% 1	20.00% 1	20.00% 1	0.00% 0	40.00% 2	5
5	Increasing my privacy	50.00% 2	25.00% 1	0.00% 0	0.00% 0	25.00% 1	4
6	Increasing my property value	50.00% 2	25.00% 1	0.00% 0	0.00% 0	25.00% 1	4

Showing rows 1 - 6 of 6

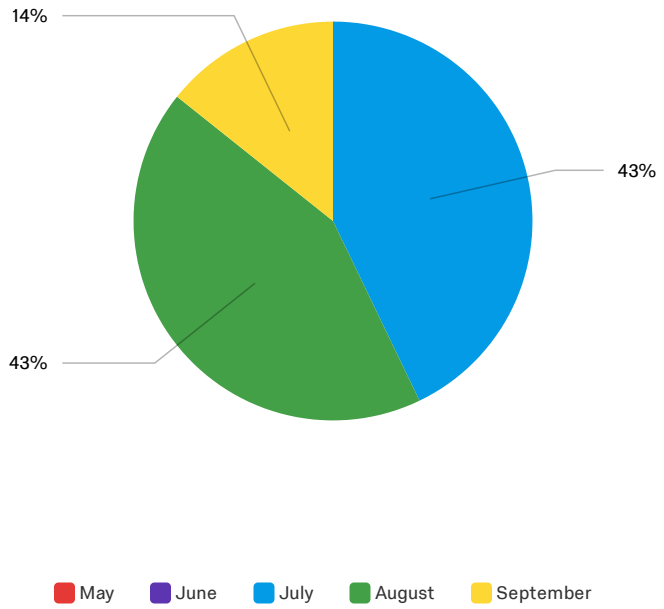
Q32 - In your opinion, which statement best describes the amount of aquatic plant growth in Oconto Falls Pond?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Less than optimum for fish and wildlife	0.00% 0	20.00% 1	20.00% 1	0.00% 0	60.00% 3	5
2	Just the right amount for fish and wildlife	0.00% 0	20.00% 1	20.00% 1	0.00% 0	60.00% 3	5
3	More than optimum for fish and wildlife	0.00% 0	0.00% 0	40.00% 2	0.00% 0	60.00% 3	5
4	Little to none	0.00% 0	0.00% 0	0.00% 0	25.00% 1	75.00% 3	4
5	Present, but does not substantially affect my use of the lake	20.00% 1	40.00% 2	0.00% 0	20.00% 1	20.00% 1	5
6	Dense, affects my use of the lake	0.00% 0	40.00% 2	0.00% 0	40.00% 2	20.00% 1	5

Showing rows 1 - 6 of 6

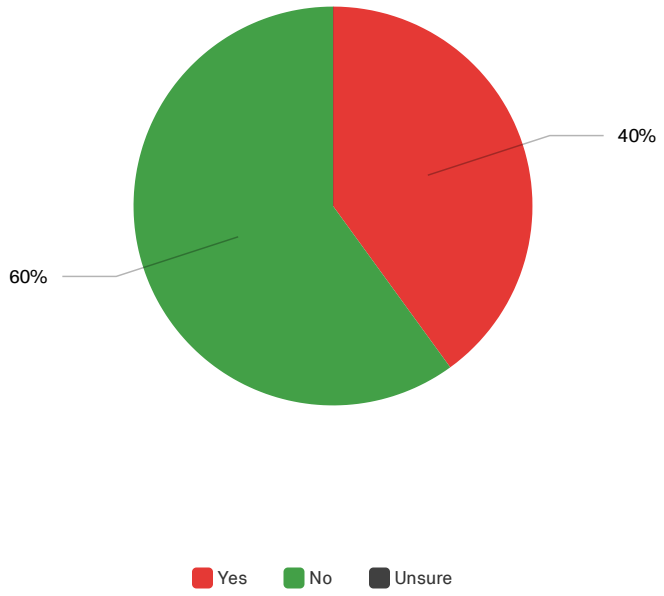
Q33 - If you think the plant growth in Oconto Falls Pond is dense, what month(s) do the problems occur? Check all that apply.



#	Field	Choice Count
1	May	0.00% 0
2	June	0.00% 0
3	July	42.86% 3
4	August	42.86% 3
5	September	14.29% 1
		7

Showing rows 1 - 6 of 6

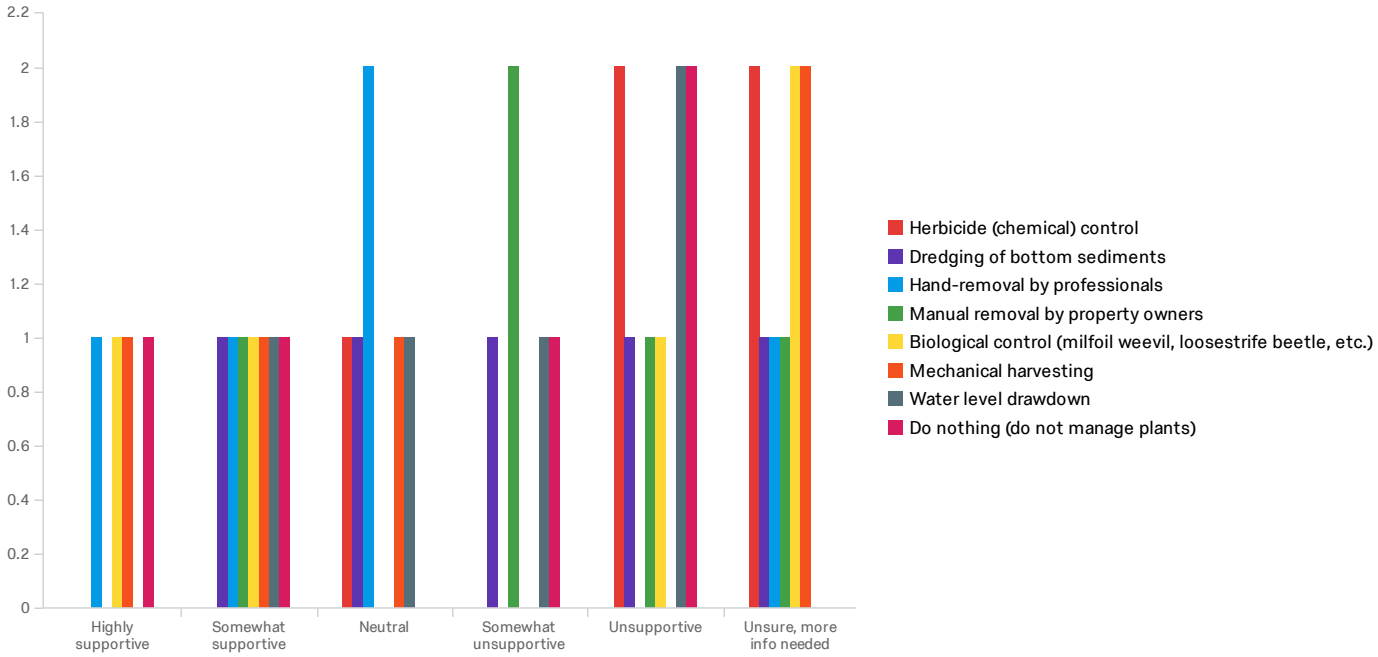
Q34 - Do you believe aquatic plant control is needed on Oconto Falls Pond?



#	Field	Choice Count	
1	Yes	40.00%	2
2	No	60.00%	3
3	Unsure	0.00%	0
			5

Showing rows 1 - 4 of 4

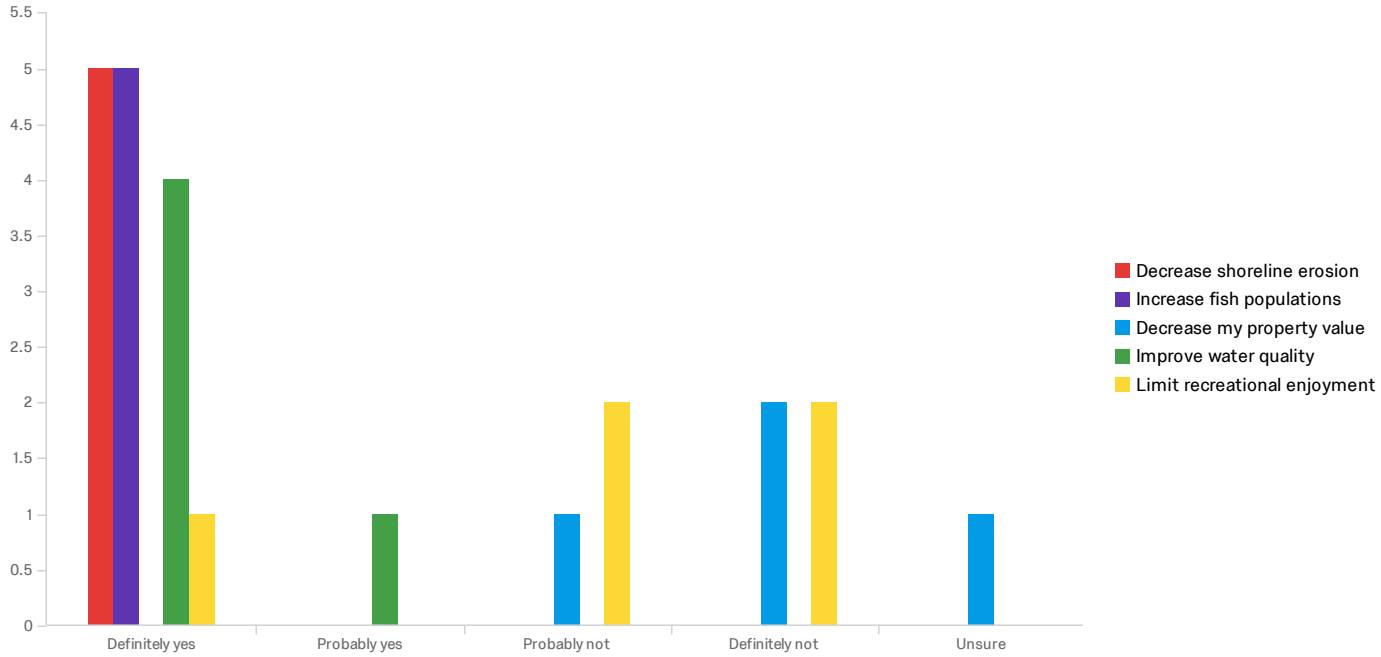
Q35 - What is your level of support for the responsible use of the following techniques to manage aquatic plants on Oconto Falls Pond?



#	Field	Highly supportive	Somewhat supportive	Neutral	Somewhat unsupportive	Unsupportive	Unsure, more info needed	Total
1	Herbicide (chemical) control	0.00% 0	0.00% 0	20.00% 1	0.00% 0	40.00% 2	40.00% 2	5
2	Dredging of bottom sediments	0.00% 0	20.00% 1	20.00% 1	20.00% 1	20.00% 1	20.00% 1	5
3	Hand-removal by professionals	20.00% 1	20.00% 1	40.00% 2	0.00% 0	0.00% 0	20.00% 1	5
4	Manual removal by property owners	0.00% 0	20.00% 1	0.00% 0	40.00% 2	20.00% 1	20.00% 1	5
5	Biological control (milfoil weevil, loosestrife beetle, etc.)	20.00% 1	20.00% 1	0.00% 0	0.00% 0	20.00% 1	40.00% 2	5
6	Mechanical harvesting	20.00% 1	20.00% 1	20.00% 1	0.00% 0	0.00% 0	40.00% 2	5
7	Water level drawdown	0.00% 0	20.00% 1	20.00% 1	20.00% 1	40.00% 2	0.00% 0	5
8	Do nothing (do not manage plants)	20.00% 1	20.00% 1	0.00% 0	20.00% 1	40.00% 2	0.00% 0	5

Showing rows 1 - 8 of 8

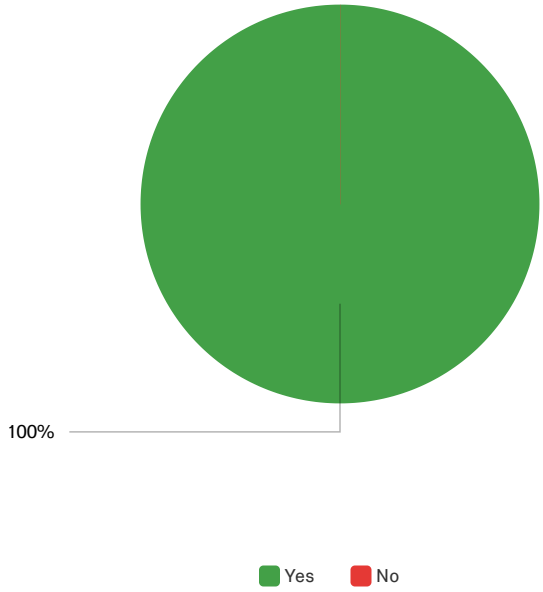
Q36 - In your opinion, does establishing or maintaining native vegetation in the water in the near-shore area...



#	Field	Definitely yes	Probably yes	Probably not	Definitely not	Unsure	Total
1	Decrease shoreline erosion	100.00% 5	0.00% 0	0.00% 0	0.00% 0	0.00% 0	5
2	Increase fish populations	100.00% 5	0.00% 0	0.00% 0	0.00% 0	0.00% 0	5
3	Decrease my property value	0.00% 0	0.00% 0	25.00% 1	50.00% 2	25.00% 1	4
4	Improve water quality	80.00% 4	20.00% 1	0.00% 0	0.00% 0	0.00% 0	5
5	Limit recreational enjoyment	20.00% 1	0.00% 0	40.00% 2	40.00% 2	0.00% 0	5

Showing rows 1 - 5 of 5

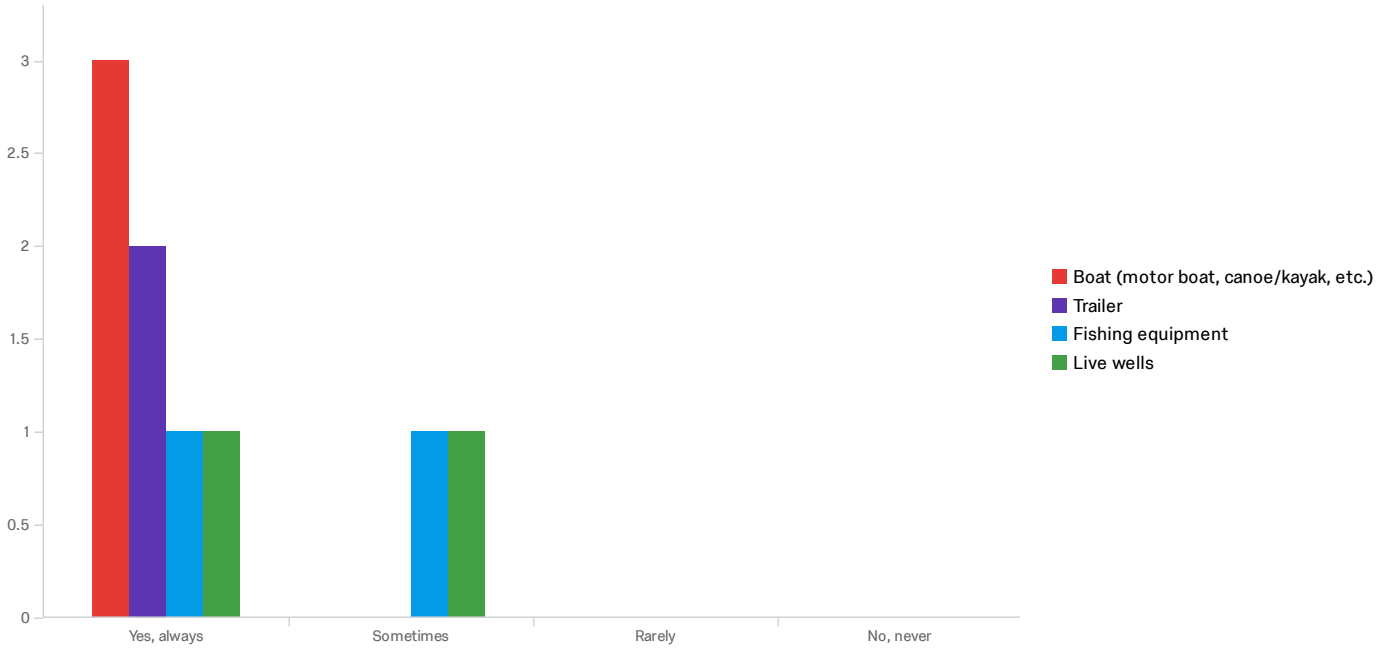
Q37 - Are you aware of invasive species (in general)?



#	Field		Choice Count
1	Yes	100.00%	5
2	No	0.00%	0
			5

Showing rows 1 - 3 of 3

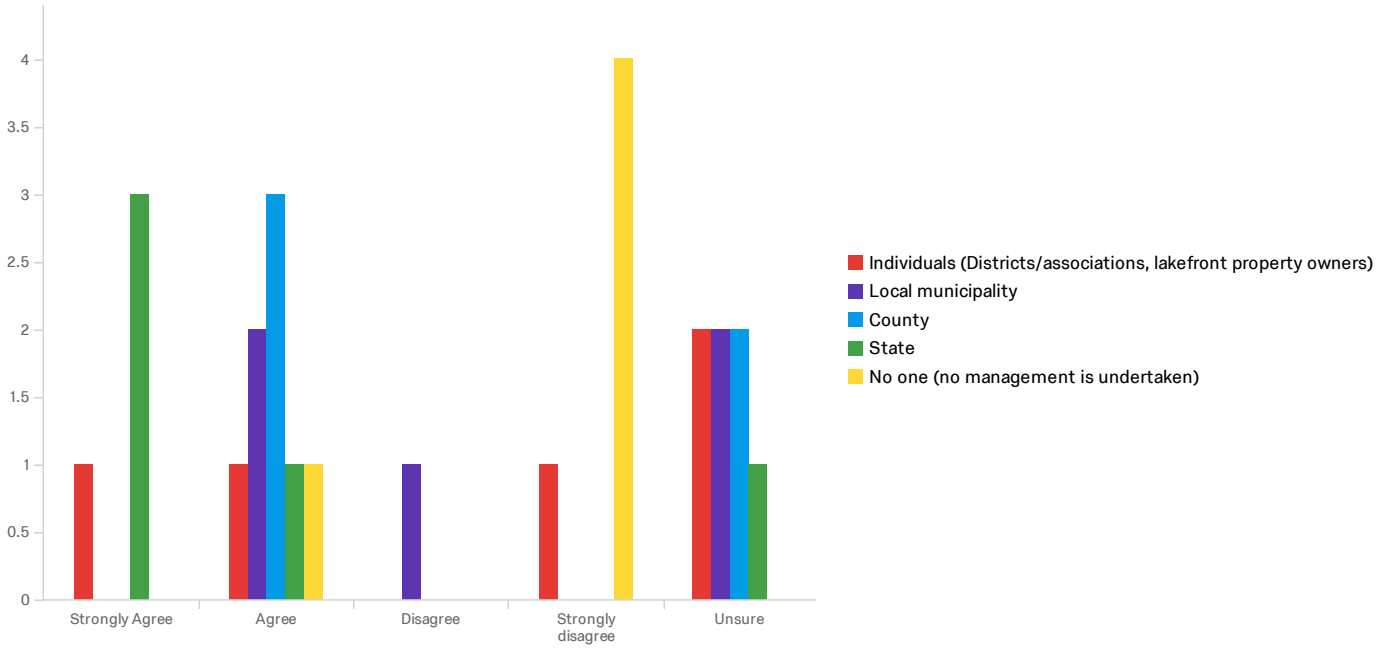
Q39 - After you have been to another lake, do you clean your.... before bringing it back to Oconto Falls Pond?



#	Field	Yes, always	Sometimes	Rarely	No, never	Total
1	Boat (motor boat, canoe/kayak, etc.)	100.00% 3	0.00% 0	0.00% 0	0.00% 0	3
2	Trailer	100.00% 2	0.00% 0	0.00% 0	0.00% 0	2
3	Fishing equipment	50.00% 1	50.00% 1	0.00% 0	0.00% 0	2
4	Live wells	50.00% 1	50.00% 1	0.00% 0	0.00% 0	2

Showing rows 1 - 4 of 4

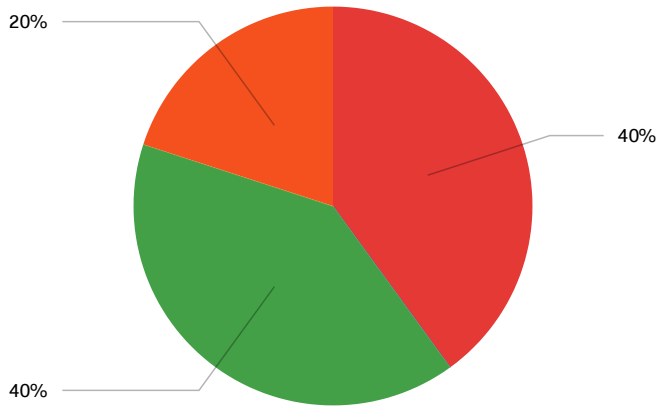
Q40 - Who should pay the cost of managing invasive aquatic plants?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Individuals (Districts/associations, lakefront property owners)	20.00% 1	20.00% 1	0.00% 0	20.00% 1	40.00% 2	5
2	Local municipality	0.00% 0	40.00% 2	20.00% 1	0.00% 0	40.00% 2	5
3	County	0.00% 0	60.00% 3	0.00% 0	0.00% 0	40.00% 2	5
4	State	60.00% 3	20.00% 1	0.00% 0	0.00% 0	20.00% 1	5
5	No one (no management is undertaken)	0.00% 0	20.00% 1	0.00% 0	80.00% 4	0.00% 0	5

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	40.00%	2
2	Billboard	0.00%	0
3	Info pamphlets	0.00%	0
4	Lakeside signs/kiosks	40.00%	2
5	Volunteer staff at boat launch	0.00%	0
6	Other	20.00%	1
			5

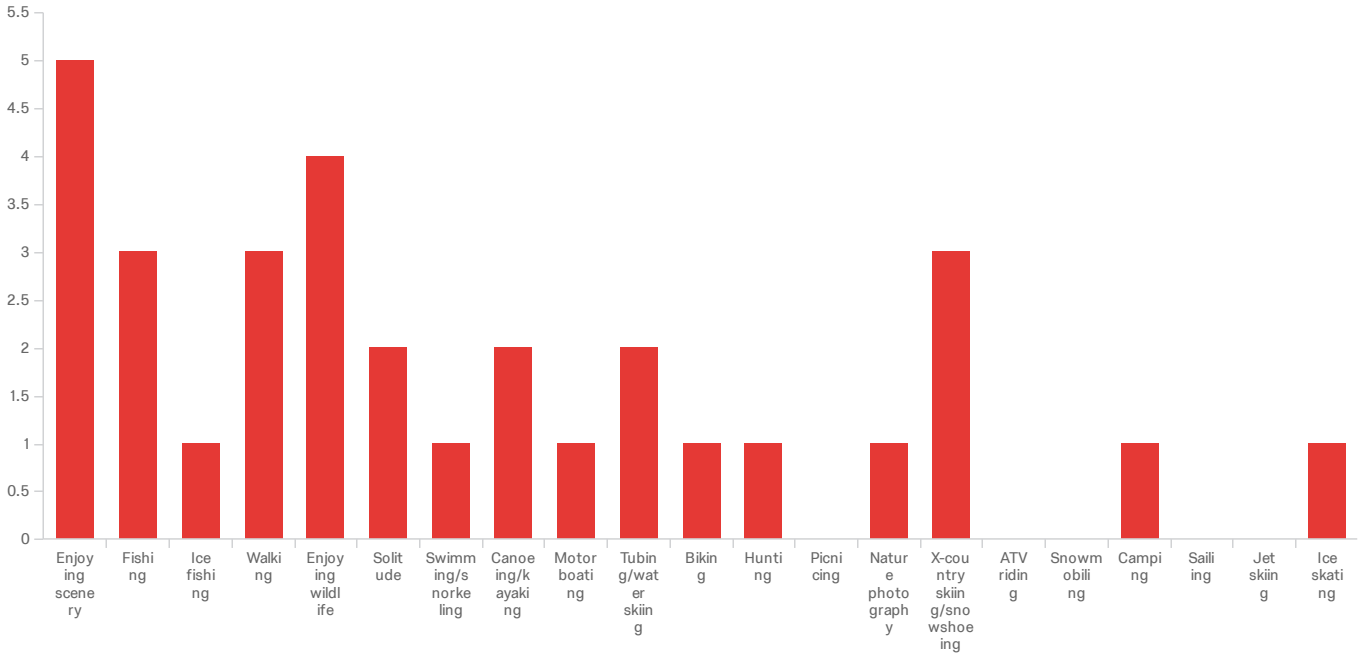
Showing rows 1 - 7 of 7

Q12 - In your opinion, what should be done to restore, maintain or improve Oconto Falls Pond?

In your opinion, what should be done to restore, maintain or improve Oconto...
Prevent farm runoff.
stop point source runoff from farms by enforcing a buffer zone of natural vegitation
Better communication about the Pond.
Limiit AG runoff both animal and soil erosion

Showing records 1 - 4 of 4

Q45 - What recreational activities do you partake in on Oconto Falls Pond (check all that apply)?



#	Field	Choice Count	
1	Enjoying scenery	15.63%	5
2	Fishing	9.38%	3
3	Ice fishing	3.13%	1
4	Walking	9.38%	3
5	Enjoying wildlife	12.50%	4
6	Solitude	6.25%	2
7	Swimming/snorkeling	3.13%	1
8	Canoeing/kayaking	6.25%	2
9	Motor boating	3.13%	1
10	Tubing/water skiing	6.25%	2
11	Biking	3.13%	1
12	Hunting	3.13%	1
13	Picnicing	0.00%	0

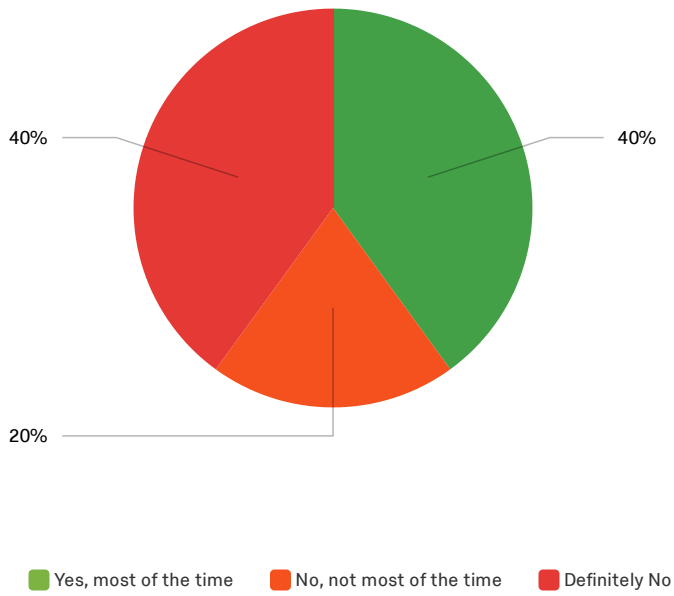
#	Field		Choice Count
14	Nature photography	3.13%	1
15	X-country skiing/snowshoeing	9.38%	3
16	ATV riding	0.00%	0
17	Snowmobiling	0.00%	0
18	Camping	3.13%	1
19	Sailiing	0.00%	0
20	Jet skiing	0.00%	0
21	Ice skating	3.13%	1
			32

Showing rows 1 - 22 of 22

Q46 - Other recreational activities not included above:

No Data

Q47 - There are no "No Wake" hours on Oconto Falls Pond. Do you like the current rules as they are?



#	Field	Choice Count	
1	Definitely Yes	40.00%	2
2	Yes, most of the time	0.00%	0
3	No, not most of the time	20.00%	1
4	Definitely No	40.00%	2
5	Unsure	0.00%	0
			5

Showing rows 1 - 6 of 6

Q48 - If you think the boating rules should be adjusted...in what way?

If you think the "No Wake" rules should be adjusted...in what way?
We need a time set for fishing. No Wake after 6pm.
Tubing and jet skiing hours.
Remove the use of Jet Ski"s and the use of high powered boats

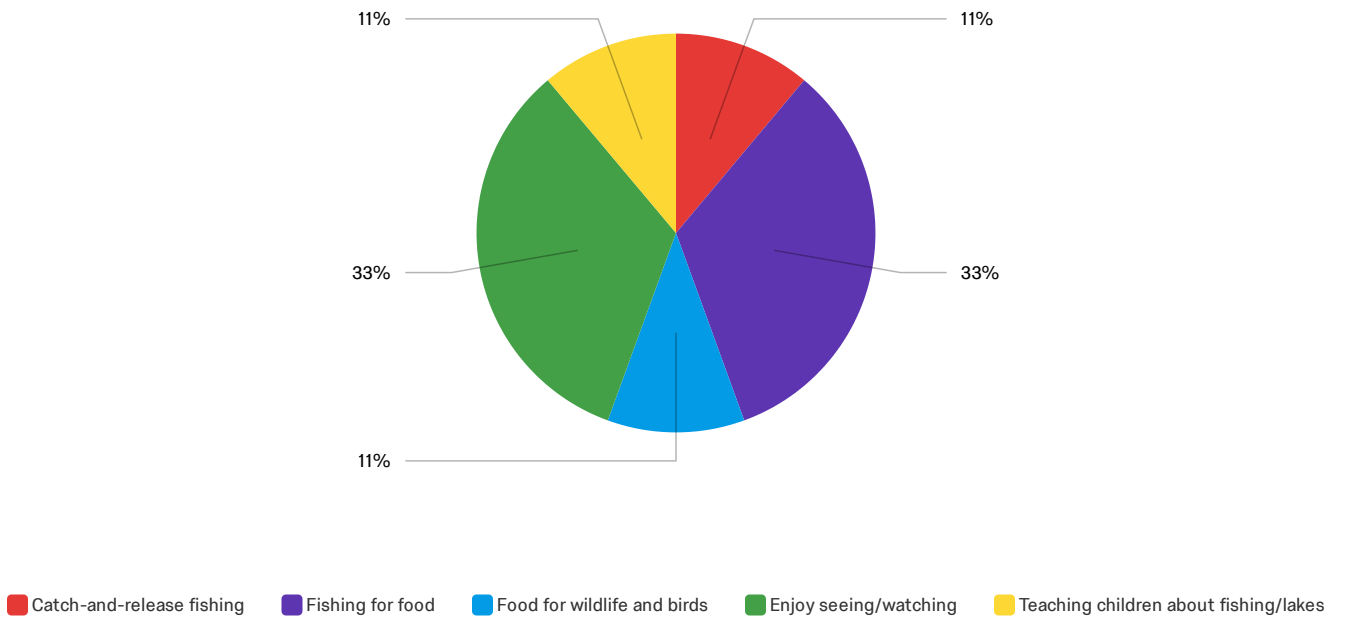
Showing records 1 - 3 of 3

Q49 - What could be done to improve your recreation experience on Oconto Falls Pond?

What could be done to improve your recreation experience on Bear Lake?
It's a free for all. No respect.
water clarity
More communication
see above

Showing records 1 - 4 of 4

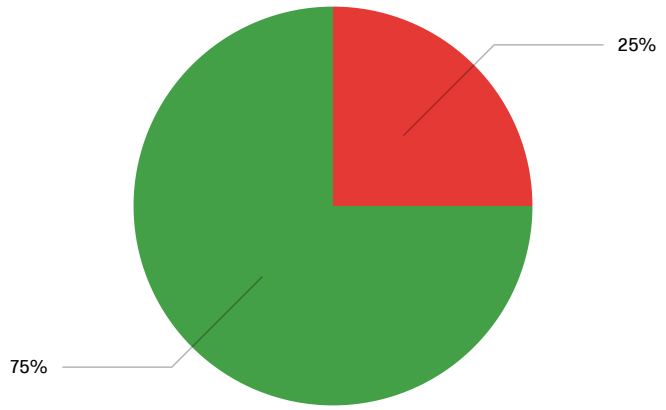
Q51 - For what purposes do you value the fishery in Oconto Falls Pond? (Check all that apply)



#	Field	Choice Count	
1	Catch-and-release fishing	11.11%	1
2	Fishing for food	33.33%	3
3	Food for wildlife and birds	11.11%	1
4	Enjoy seeing/watching	33.33%	3
5	Teaching children about fishing/lakes	11.11%	1
			9

Showing rows 1 - 6 of 6

Q52 - How many years experience do you have fishing Oconto Falls Pond?

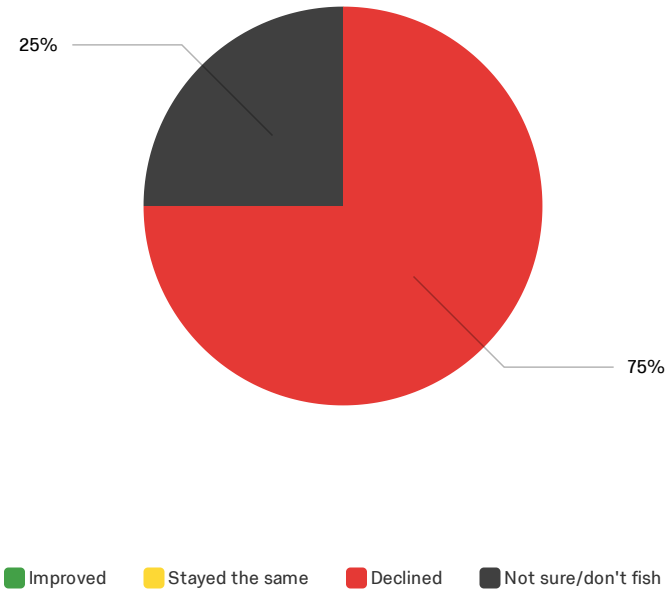


I don't fish Oconto Falls Pond 1-5 years 6-10 years 11-20 years More than 20 years

#	Field	Choice Count	
1	I don't fish Oconto Falls Pond	25.00%	1
2	1-5 years	0.00%	0
3	6-10 years	0.00%	0
4	11-20 years	0.00%	0
5	More than 20 years	75.00%	3
			4

Showing rows 1 - 6 of 6

Q53 - In the time you have been fishing Oconto Falls Pond, would you say the quality of fishing has...



#	Field		Choice Count
1	Improved	0.00%	0
2	Stayed the same	0.00%	0
3	Declined	75.00%	3
4	Not sure/don't fish	25.00%	1
			4

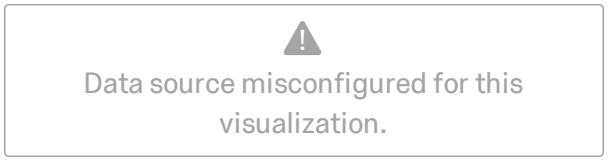
Showing rows 1 - 5 of 5

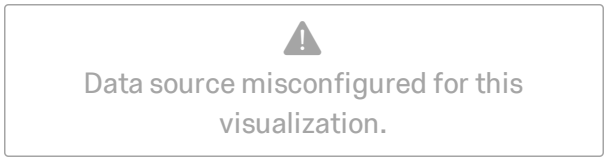
Q54 - What do you think has contributed to the change in fishing?

What do you think has contributed to the change in fishing?
2/3 of all the river problems is farm runoff. You don't want to talk about it, too bad.
Ag pollution excessive Jet sking and power boating

Showing records 1 - 2 of 2

Q55 - When and how often do you fish Oconto Falls Pond?



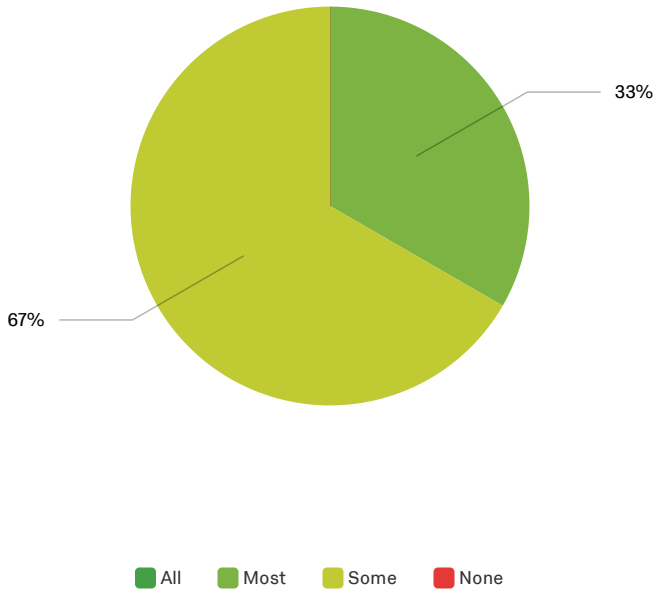


Q56 - What type of fish do you catch on Oconto Falls Pond?

What type of fish do you catch on Bear Lake?
Crappies.
Crappie.
Blue gill, Perch, Crappie

Showing records 1 - 3 of 3

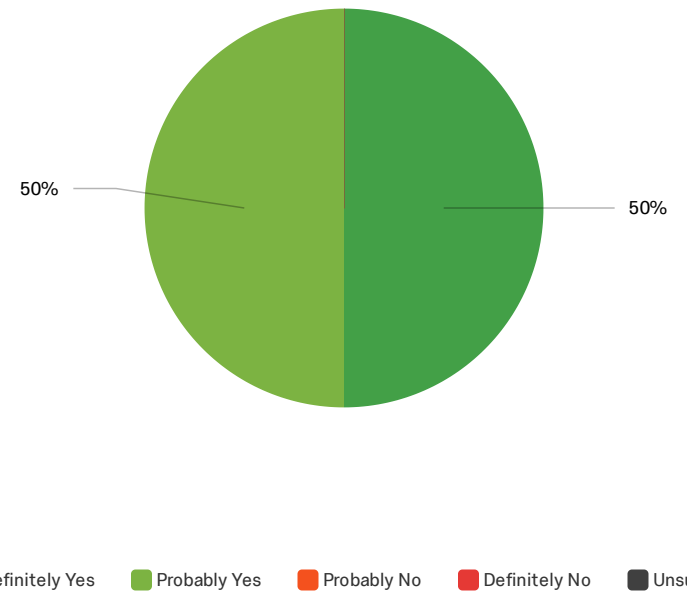
Q57 - In general, how many of the fish you catch are big enough to keep?



#	Field	Choice Count	
1	All	0.00%	0
2	Most	33.33%	1
3	Some	66.67%	2
4	None	0.00%	0
			3

Showing rows 1 - 5 of 5

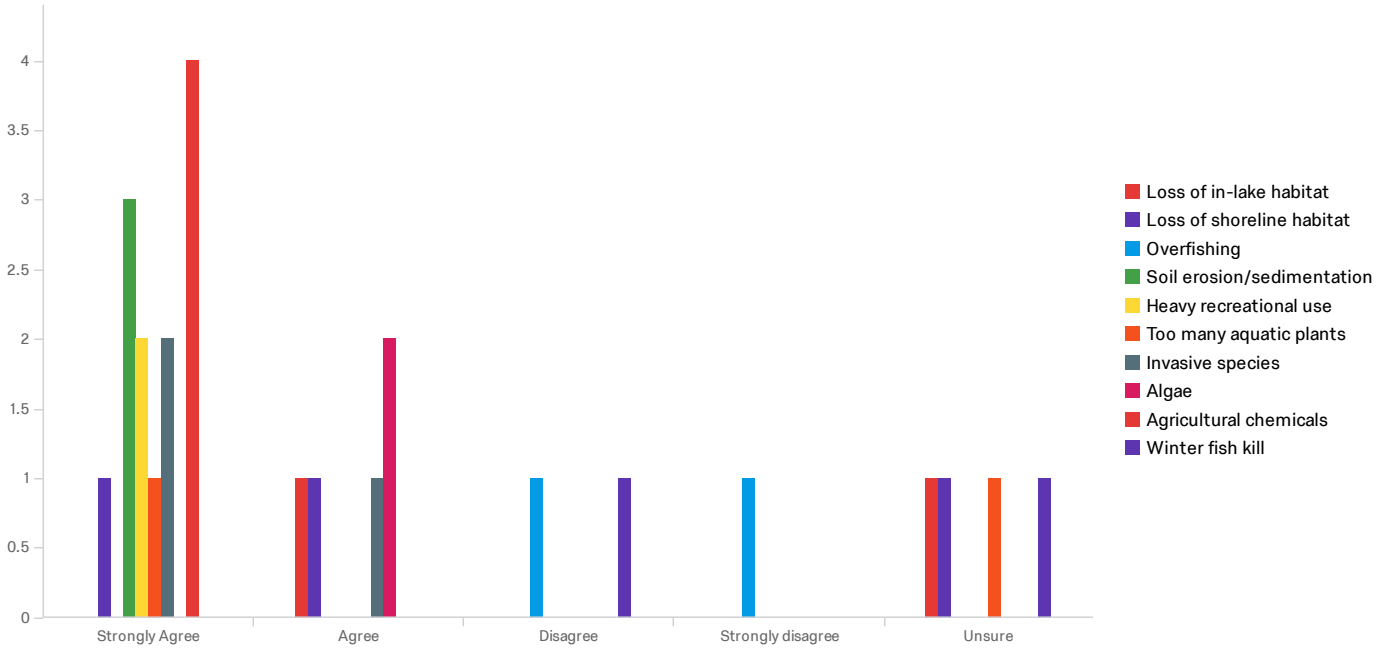
Q58 - Do you believe fish from Oconto Falls Pond are safe to eat?



#	Field	Choice Count
1	Definitely Yes	50.00% 2
2	Probably Yes	50.00% 2
3	Probably No	0.00% 0
4	Definitely No	0.00% 0
5	Unsure	0.00% 0
		4

Showing rows 1 - 6 of 6

Q59 - What do you think is the greatest threat to the fishery in Oconto Falls Pond in the next 10 years?



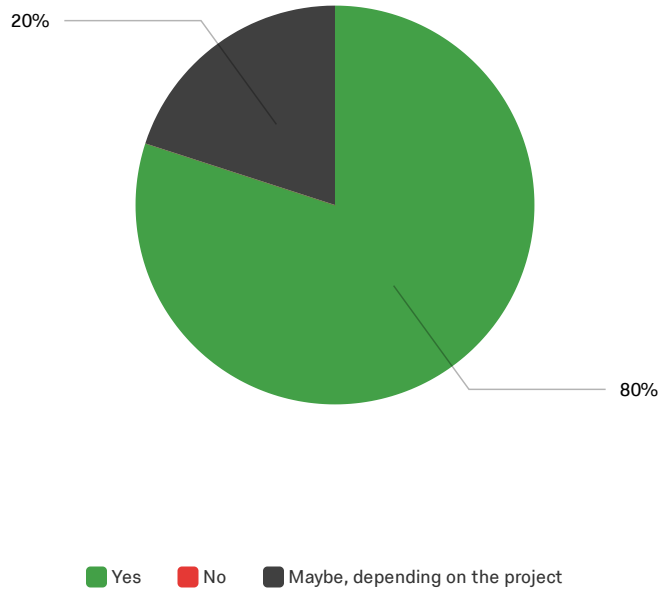
#	Field	Strongly Agree		Agree		Disagree		Strongly disagree		Unsure		Total
1	Loss of in-lake habitat	0.00%	0	50.00%	1	0.00%	0	0.00%	0	50.00%	1	2
2	Loss of shoreline habitat	33.33%	1	33.33%	1	0.00%	0	0.00%	0	33.33%	1	3
3	Overfishing	0.00%	0	0.00%	0	50.00%	1	50.00%	1	0.00%	0	2
4	Soil erosion/sedimentation	100.00%	3	0.00%	0	0.00%	0	0.00%	0	0.00%	0	3
5	Heavy recreational use	100.00%	2	0.00%	0	0.00%	0	0.00%	0	0.00%	0	2
6	Too many aquatic plants	50.00%	1	0.00%	0	0.00%	0	0.00%	0	50.00%	1	2
7	Invasive species	66.67%	2	33.33%	1	0.00%	0	0.00%	0	0.00%	0	3
8	Algae	0.00%	0	100.00%	2	0.00%	0	0.00%	0	0.00%	0	2
9	Agricultural chemicals	100.00%	4	0.00%	0	0.00%	0	0.00%	0	0.00%	0	4
10	Winter fish kill	0.00%	0	0.00%	0	50.00%	1	0.00%	0	50.00%	1	2

Showing rows 1 - 10 of 10

Q61 - Do you have any additional comments regarding Oconto Falls Pond?

No Data

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.)?



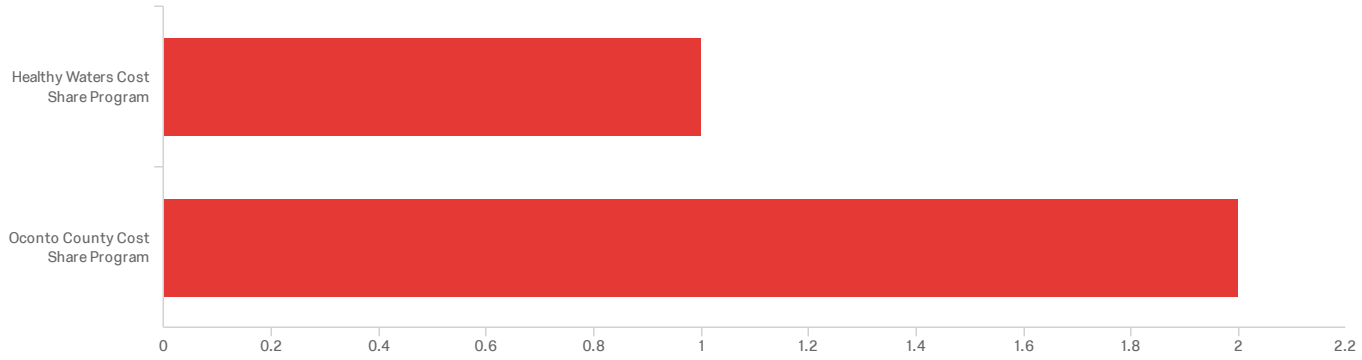
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Would you be interested in volunteering on a project on your lake (such as shoreland restoration planting, invasive species monitoring/removal, water quality monitoring, highway cleanup, etc.)?	1.00	3.00	1.40	0.80	0.64	5

#	Field		Choice Count
1	Yes	80.00%	4
2	No	0.00%	0
3	Maybe, depending on the project	20.00%	1
			5

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	33.33%	1
2	Oconto County Cost Share Program	66.67%	2
			3

Showing rows 1 - 3 of 3

End of Report