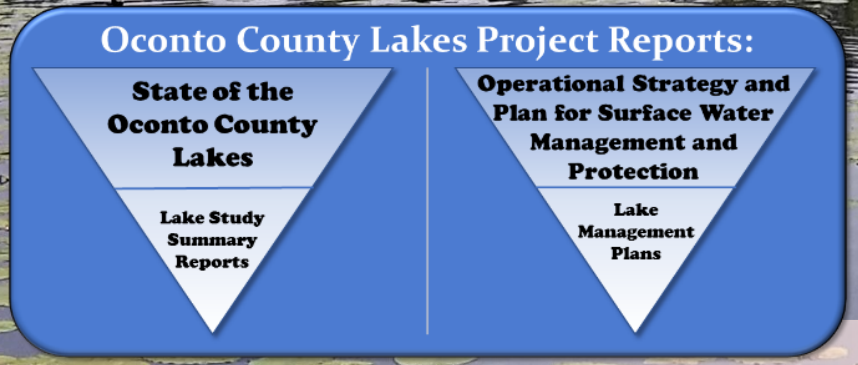
Oconto County Lakes Project

WHITE AND PECOR LAKES MANAGEMENT PLAN

2022



VISION

White and Pecor Lakes will remain quiet a Northwoods destination where clean water and family traditions come together.

White and Pecor Lakes Management Plan

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

Along with the Oconto County Lakes Project participants, the following individuals and organizations contributed to the content of this plan.

White and Pecor Lakes Planning Participants

Austin & Judy Boncher
Charles Rollman
Craig Darrow
Girard Schultz
Linda Riewe
Adam Lange
Isaiah Houska
Liann Wagner
Steve Vertin
Tom Zemek
Mark Glapa
Darryl & Lora Houska
Chris Olson
Erica Pearson
Rosemary Storts

Technical Contributors to the Planning Process

Dale Mohr, UW-Extension - Oconto County

Ken Dolata, Oconto County Land & Water Conservation Department

Brenda Nordin, Wisconsin Department of Natural Resources

Brian Zalay, Wisconsin Department of Natural Resources

Tammie Paoli, Wisconsin Department of Natural Resources

Ryan Haney, UWSP Center for Watershed Science and Education

Sarah Hull, UWSP Center for Watershed Science and Education

Paul McGinley, UWSP Center for Watershed Science and Education

Table of Contents

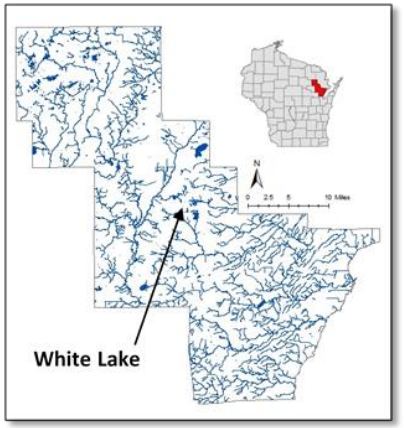
TABLE OF CONTENTS

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

Background

ABOUT WHITE LAKE

White Lake is located in the Town of Bagley, in northeast Wisconsin. This 50-acre drainage lake has a maximum depth of 49 feet with clear water. Its bottom sediments are primarily muck with sand. Visitors have access to the lake from one public boat landing around the lakes southeast side, which is owned and maintained by the Town of Bagley. Water enters White Lake primarily from Pecor Lake through an inlet on the north side and leaves via the outlet next to the boat landing.



Map created by Brian Zalay, WDNR.

0 26.5 53ft

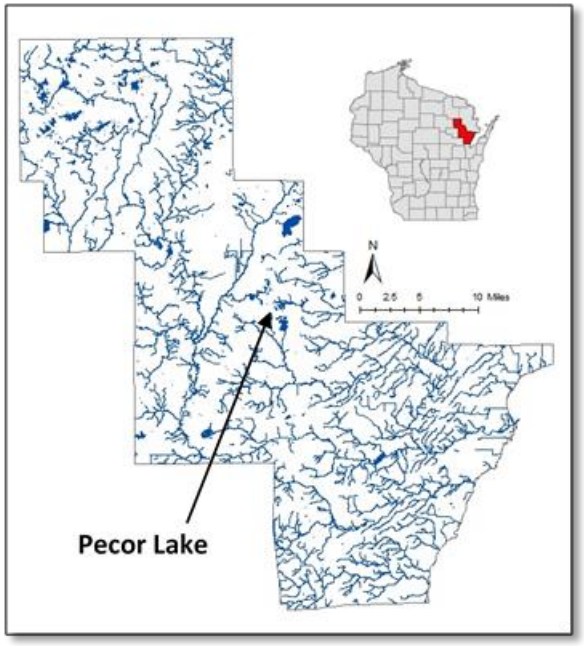
0 500ft

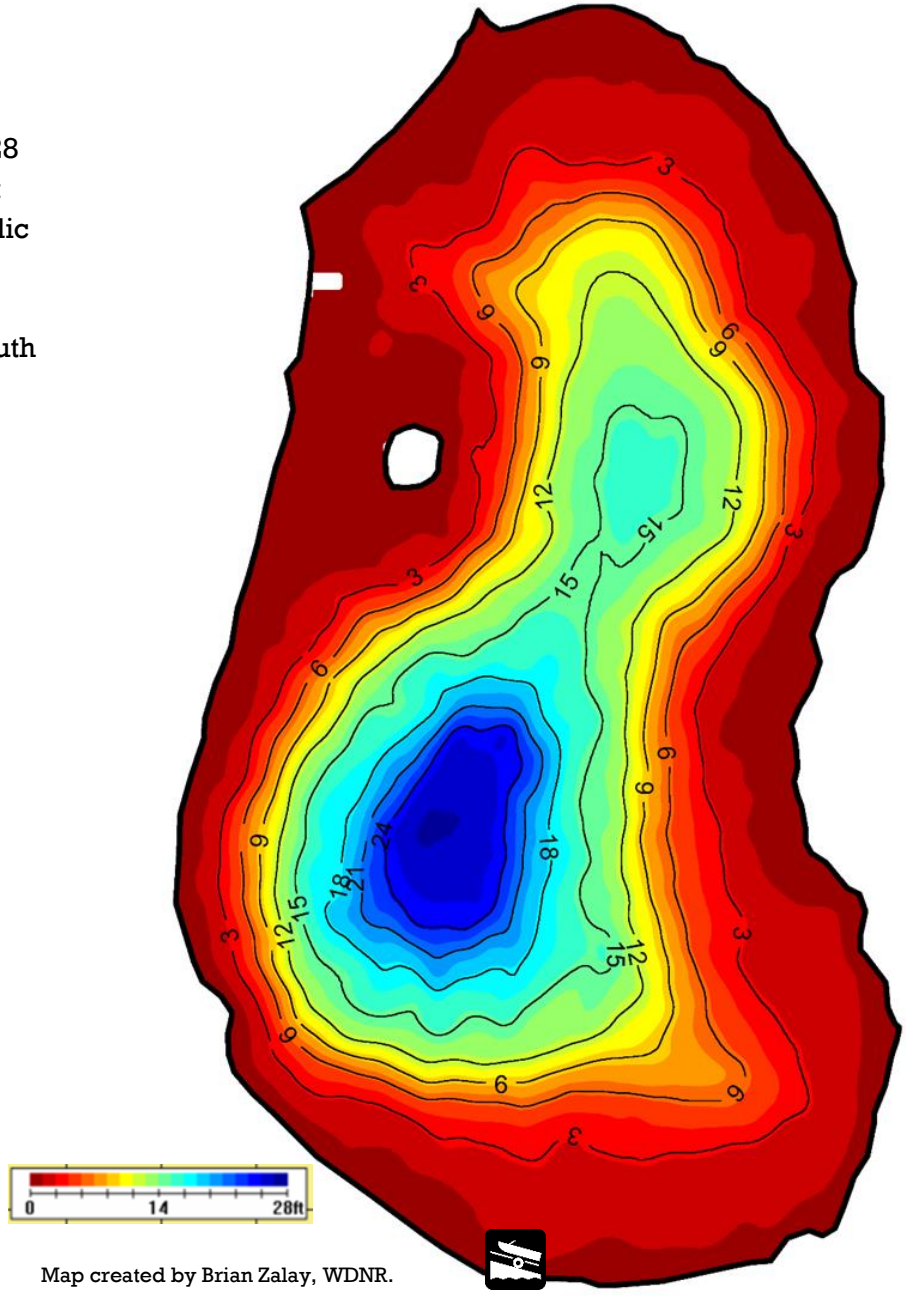
White Lake
Mapping by AutoChart

Background

ABOUT PECOR LAKE

Pecor Lake is located in the Town of Bagley, in northeast Wisconsin. This 50-acre spring lake has a maximum depth of 28 feet with clear water. Its bottom sediments are primarily muck with some sand. Visitors have access to the lake from one public boat landing around the lakes south side, which is owned and maintained by the Town of Bagley. Water enters Pecor Lake primarily from groundwater and leaves via an outlet on the south side leading to White Lake.





Map created by Brian Zalay, WDNR.

What Is A Lake Management Plan?

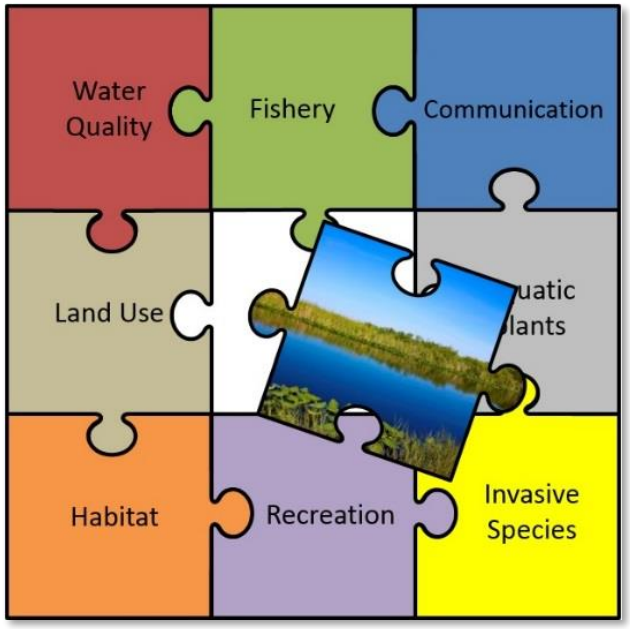
LAKE MANAGEMENT PLANS (LMP)

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 lake management plan addresses 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.

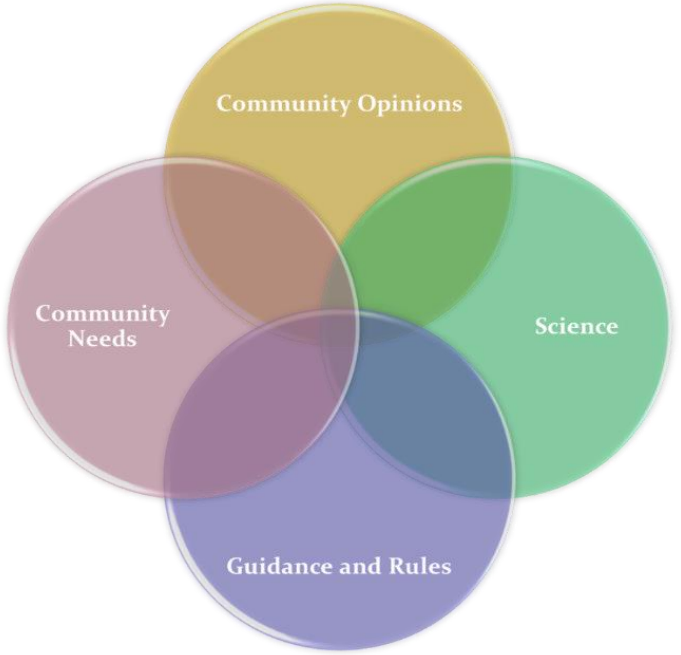
What is the purpose of this LMP?

This plan was created to ensure that White and Pecor Lakes are healthy now and for future generations. It was designed to learn about White and Pecor Lakes and identify features important to the lake community, in order 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 White and Pecor Lakes 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 lakes 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 lakes and their ecosystems to understand past and current conditions. This was done in 2019-2020 alongside 4 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 White and Pecor Lakes 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 public meetings held on June 14, 2019, at the Bagley Town Hall and on March 1, 2022 via an online platform to learn from one another and make decisions about the fishery, water quality, habitat, and land management in the White Potato Lake watershed. Technical assistance during the planning process was provided by staff from OCLCD, UWEX, WDNR, and the CWSE.

How were various opinions incorporated?

Participation in the planning process was open to everyone and was encouraged by letters mailed to White and Pecor Lakes 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 the lake can have the greatest influence on the lake by understanding and choosing lake-friendly options to manage their land and the lake.
- **A future lake association:** This plan provides an association with guidance for the whole lake and lists options that can easily be prioritized. Resources and funding opportunities for lake management activities are made more available by placement of goals into the lake management plan, and the association can identify partners to help achieve their goals for the lake.
- **Neighboring lake groups, sporting and conservation clubs:** Groups with similar goals for lake stewardship can combine their efforts and provide each other with support, improve competitiveness for funding opportunities, and make efforts more fun.
- **The Town of Bagley:** Municipalities can utilize the visions, objectives, and goals documented in this lake management plan when considering town-level planning or decisions within the watershed that may affect the lake.
- **Oconto County:** County professionals will better know how to identify needs, provide support, base decisions, and allocate resources to assist in lake-related efforts documented in this plan. This plan can also inform county board supervisors in decisions related to Oconto County lakes, streams, wetlands, and groundwater.
- **Wisconsin Department of Natural Resources (WDNR):** Professionals working with lakes in Oconto County can use this plan as guidance for management activities and decisions related to the management of the resource, including the fishery, and invasive species. LMPs help them to identify and prioritize needs, and where to apply resources. A well thought out lake management plan increases an application's competitiveness for funding from the State.

Who can help implement this plan?

Lead persons and resources are identified under each action in this plan. These individuals and organizations are able to provide information, suggestions, or services to achieve goals. The 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 WHITE AND PECOR LAKES

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 White and Pecor Lakes. 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

Goals for White and Pecor Lakes

The following goals and actions were derived from the values and concerns of citizens interested in White and Pecor Lakes and members of the planning committee, as well as the known science about White and Pecor Lakes, their ecosystem 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	**White and Pecor Lakes will maintain healthy, well-balanced fisheries.**
Goal 2	**White and Pecor Lakes will continue to have a healthy and diverse aquatic plant community that provides good habitat and water quality.**
Goal 3	**Sensitive areas in White and Pecor Lakes, which provide essential habitat and/or water quality benefits, will be protected.**
Goal 4	**Property owners in the White and Pecor Lakes watershed will know about and utilize resources for healthy land management practices.**
Goal 5	**White and Pecor Lakes will have shorelands that are healthy and protective of water quality and habitat.**
Goal 6	**Maintain or improve water quality in White and Pecor Lakes.**
Goal 7	**Lake users will be informed about and respectful of White and Pecor Lakes.**
Goal 8	**Increase participation in lake stewardship.**
Goal 9	**Review plan regularly and update as needed.**

Fish Community

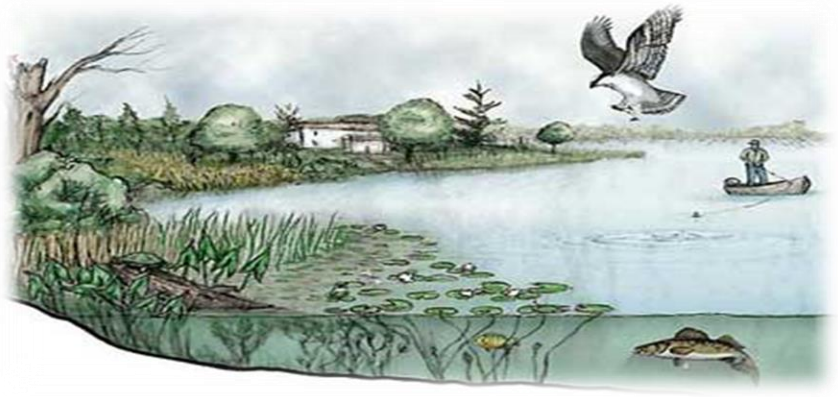
IN-LAKE HABITAT AND A HEALTHY LAKE

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

What is lake-habitat?

Healthy lake-habitat in White and Pecor Lakes 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 White and Pecor Lakes

Full recreation lake not overrun with people
Clean water
Neighbors
Family fun
Quiet, no wake

Habitat provides shelter and food for fish and wildlife.

The Fish Community

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

What can affect the fishery?

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

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

Fish Community

Can the fishery be improved?

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

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

Pecor Lake Fish Management History

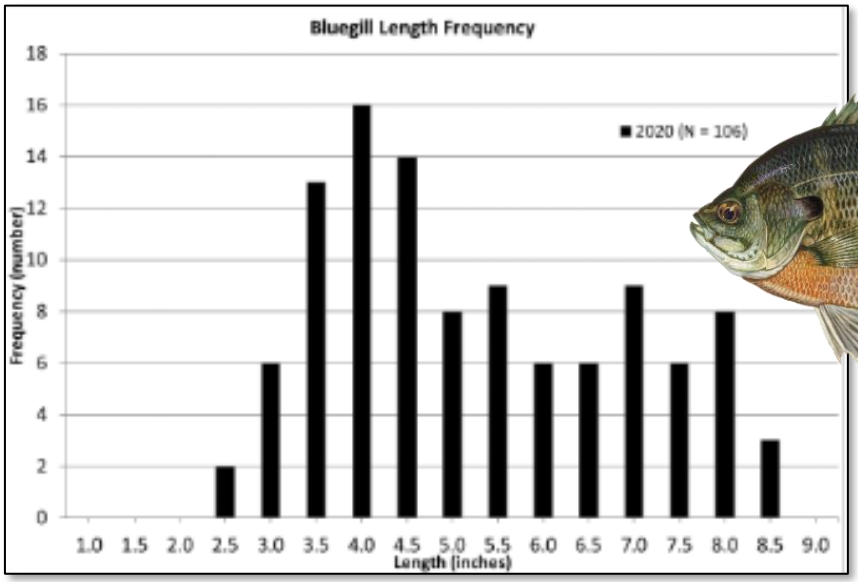
- ✓ Only other survey on file is from August 1972.
- ✓ Largemouth bass and bluegill dominated, while northern pike, yellow perch, rock bass, black crappie, pumpkinseed and bullheads were present.
- ✓ 900 yearling brown trout stocked in 1993, 1994, 1995.

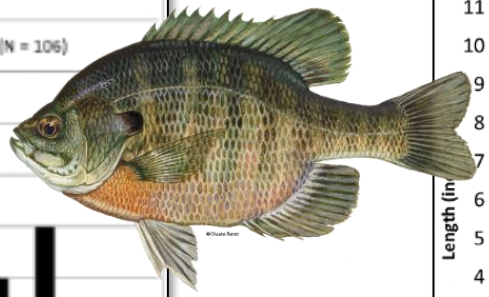
Pecor Lake July 1, 2020 Fish Survey Results

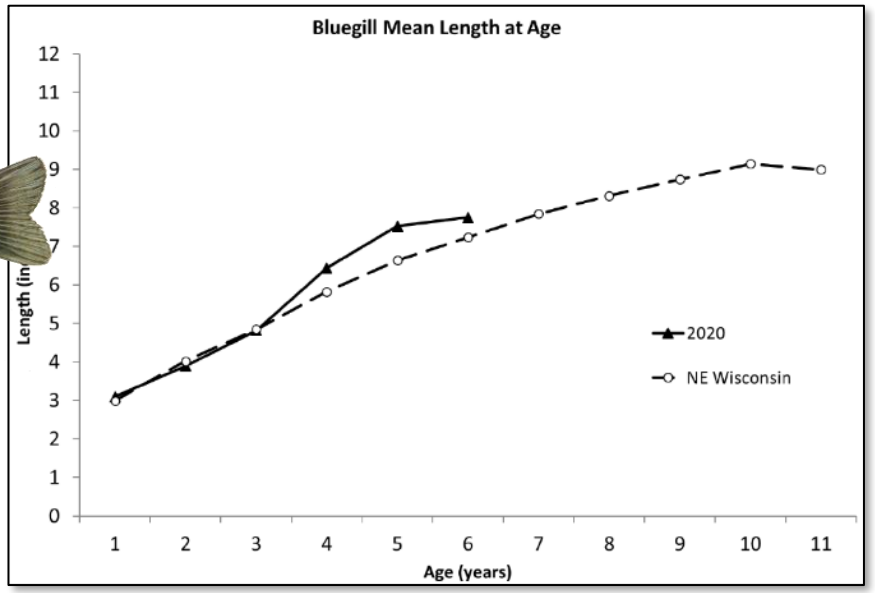
- ✓ Late in year for survey due to Covid-19
- ✓ Electrofishing and netting survey observed a total of 209 fish and ten species: Largemouth bass, bluegill, pumpkinseed, yellow perch, rock bass, black crappie, green sunfish, warmouth, northern pike, yellow bullhead and panfish hybrids.
- ✓ Bluegill most abundant (21/mile) with fair size structure and above average growth rate.
- ✓ Largemouth bass (31/mile) were moderate density with poor size structure and below average growth rates.
- ✓ Continuing to manage for panfish and bass is recommended.
- ✓ No surveys scheduled within next 10 years.

	2020			
Common Name Of Fish	Number	Percent	Average Length	Length Range (Inches)
Black Crappie	6	2.9%	8.0	5.3 - 11.0
Bluegill	106	50.7%	5.4	2.8 - 8.8
Largemouth Bass	43	20.6%	7.5	2.9 - 16.5
Northern Pike	1	0.5%	14.9	
Pumpkinseed	18	8.6%	4.3	1.9 - 7.0
Pumpkinseed x Bluegill	7	3.3%	4.9	4.4 - 5.8
Rock Bass	4	1.9%	6.1	4.8 - 7.0
Yellow Perch	12	5.7%	4.6	3.5 - 6.0
Green Sunfish	2	1.0%	4.3	
Green Sunfish x Bluegill	1	0.5%	4.0	
Warmouth	1	0.5%	3.6	
Yellow Bullhead	8	3.8%	10.5	7.5 - 13.0
Total	**209**	**100.0%**		

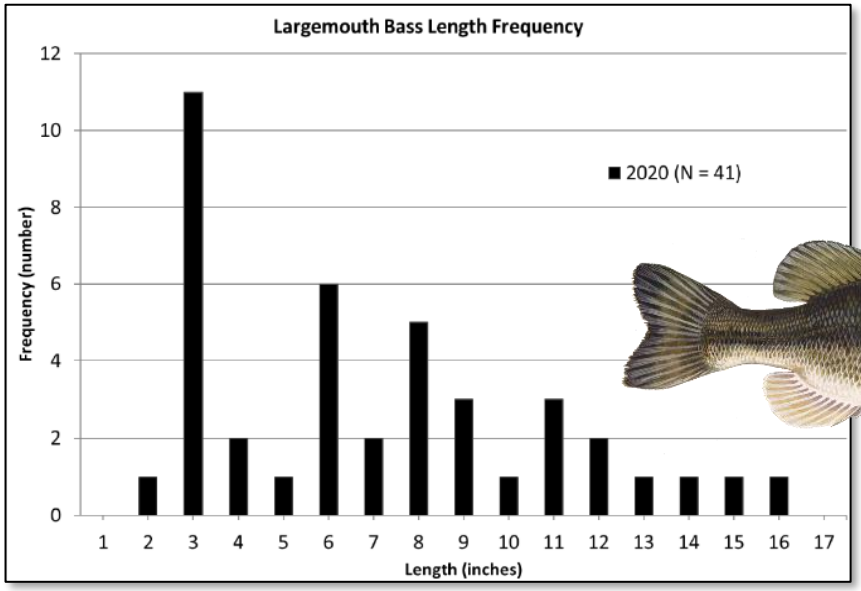
Fish Community

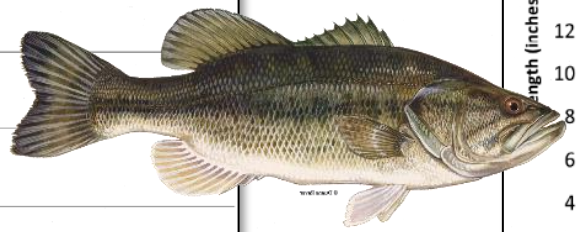


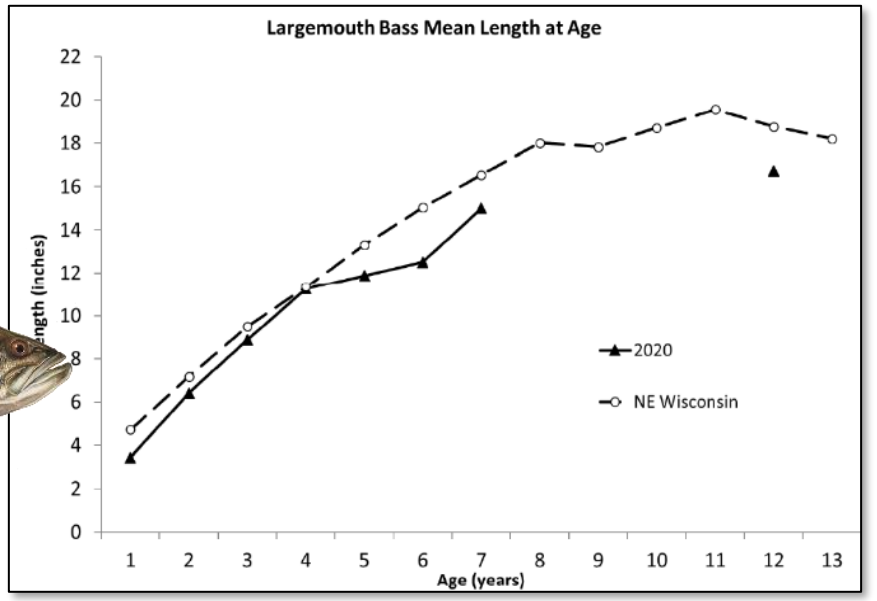




PECOR LAKE







Fish Community

White Lake Fish Management History

- ✓ White is managed as a two-story lake
- ✓ Splake and Rainbow trout stocked since early 1990s
- ✓ Regulation change to no minimum size for largemouth bass is recommended.
- ✓ Continuing to stock trout for two-story fishery is recommended.

Stocking Date	Species	# Stocked	Age Class
1990	Brook Trout	2,000	Yearling
1991	Splake	2,000	Yearling
1993	Splake	2,000	Yearling
1996	Splake	2,000	Yearling
1998	Splake	2,000	Yearling
1999	Splake	2,000	Yearling
2000	Splake	2,030	Yearling
2001	Splake	2,000	Yearling
2001	Splake	1,500	Large Fingerling
2002	Splake	2,000	Large Fingerling
2004	Splake	2,000	Large Fingerling
2006	Splake	2,031	Yearling
2012	Rainbow Trout	421	Yearling
2013	Rainbow Trout	536	Yearling
2014	Rainbow Trout	495	Yearling
2015	Rainbow Trout	533	Yearling
2016	Rainbow Trout	473	Yearling
2017	Rainbow Trout	588	Yearling
2018	Rainbow Trout	475	Yearling
2019	Rainbow Trout	536	Yearling
2021	Rainbow Trout	1,000	Yearling

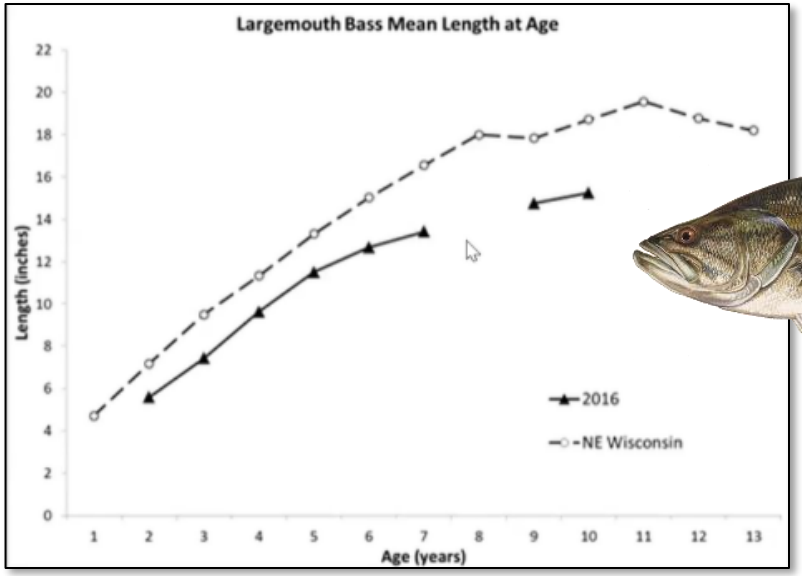
White Lake June 6, 2016 Fish Survey Results (WDNR)

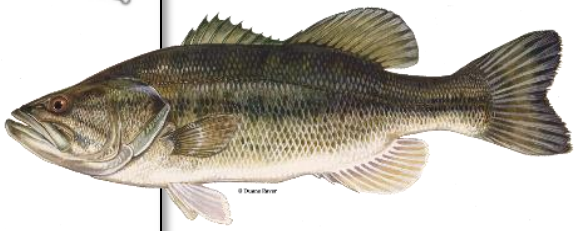
- ✓ Last previous survey in 1998.
- ✓ Electrofishing survey observed a total of 94 fish and eight species: Bluegill, green sunfish, largemouth bass, northern pike, pumpkinseed, rock bass, yellow perch, yellow bullhead.
- ✓ Largemouth bass most abundant (29/mile, down from 40/mile in 1980s). Growth rates were below average.
- ✓ Yellow perch most common panfish with growth rates were above average.

*COMMON NAME OF FISH	NUMBER	PERCENT	AVERAGE LENGTH	LENGTH RANGE (inches)
BLUEGILL	12	12.8%	6.2	4.4 - 7.6
GREEN SUNFISH	1	1.1%	4.7	4.7
LARGEMOUTH BASS	47	50.0%	10.5	5.1 - 15.4
NORTHERN PIKE	3	3.2%	17.5	12.8 - 21.2
PUMPKINSEED	8	8.5%	4.9	4.1 - 5.9
ROCK BASS	4	4.3%	5.8	4.2 - 8.6
YELLOW PERCH	17	18.1%	6.3	4.1 - 8.4
YELLOW BULLHEAD	2	2.1%		
Total	**94**	**100.0%**		

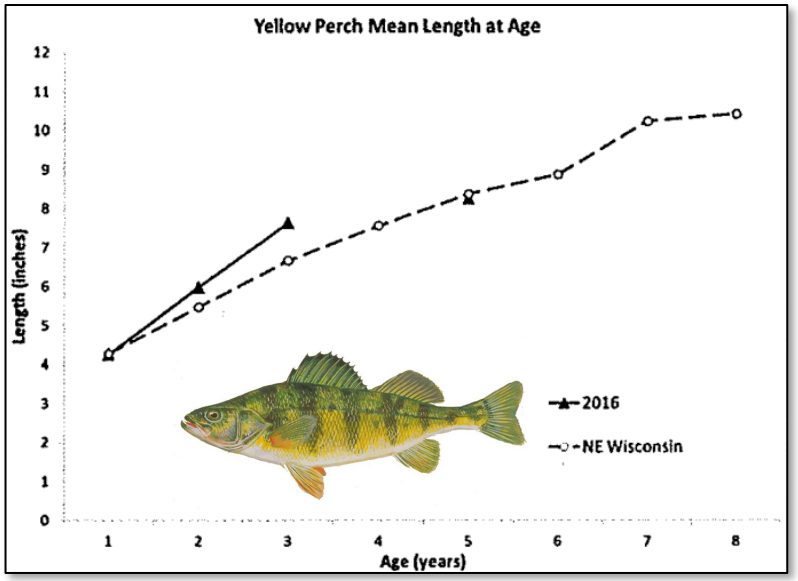
Fish cribs are good cover for small fish, but near shore habitat is essential for reproduction of most species.

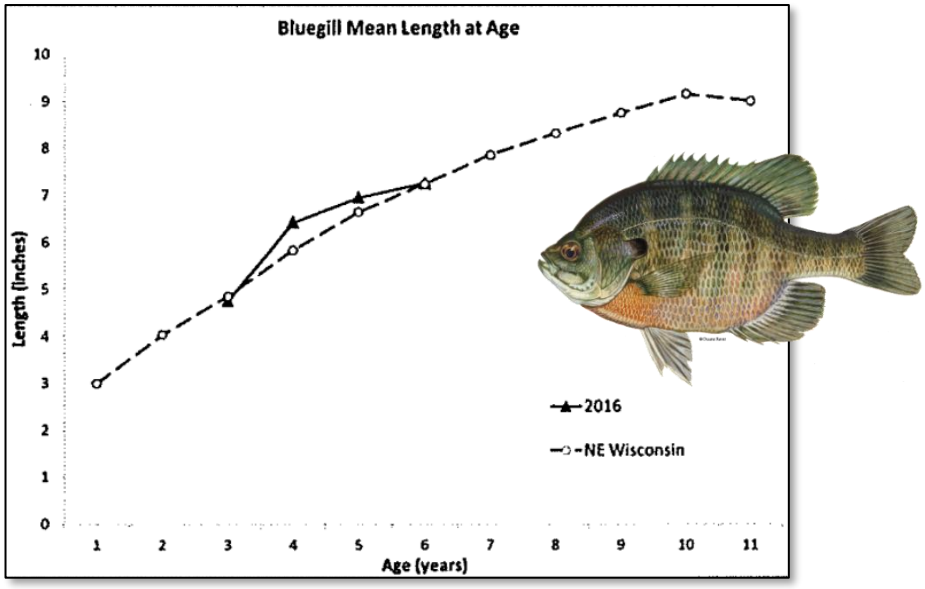
Fish Community





WHITE LAKE





Fish Community

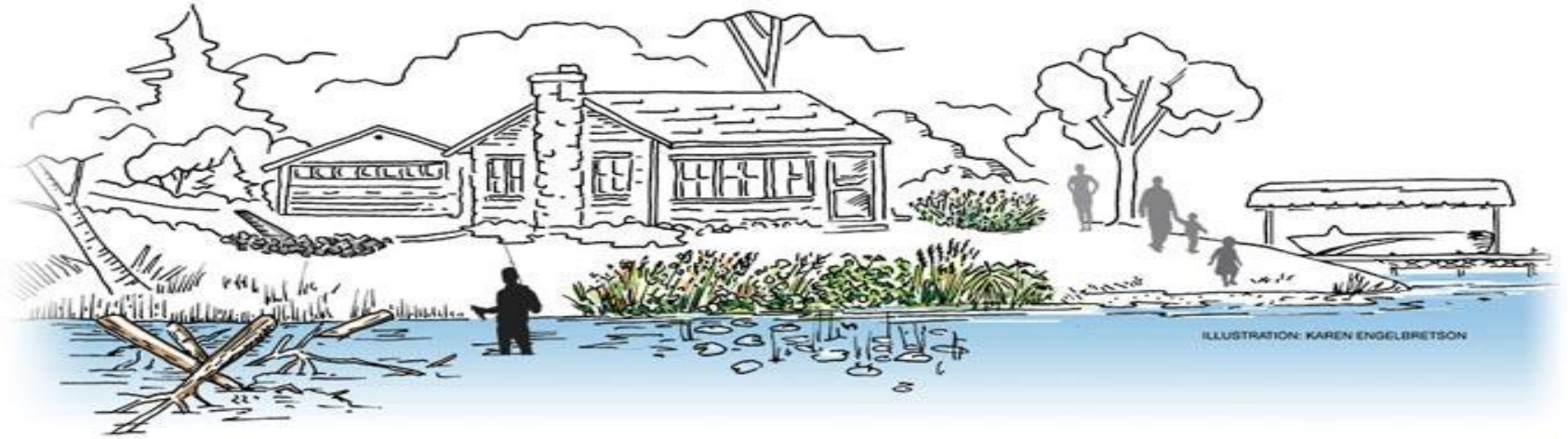
Goal 1. White and Pecor Lakes will maintain healthy, well-balanced fisheries.

Objective 1.1 Continue to manage for a healthy balance of game and panfish populations. Continue to manage White Lake as a two-story fishery.

Actions	Lead person/group	Resources	Timeline
Add angler questionnaire to kiosk to evaluate Rainbow trout and other species in White Lake.		WDNR-Tammie Paoli	2022
Continue to stock Rainbow trout in White Lake.		WDNR-Tammie Paoli	Annually
Pursue regulation change to No Minimum Size for largemouth bass.		WDNR-Tammie Paoli	2025

Objective 1.2 Enhance fish and wildlife habitat in and around the lakes. At least 5 fish stick clusters will be installed on each lake over the next 3 years.

Actions	Lead person/group	Resources	Timeline
Identify landowners for fish stick installations (at least 10% of properties with fish sticks is recommended). Trees can be sourced by identifying other landowners who need a tree removed.		WDNR-Tammie Paoli	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	Ongoing



Aquatic Plant Community

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

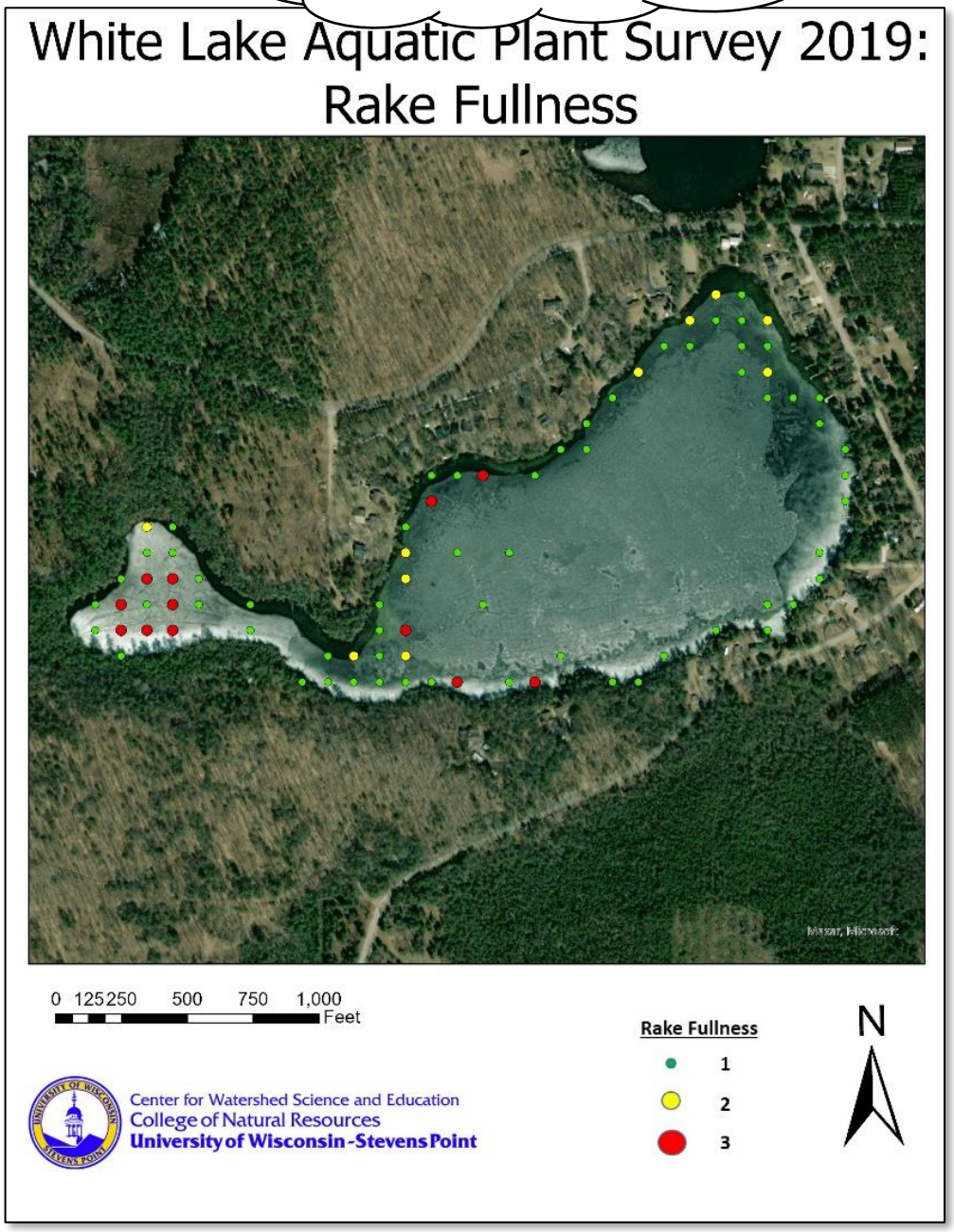
Aquatic Plants

Aquatic plants provide the forested landscape within White 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 the suspended sediment from the water column.

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

White Lake 2019 WDNR Aquatic Plant Survey Highlights

- ✓ 36% (79 of 220) of the sites visited had vegetative growth.
- ✓ The greatest depth aquatic plants were found was 28 feet.
- ✓ 18 species of aquatic plants were identified. This is above the North Central Hardwood average of 16.2.
- ✓ The three most dominant species were chara (72%), slender naiad (17%), and wild celery (14%).
- ✓ The Floristic Quality Index (FQI) was 24. The northcentral hardwood average is 23.3.
- ✓ No invasive species were observed.



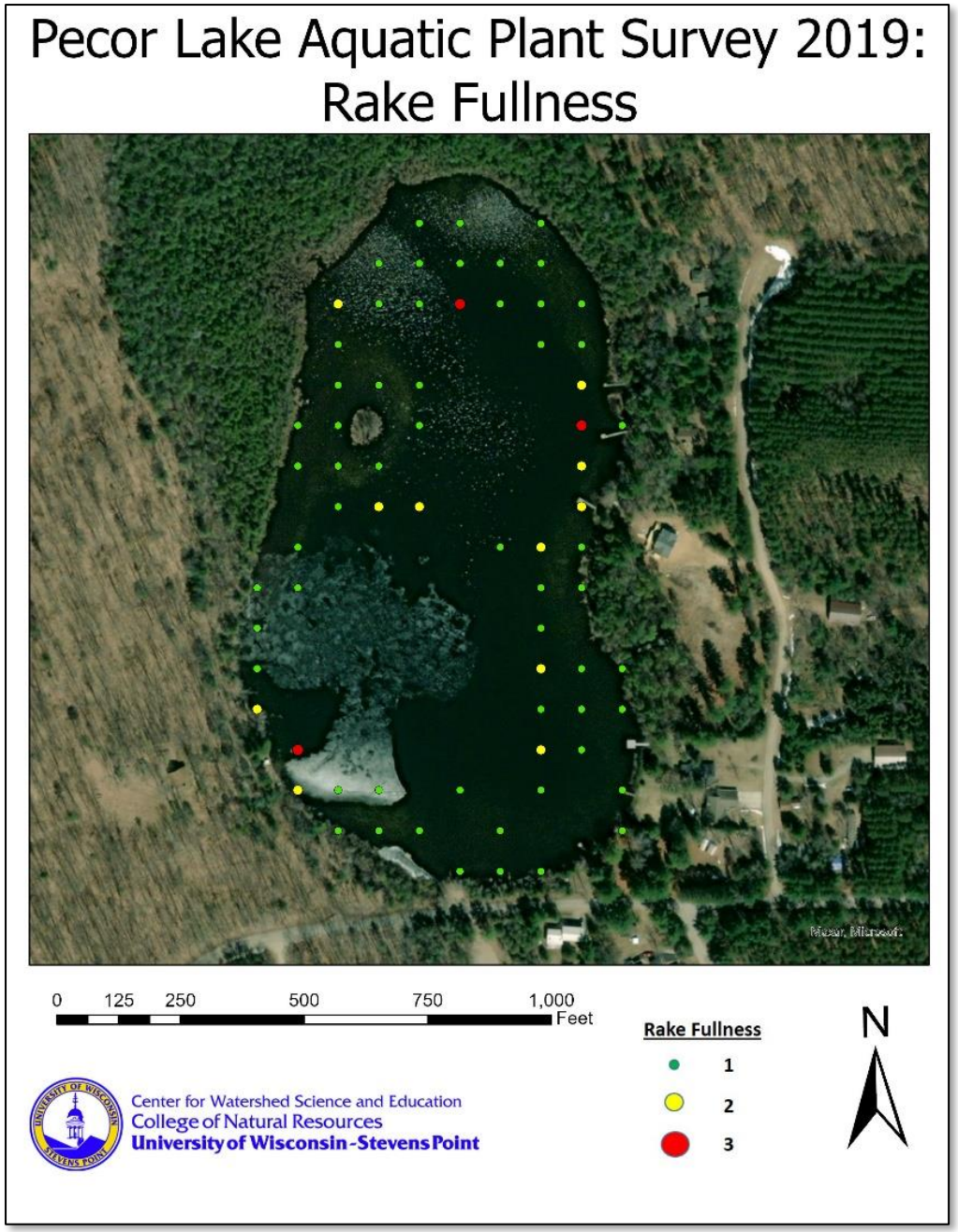
Aquatic Plant Community

Pecor Lake 2019 WDNR Aquatic Plant Survey Highlights

- ✓ 54% (70 of 130) of the sites visited had vegetative growth.
- ✓ The greatest depth aquatic plants were found was 10 feet.
- ✓ 20 species of aquatic plants were identified. This is above the North Central Hardwood average of 16.2.
- ✓ The three most dominant species were chara (66%), slender naiad (49%), and white water lily (26%).
- ✓ The Floristic Quality Index (FQI) was 26.8. The northcentral hardwood average is 23.3.
- ✓ No invasive species were observed.

Chara is a type of macro algae that grows attached to muddy lake bottoms and has a musky odor. Muskgrass, as it is known, filters the lake water and is helpful in preventing the establishment of invasive species.

Slender naiad, also called nodding water-nymph, is a primary food source for waterfowl and provides habitat for many invertebrates.



Aquatic Plant Community

Aquatic Invasive Species (AIS)

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

No invasive species were observed during the 2019 survey in either lake. However, **Chinese mystery snails** in 2015 and **Banded mystery snails** in 2019 have been previously documented in Pecor Lake. Not a lot is known about the impacts of these two species, but they have been shown to compete with native populations of snails and possibly serve as a vector for parasites and disease.

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

Chinese mystery snails have the potential to be a vector for the transmission of parasites and disease and have also been known to clog the screens of water intake pipes.

Banded mystery snails are born as fully formed snails that seem to appear from nowhere. Native to southeast U.S., they have the potential to serve as hosts for parasites and outcompete native snails for food and habitat.

Aquatic Plant Management in White and Pecor Lakes

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

Management Options for Invasive Species or Nuisance Native Aquatic Plants

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

Hand-pulling. No permit required.

Hand-pulling is the preferred method for removing invasive species. Additionally, lakefront property owners are allowed to manually remove native aquatic plants from an area up to 30 feet wide without a permit for swimming and boat access (this does not include the excavation or removal of any bottom sediments). Any denuded lakebed is prime real estate for invasive species,

however, and close monitoring is necessary to ensure no populations are established.

Aquatic Plant Management Plan Review

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

Goal 2. White and Pecor Lakes will continue to have a healthy and diverse aquatic plant community that provides good habitat and water quality.

Objective 2.1 Minimize disturbance to native aquatic plants.

Actions	Lead person/group	Resources	Timeline
Inform property owners of the importance of native aquatic vegetation to impede the establishment of AIS, provide food and habitat for wildlife, and protect the shoreline via educational materials provided at gatherings and/or a newsletter or mailing.		WDNR-Brenda Nordin	Ongoing
Encourage landowners to limit plant removal to invasive species or skimming off those that have become unrooted and free-floating. If plants severely impeded recreational access, 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 years
Reduce nutrient and sediment loading to the lakes (to limit abundance of plants and algae) by improving shoreland buffers (see **Shorelands** section) and implementing BMPs in the watershed (see **Watershed** section).		WDNR-Brenda Nordin OCLCD	Ongoing

Critical Habitat

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

Critical Habitat

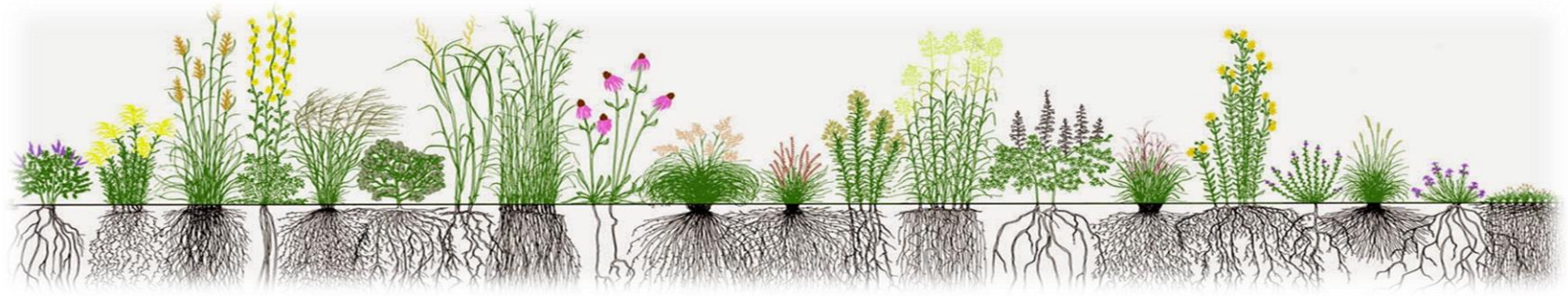
Special areas harbor habitat that is essential to the health of a lake and its inhabitants. In Wisconsin, critical habitat areas are identified by biologists and other lake professionals from the WDNR in order to protect features that are important to the overall health and integrity of the lake, including 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 White and Pecor Lakes do not have an official critical habitat area designation, there are areas within the lakes that are important for fish and wildlife. Natural, minimally-impacted areas with woody habitat such as logs, branches, and stumps; areas with emergent and other forms of aquatic vegetation; areas with overhanging vegetation; and wetlands are elements of good quality habitat. Identifying other important areas around the lake that are important habitat and informing lake users of their value can help raise awareness for the protection of these areas.

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

Objective 3.1 Identify and inform others of quality habitat areas in and around White and Pecor Lakes.

Actions	Lead person/group	Resources	Timeline
Request a Critical Habitat Designation from WDNR.		WDNR-Brenda Nordin	2023
If critical habitat is identified, communicate to property owners, visitors, and Town Board as to why these areas are important. Look for opportunities to protect these areas.			TBD



LANDSCAPES AND THE LAKE

White and Pecor Lakes' Watershed

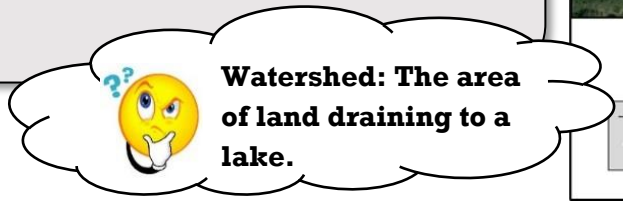
A Lake is a Reflection of its Watershed…

Understanding where White and Pecor Lakes' 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 White and Pecor Lakes; its land area may be slightly different than the surface watershed.

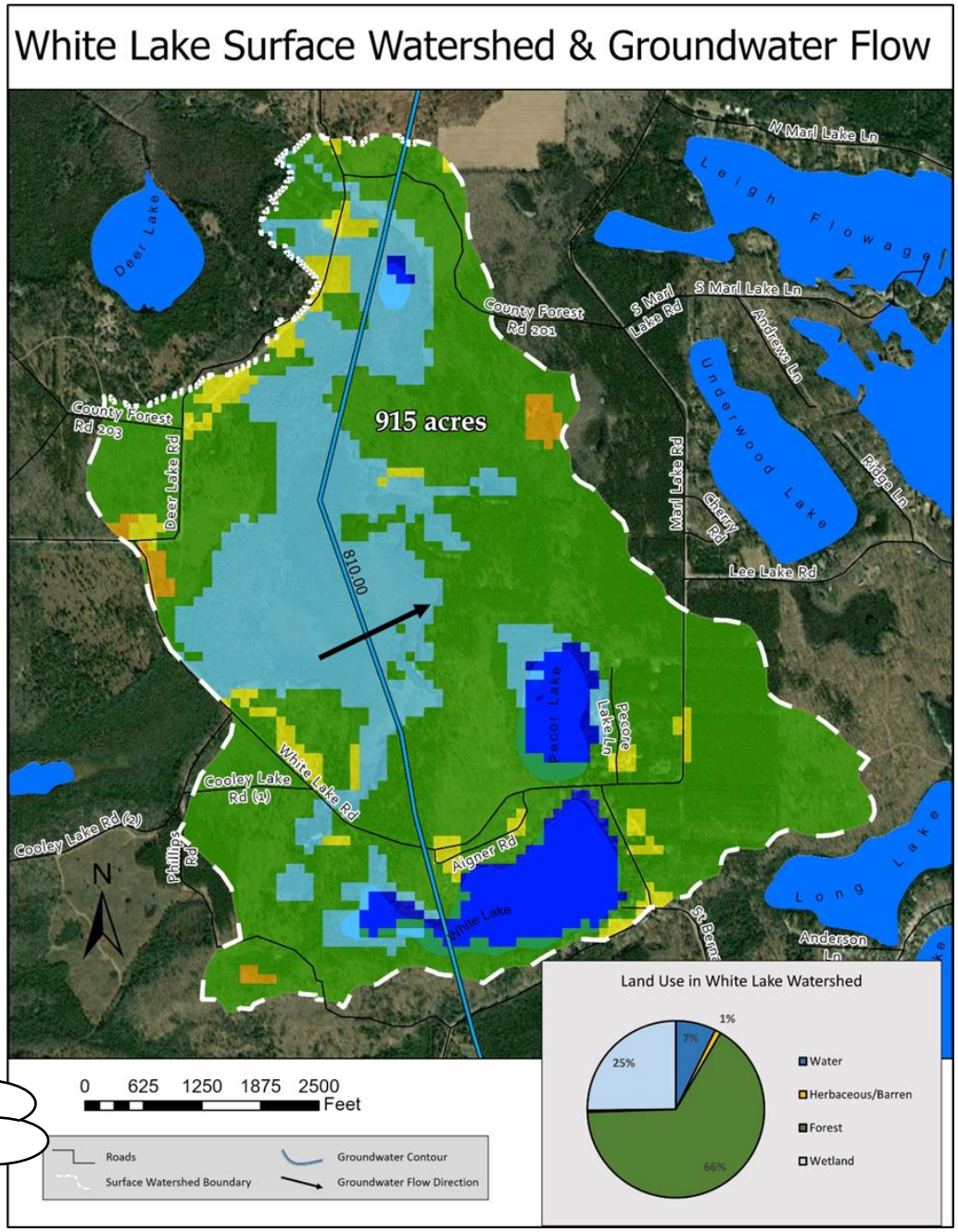
Less runoff is desirable because it allows more water to recharge the groundwater, which feeds the lake year-round - even during dry periods or when the lake is covered with ice. The capacity of the landscape to shed or hold water and contribute or filter particles determines the amount of erosion that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

White and Pecor Lakes' Watershed

The White Lake watershed, which includes Pecor Lake and its watershed, is 915 acres. Primary land use is forest and wetland. The lakes' shoreland is surrounded primarily by developed residential lots and wetland. 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 may also be sources of pollutants that can impact the lake and its inhabitants.

Soil and Erosion

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

Development

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

What can be done?

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

Be Part of the Solution!

Practices designed to reduce runoff include:

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

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

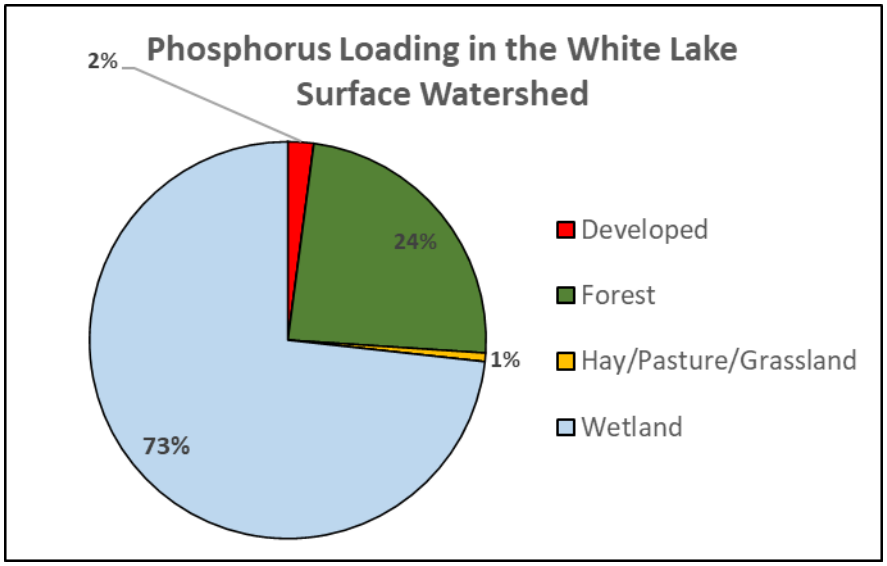
- eliminating/reducing the use of fertilizers,
- increasing the distance between the lake and a septic drainfield,
- protecting/restoring wetlands and native vegetation in the shoreland,
- controlling erosion,
- manure management and cropping practices.

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

Watershed

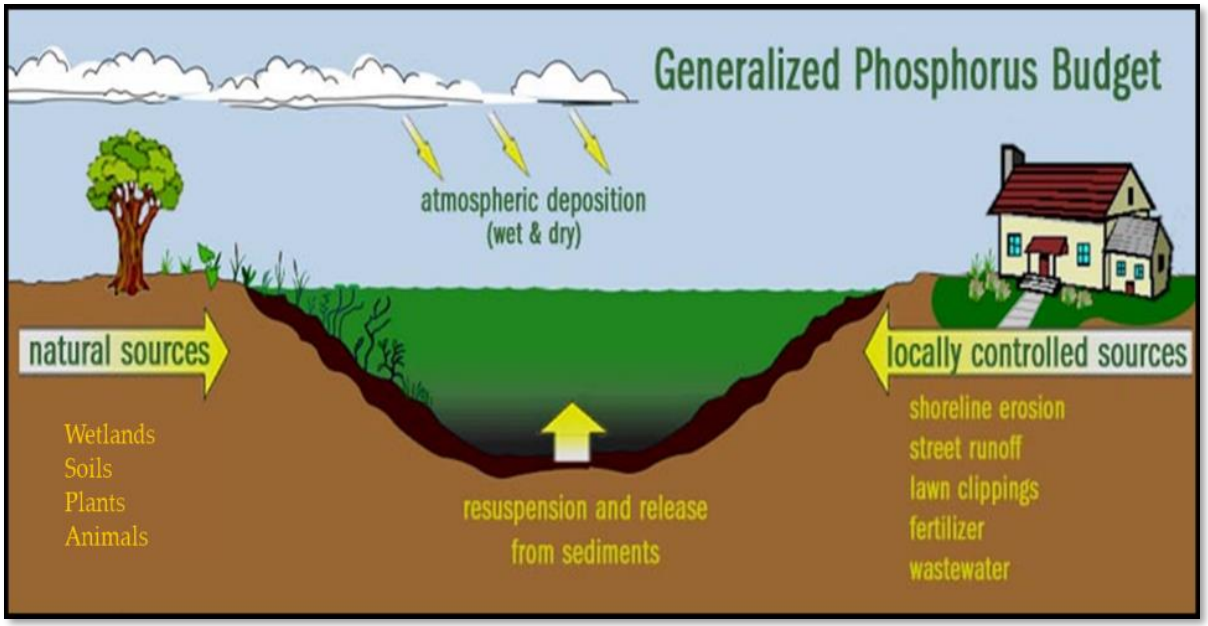
Phosphorus Modeling

Estimates of phosphorus from the landscape can help to understand the phosphorus sources to White and Pecor Lakes. Land use in the surface watershed was evaluated and used to populate the Wisconsin Lakes Modeling Suite (WILMS) model. In general, each type of land use contributes different amounts of phosphorus in runoff and groundwater. The types of land management practices that are used and their distances from the lake also affect the contributions to the lake from a parcel of land. The phosphorus contributions by land use category, called phosphorus export coefficients, have been obtained from studies throughout Wisconsin (Panuska and Lillie, 1995). In the White Lake watershed, the vast majority of these sources are anthropogenic and can be managed.



Phosphorus Loading in White and Pecor Lakes' 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 production and developed areas.



Goal 4. Property owners in the White and Pecor Lakes watershed will know about and utilize resources for healthy land management practices.

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

Actions	Lead person/group	Resources	Timeline
Support the County to follow-up with water quality best management practices (BMPs) in the lakes' watershed. Include BMPs that reduce application of excess nitrogen and pesticides that leach to groundwater.		NRCS DATCP County Board Supervisors	Ongoing
Support landowners interested in the protection of their land via a land conservation program (i.e. conservation easement, conservation reserve program, purchase of development rights, or sale of land for protection).		WDNR Lake Protection Grant Knowles-Nelson Stewardship Fund NWLT	As needed
Encourage any new development to manage runoff on site and consider ways to minimize impacts from septic systems.		Town of Bagley Developers/builders	As needed
Encourage design of road and construction projects that will minimize impact to lakes.		Town of Bagley OC Highway Dept./WDOT	As needed
Protect wetlands to maintain the water budget of White and Pecor Lakes. Any altered wetlands should be mitigated within the lakes' watershed.		WDNR	As needed
Work with Town of Bagley to maintain and make improvements to boat launch to reduce erosion and runoff.		Town of Bagley WDNR	As needed
Investigate proper elevation for outlet 'dam'. Secure device to prevent tampering.		WDNR-Dam Safety Engineer	2022


Cover crops


Drainage swales

Shorelands

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

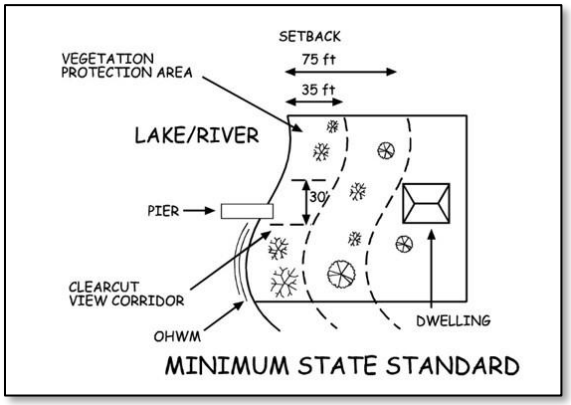
Shorelands

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

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



Be Part of the Solution!

Follow Healthy Shoreland Practices

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

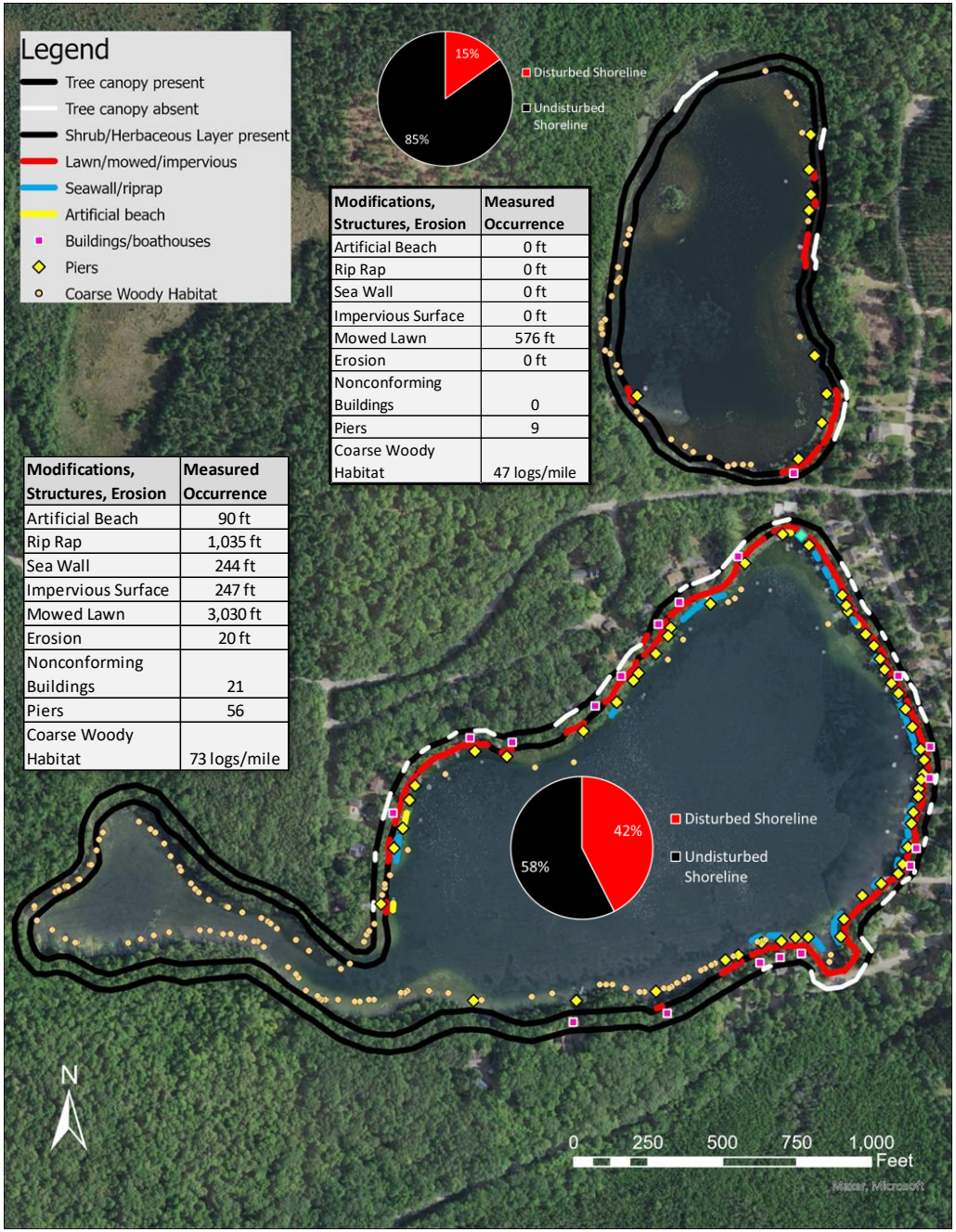
State Shoreland Zoning Ordinance

NR 115 Wisc. Adm. Code for Unincorporated Municipalities

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

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

Shorelands



Modifications, Structures, Erosion	Measured Occurrence
Artificial Beach	0 ft
Rip Rap	0 ft
Sea Wall	0 ft
Impervious Surface	0 ft
Mowed Lawn	576 ft
Erosion	0 ft
Nonconforming Buildings	0
Piers	9
Coarse Woody Habitat	47 logs/mile

Modifications, Structures, Erosion	Measured Occurrence
Artificial Beach	90 ft
Rip Rap	1,035 ft
Sea Wall	244 ft
Impervious Surface	247 ft
Mowed Lawn	3,030 ft
Erosion	20 ft
Nonconforming Buildings	21
Piers	56
Coarse Woody Habitat	73 logs/mile

White and Pecor Lakes' Shorelands

To better understand the health of White and Pecor Lakes, shorelands were evaluated by WDNR in 2019. The survey inventoried shoreland vegetation, erosion, riprap, barren ground, seawalls, structures, and docks. Over half of the 6.4 miles of shoreline is developed as homes and seasonal cottages. A total of 56 piers on White Lake (1/150 ft) and 9 piers on Pecor Lake (1/425 ft) were counted during the survey.

- With 56 lakefront lots, 1,680 feet (20%) of disturbed shoreland is permitted under NR115 on White Lake. Based on the 2019 shoreland inventory, 42% (3,591 feet) of White Lake's shoreland was disturbed.
- With 12 lakefront lots, 360 ft (4%) of disturbed shoreland is permitted on Pecor Lake. The 2019 shoreland inventory observed 15% (576 ft) of disturbed shoreland.
- Coarse woody habitat was measured at 73 logs per mile on White and 47 logs per mile on Pecor (250 logs/mile is recommended).
- White Lake had slightly below average shoreland health compared to other lakes in the study. Pecor Lake has slightly above average health. Some stretches, limited to a handful of parcels, are in good shape, but most portions have challenges that should be addressed.

Coarse Woody Habitat (CWH)

Woody debris (i.e., branches, limbs, trees) that falls into the lake forms critical habitat for tiny aquatic organisms that feed bluegills, turtles, crayfish and other critters. Water insects such as mayflies graze on the algae that grow on decomposing wood. Dragonfly nymphs hunt for prey among the stems and branches. Largemouth and smallmouth bass often find food, shelter, or nesting habitat among these fallen trees.

Above water, a fallen tree is like a dock for wildlife. Ducks and turtles sun themselves on the trunk, muskrats use the tree as a feeding platform, predators such as mink and otter hunt for prey in the vicinity of fallen wood, and dead trees that remain along the shoreline are used as perches by belted kingfishers, ospreys and songbirds.

Undeveloped lakes typically contain hundreds of 'logs per mile' while they may completely disappear on developed lakes. Unless it is a hazard to navigation or swimming, consider leaving woody debris in the water.

White Lake 2019 Shoreland Survey Results			
Total lakefront footage	**# Riparian lots**	**Total allowable (NR115) disturbed shoreland**	**Measured disturbed shoreland**
8,453	56	1,680 feet (20%)	3,591 feet (42%)
Pecor Lake 2019 Shoreland Survey Results			
Total lakefront footage	**# Riparian lots**	**Total allowable (NR115) disturbed shoreland**	**Measured disturbed shoreland**
3,832	12	360 feet (4%)	576 feet (15%)

Goal 5. White and Pecor Lakes will have shorelands that are healthy and protective of water quality and habitat.

Objective 5.1 Shoreland property owners will be knowledgeable and make good decisions regarding shoreland practices. At least 10 fish stick clusters will be installed on each lake and 1,000 feet of disturbed shoreland on White Lake will be restored over the next 5 years.

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, native plants, coarse woody habitat). Include information on cost share programs.		OCLWA UWEX Lakes WDNR Healthy Lakes Grants	Ongoing
Encourage and support shoreland owners interested in shoreland restoration. 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 restoration to contact OCLCD for available resources.		OCLCD WDNR Healthy Lakes Grants	Ongoing
Consider restoring and showcasing a 'demonstration site' with a sign about shoreland protection.		WDNR	2023
Identify property owners to install fish sticks to improve fish habitat (see **Fish Community** section).		WDNR-Tammie Paoli OCLCD	2023

Water Quality

Water Quality

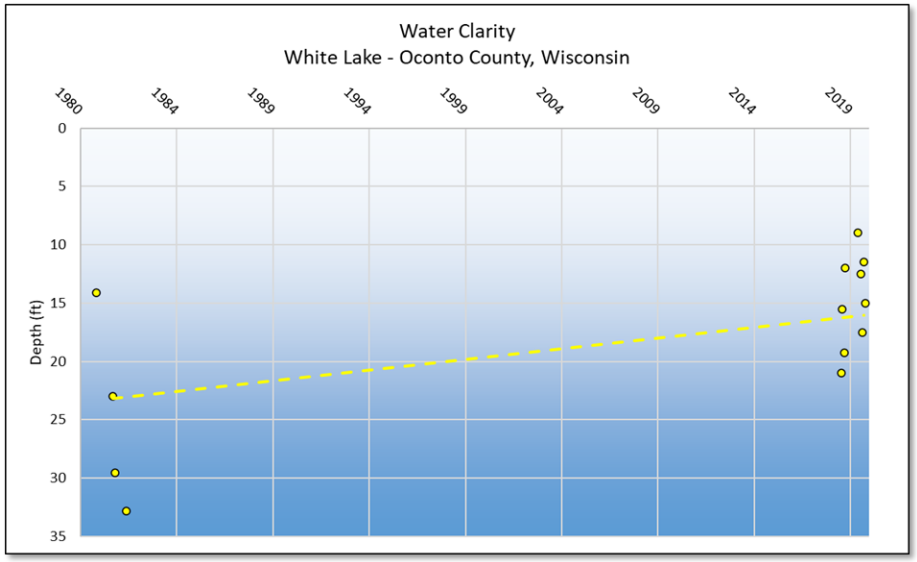
A variety of water chemistry measurements were used to characterize the water quality in White and Pecor Lakes. Water quality was assessed during the 2019-2020 lake study and involved a number of measures including temperature, dissolved oxygen, water chemistry, and nutrients (phosphorus and nitrogen). Nutrients are important measures of water quality in lakes because they contribute to algae and aquatic plant growth. Each of these interrelated measures plays a part in the lake's overall water quality. In addition, water quality data collected in past years was also reviewed to determine trends in White and Pecor Lakes' water quality.

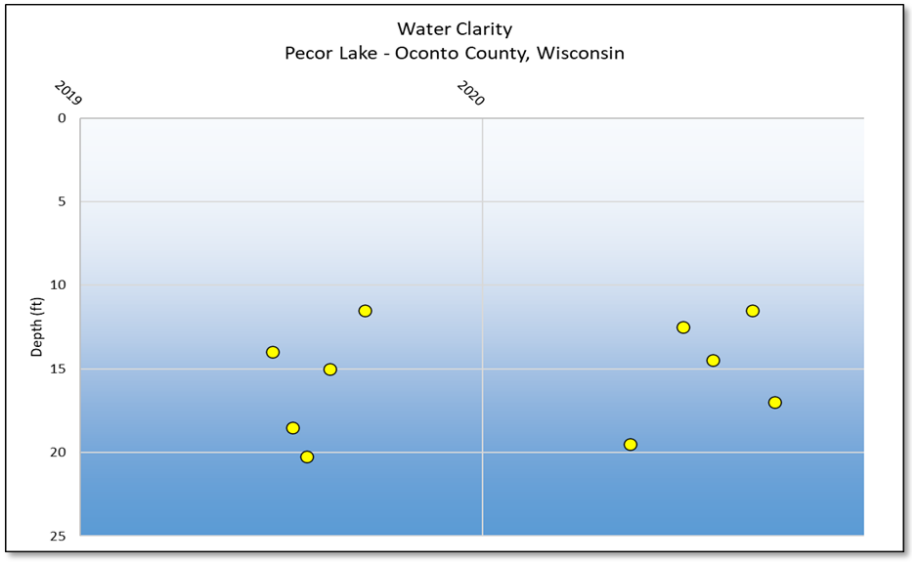
Water Clarity

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

White and Pecor Lakes' Water Quality Summary

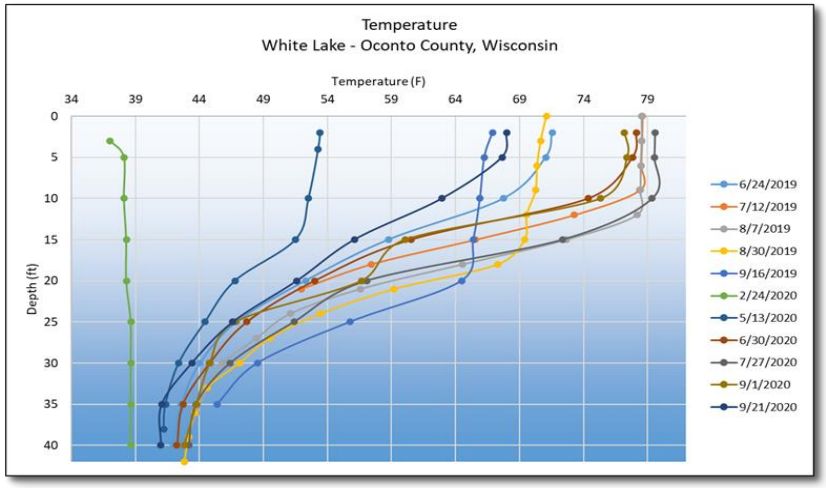
- ✓ **Water clarity** ranged from 9-21 feet in White Lake and 11.5-20 feet in Pecor Lake, which is considered good to excellent. Little to no historic data exists for comparison, however.
- ✓ **Dissolved oxygen** was sufficient in only the top few feet of water in Pecor Lake in late winter for sensitive fish species. Concentrations were plentiful the rest of the year and in White Lake.
- ✓ Concentrations of **contaminants** were low during the study. Atrazine was not detected.
- ✓ **Phosphorus** concentrations remained below the standard of 40 ug/L throughout the study. **Inorganic nitrogen** remained below concentrations that spur algal blooms.



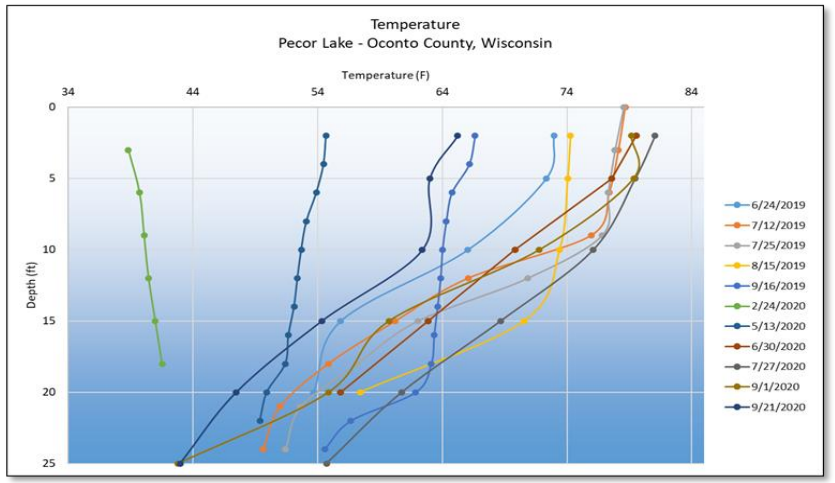


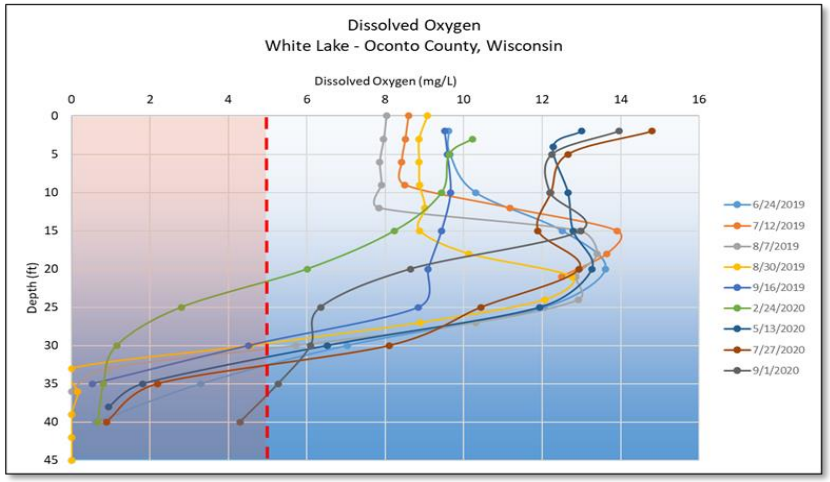
Water Quality

Temperature and Dissolved oxygen

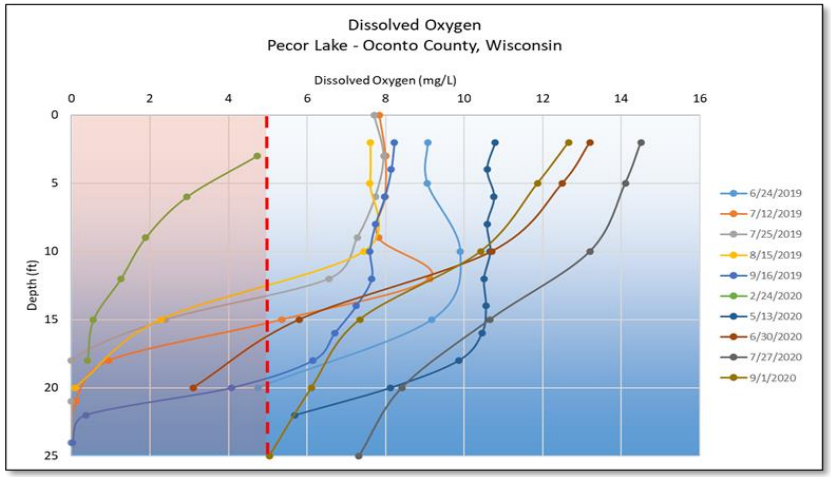


Temperature profiles for White Lake illustrate a textbook profile for a deep stratified lake with a clear thermocline between 15 and 25 feet most of the year. This gradient separates warmer surface water and cooler bottom water and prevents them from mixing except during certain episodes. In Pecor Lake, this gradient is much more subtle due to it being quite a bit shallower.





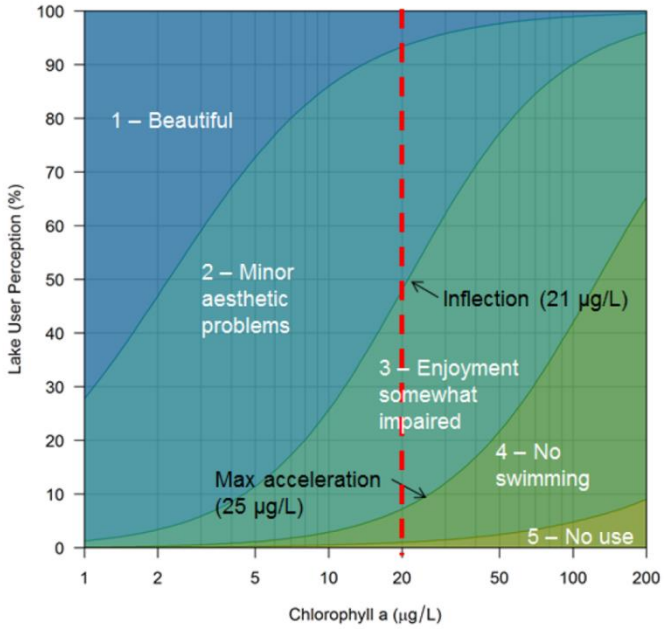
Dissolved oxygen concentrations generally decline with depth as access to sources such as the atmosphere and growing plants is decreased. 5 mg/L is when fish start to become stressed. In White Lake sufficient concentrations are present year-round. Large increases in oxygen in summer near the thermocline are indicative of algae blooms at depth. Oxygen become deficient in Pecor Lake in late winter with as little as the top couple feet of water column rich enough to sustain many fish species.

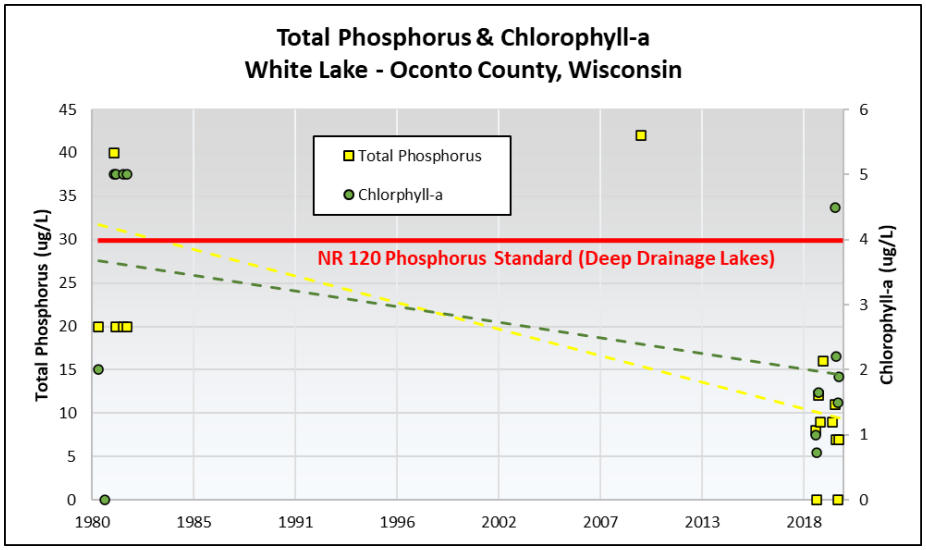


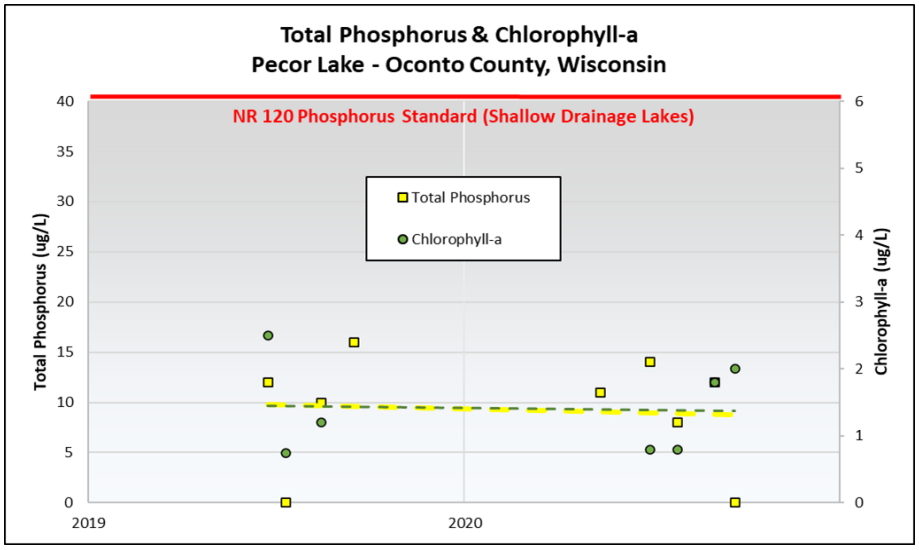
Water Quality

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. NR 120, Wisconsin Administrative Code lists phosphorus limits for different lake types. Deep drainage lakes such as White have a standard of 30 ug/L they must stay below to remain healthy while shallow drainage lakes such as Pecor have a standard of 40 ug/L. During the two-year study period, both lakes remained well below their respective standards. Very limited historic data for White Lake suggests average concentrations have declined since the 1980s. Continued monitoring is necessary to verify this.







Water Quality

Goal 6. Maintain or improve water quality in White and Pecor Lakes.

Objective 6.1 Maintain median summer total phosphorus concentrations below 30 ug/L and fall inorganic nitrogen concentrations below 0.3 mg/L.

Actions	Lead person/group	Resources	Timeline
Inform others around the lake about the impact of nutrients and land management on water quality through the distribution of a newsletter and/or hosting a guest speaker.		OCLWA WDNR UWEX Lakes	Ongoing
Refrain from the use of fertilizers. Encourage soil testing to determine if amendments are necessary.		OC UWEX	Ongoing
Encourage restoration of mowed shorelands to slow and absorb runoff and pollutants (see **Shorelands** section).		UWEX Lakes	Ongoing

Objective 6.2 Develop and ongoing and robust water quality dataset for White and Pecor Lakes to monitor trends or changes over time.

Actions	Lead person/group	Resources	Timeline
Identify a volunteer to work with the Citizen Lake Monitoring Network to collect water quality data each summer.		CLMN WDNR-Brenda Nordin	3+ times annually in summer
Submit all data to WDNR for archival and use by scientists and resource managers.		WDNR	Ongoing

Be part of the solution!

Managing nitrogen, phosphorus and soil erosion throughout the White and Pecor Lake watersheds 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.

Wisconsin has more than 500,000 registered boats-one for every 10 residents.

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 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.

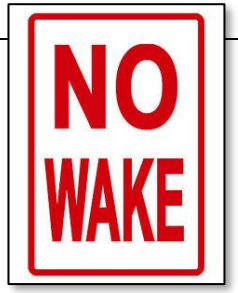
Recreation

According to survey responses, the lakes are enjoyed for their scenery, boating, and fishing. There is one public boat launch on the south side of White Lake and one on the south side of Pecor Lake that are both owned and maintained by the Town of Bagley. The connection between the lakes is non-navigable. No Wake is allowed on either lake at any time.

Goal 7. Lake users will be informed about and respectful of White and Pecor Lakes.

Objective 7.1 Cultivate an environment of compliance amongst lake users.

Actions	Lead person/group	Resources	Timeline
Work with other towns and other lake groups to support a recreational officer and municipal court for enforcement of regulations, including 'No Wake' and safe boating operations.		Town of Bagley OCLWA OC UWEX	Ongoing
Work with Town to upkeep/repair boat ramp, as appropriate. Boat ramps in disrepair can be unhealthy to the lake if it results in spinning tires, power loading, or erosion. A well-kept boat launch also sends a message to visitors about the attention and care a lake is receiving.		Town of Bagley WDNR	Ongoing



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 Town of Bagley, 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 in order to help them make informed decisions that will result in a healthy White and Pecor Lake ecosystem that is enjoyed by many people. Working together on common values will help to achieve the goals that are outlined in this plan.

Implementation of LMP When You Do Not Have a Lake Organization

The following is to help provide guidance for lake property owners seeking to grow cooperation and unified actions toward achieving the goals presented in their Lake Management Plan.

Clear and concise communication will lead to coordinated lake management efforts that are based on well-informed decisions. Though not required, it is beneficial to seek help in this situation, especially when lake property owners are unfamiliar with those living around the lake.

Moving forward as a unified voice: Conversations amongst property owners can help promote the goals of the plan.

1. *Invite fellow residents to a meeting* or two at least annually to discuss your Lake Management Plan, prioritize one or two goals, and to develop a strategy going forward including who will call whom about what and when.
    a. Identify your lake's property owners and host a gathering, at your property, a local park, or community center.
        i. Contact the County Land & Water Conservation or the UW-Extension to gain public records of your neighbors' addresses, to reach out and establish a dialog.
        ii. See if your neighbors are willing to share their contact information to make dissemination of information quicker i.e., email, phone, social media.
2. *Identify information to be readily available, most current, reviewed regularly on your lake*.
    a. Information can be stored on the Oconto County Land & Water Conservation website hosting your lake's information. Contact OCL&WC annually for updated information and anything you need posted concerning the lake.
    b. Your published/printed papers should find a home base for them to be readily available for review by members/neighbors, and safe keeping. This could be the role of a neighbor or local government/Town Board dedicating space for a file cabinet being accessible during office hours.

Annually discuss each goal within the plan for relevance to keep in the plan and/or to pursue in the next 12 months.

Develop Community Partnerships:

1. *Identify partners within the community* who can help with communication efforts, – i.e., Oconto's UW-Extension staff

and Oconto County Land & Water Conservation Department staff, the Oconto County Lakes and Waterways Association leadership, local Town officials, local sports clubs, businesses, realtors, school clubs, and other organizations.

2. *Look to these partners to assist in the creation, sponsorship, and dissemination* of water information for lake users, property owners, and visitors by:
    a. Assist in identifying key stakeholders (people or groups) needing to be consulted in making decisions and assisting in the plan's implementation of steps.
    b. Helping to organize your lake.
    c. Providing resources (i.e., Town could provide space for document storage/record storage within the Clerk's office regarding one or more lakes for easy/central access by lake group members/leadership; Oconto County staff could host needed digital documents on their waterways related webpages; the Town Board could designate a sub-committee of the Board to focus and discuss all water related issues.)
    d. Helping to identify existing or potential barriers and their needed strategies to overcome them that which stands in the way of gaining broad stakeholder support.

Goal 8. Increase participation in lake stewardship.

Objective 8.1 Develop opportunities and incentives for active participation in the management of White and Pecor Lakes.

Actions	Lead person/group	Resources	Timeline
Maintain a website or Facebook page to provide a common source of communication.		LakeKit.net OC UWEX	Ongoing
Maintain an email list of shoreland property owners and others interested in the lakes.		OC UWEX	Ongoing
Distribute welcome packet/mailing to all new shoreland property owners with basic lake stewardship information.		OCLWA UWEX Lakes	As needed.
Communicate updates to the lake management plan and management activities to residents and users of the lake.			As needed.

Objective 8.2. Organize stewards of the lakes to maximize and access resources. Communicate with municipalities, agencies and organizations to leverage resources and opportunities.

Actions	Lead person/group	Resources	Timeline
Consider forming a lake association.	Interested citizens	UWEX Lakes	Ongoing
Network with other lake groups by having White and Pecor represented at OCLWA.		OCLWA	
Attend Wisconsin Lakes Convention or Lake Leaders Institute.		UWEX Lakes	April

Updates and Revisions

Updates and Revisions

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

Objective 9.1 Communicate updates with lake community, Oconto County and WDNR.

Actions	Lead person/group	Resources	Timeline
Review plan annually and discuss/document accomplishments and identification of goals/objectives for coming years.			
Formally update this plan every 5 years.		OC UWEX UWEX Lakes WDNR	2027

REFERENCES

Boat Ed, 2013. The Handbook of Wisconsin Boating Laws and Responsibilities. Approved by Wisconsin Department of Natural Resources. www.boat-ed.com

Borman, Susan, Robert Korth, and Jo Temte, 2001. Through the looking glass, a field guide to aquatic plants. Reindl Printing, Inc. Merrill, Wisconsin.

Dolata, Ken, Mohr, Dale and Turyk, Nancy, 2018. Operational Strategy and Plan for Surface Water Management and Protection in Oconto County.

Haney, Ryan, 2021. White Lake Study Summary Report. Center for Watershed Science and Education-University of Wisconsin Stevens Point.

Haney, Ryan, 2021. Pecor Lake Study Summary Report. Center for Watershed Science and Education-University of Wisconsin Stevens Point.

Haney, Ryan, 2021. State of the Oconto County Lakes. Center for Watershed Science and Education-University of Wisconsin-Stevens Point.

Paoli, Tammie, 2022. White and Pecor Lakes Fishery, Oconto County, Presentation to White and Pecor Lakes Planning Meeting, March 1, 2022. Wisconsin Department of Natural Resources.

Panuska and Lillie, 1995. Phosphorus Loadings from Wisconsin Watershed: Recommended Phosphorus Export Coefficients for Agricultural and Forested Watersheds. Bulletin Number 38, Bureau of Research, Wisconsin Department of Natural Resources.

Public Service Commission of Wisconsin, 1948. Opinions and Decisions of the Public Service Commission of Wisconsin, Volume XXXII. 410 pp.

Shaw, B., C. Mechenich, and L. Klessig, 2000. Understanding Lake Data. University of Wisconsin-Extension, Stevens Point. 20 pp.

APPENDICES

Appendix A

Appendix A. Oconto County Lake Information Directory

Algae - Blue-Green

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

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

Aquatic Invasive Species/Clean Boats Clean Water

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

Aquatic Plant Management

(Native and Invasive)

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

Aquatic Plant Identification

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

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

Aquatic Plant Surveys/Management

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

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

Contact: Ken Dolata
Oconto County Land & Water 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/

Appendix A

Boat Landings (Town)

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

Conservation Easements

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

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

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

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

Critical Habitat and Sensitive Areas

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

Dams

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

Appendix A

Contact: Ken Dolata
Oconto County Land & Water 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 & Water 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@wisc.edu
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: Paul Hatrick
Conservation Warden
Wisconsin Department of Natural Resources
300 Hank Marks Dr., Oconto Falls, WI 54154
Phone: 920-373-4179
Website: http://www.wigamewarden.com/

Appendix A

Land Use Plans and Zoning Ordinances

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

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

Nutrient Management Plans

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

Shoreland Vegetation

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

Shoreland Zoning Ordinances

See: Land Use Plans and Zoning Ordinances

Appendix A

Soil Fertility Testing
Contact: Dale Mohr
Oconto County UW- Extension
301 Washington Street, Oconto, WI 54153
Phone: 920-835-6845
E-mail: dale.mohr@wisc.edu
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
Website: http://dnr.wi.gov/fish/

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

Appendix C

Appendix C. Lake User Survey Results

Default Report

Pecor Lake Survey - Oconto County Lakes Project

February 14, 2023 1:28 PM MST

Q2 - How did you hear about this survey?

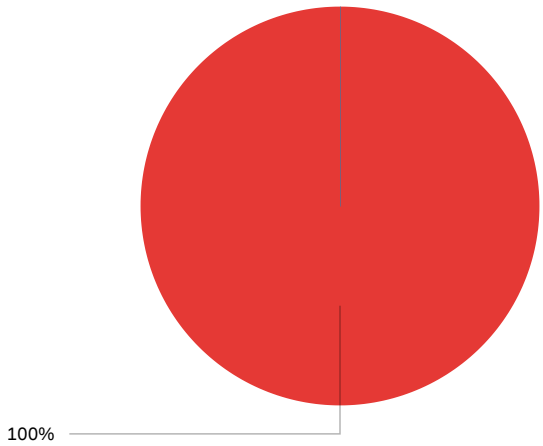
Showing sample data...

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

Showing rows 1 - 5 of 5

Showing sample data...

Q3 - Do you own or rent property...

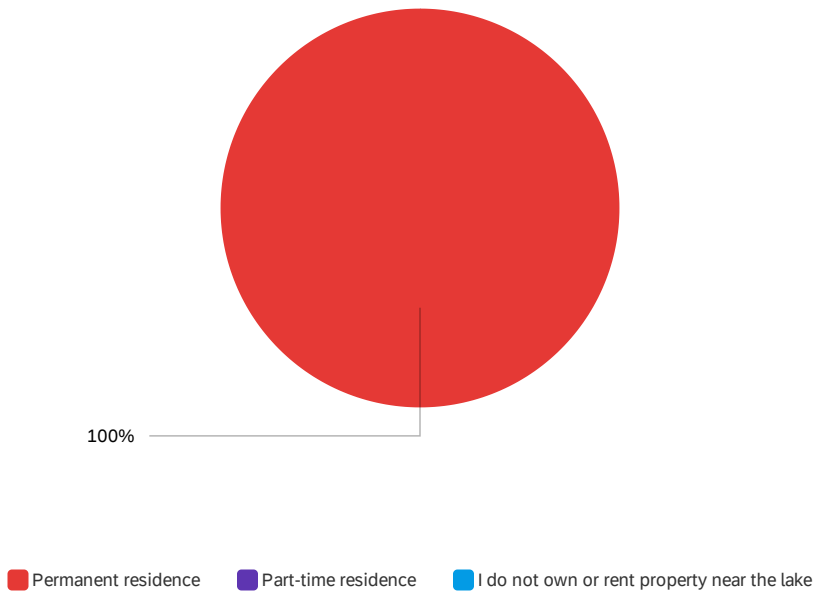


Around the lake | Less than 1/2 mile from the lake | Near the lake, but more than 1/2 mile away | I do not own or rent property near the lake

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

Showing rows 1 - 5 of 5

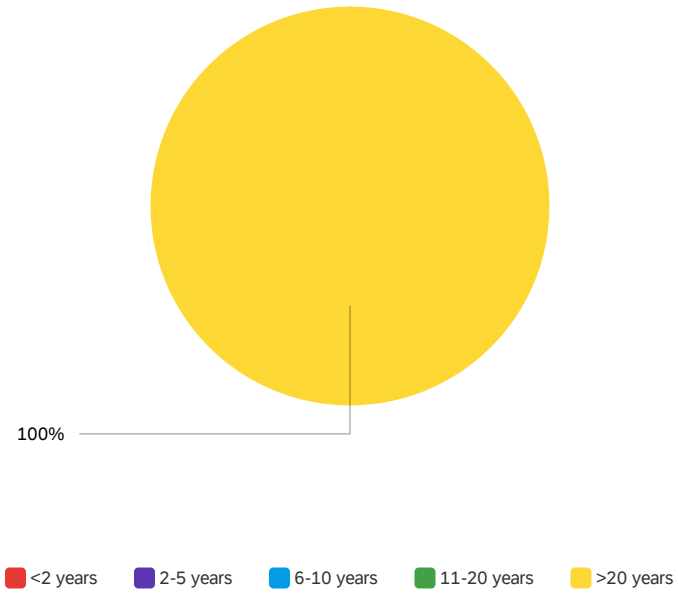
Q4 - If you own or rent property near the lake, is this property your...



#	Field	Choice Count
1	Permanent residence	100% 1
2	Part-time residence	0% 0
3	I do not own or rent property near the lake	0% 0
		1

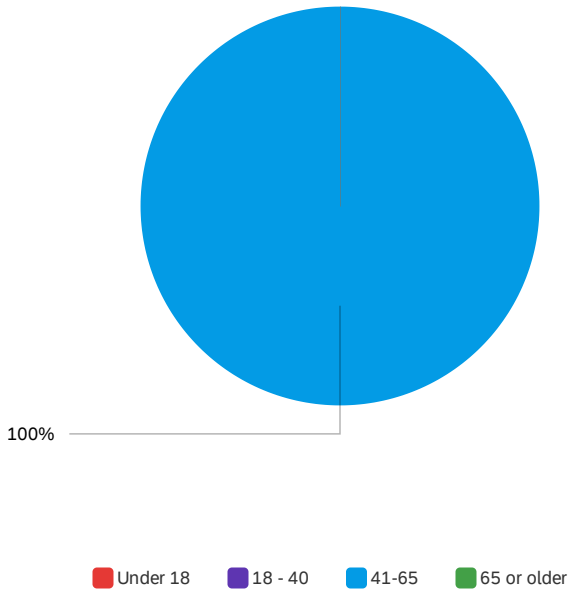
Showing rows 1 - 4 of 4

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



Error loading data

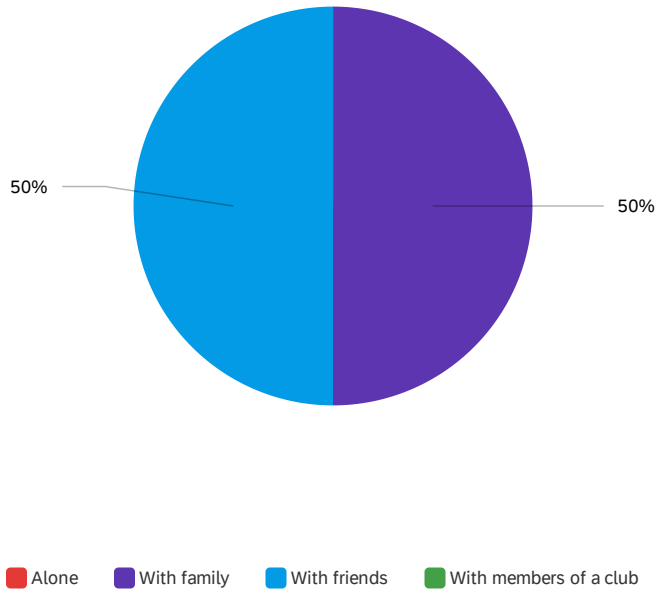
Q8 - Which category below includes your age?



#	Field	Choice Count
1	Under 18	0% 0
2	18 - 40	0% 0
3	41-65	100% 1
4	65 or older	0% 0
		1

Showing rows 1 - 5 of 5

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



#	Field	Choice Count
1	Alone	0% 0
2	With family	50% 1
3	With friends	50% 1
4	With members of a club	0% 0
		2

Showing rows 1 - 5 of 5

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

Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree | I do not live on or near the lake

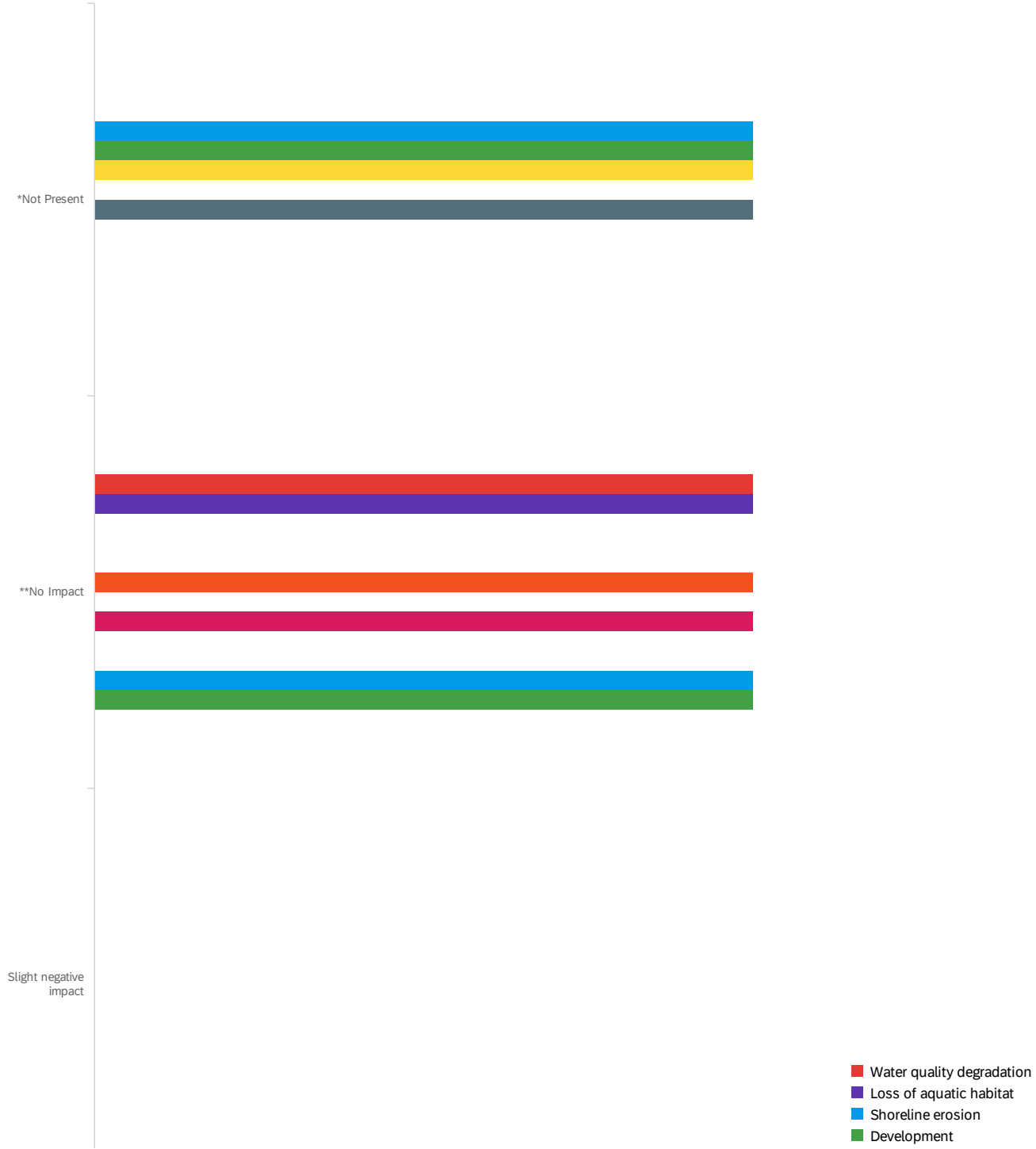
#	Field	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I do not live on or near the lake	Total
1	To spend time with family or friends	0% 0	100% 1	0% 0	0% 0	0% 0	0% 0	1
2	For the peace and tranquility	0% 0	100% 1	0% 0	0% 0	0% 0	0% 0	1
3	Because I enjoy the view	0% 0	100% 1	0% 0	0% 0	0% 0	0% 0	1
4	Because its a good investment	0% 0	100% 1	0% 0	0% 0	0% 0	0% 0	1

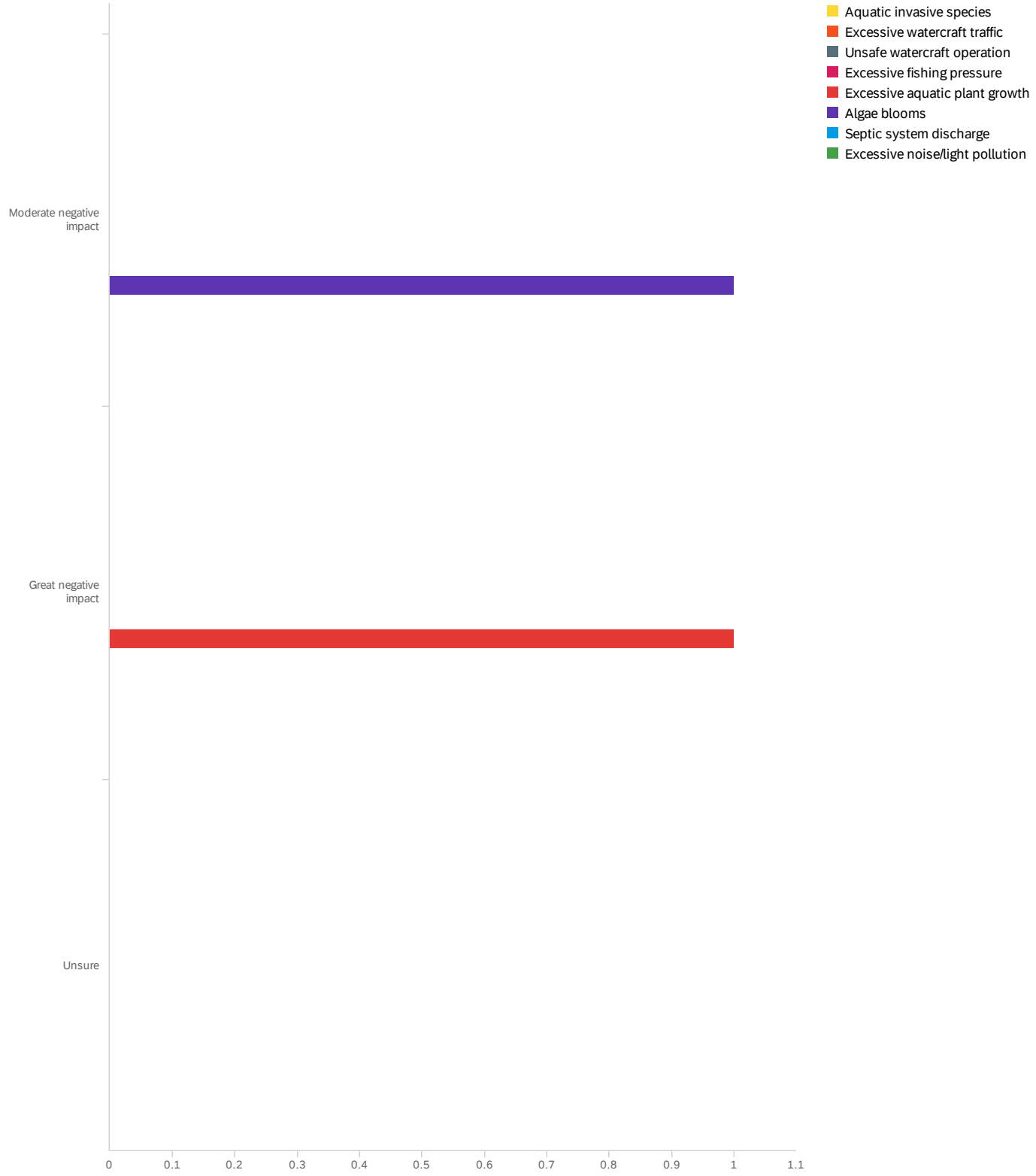
Showing rows 1 - 4 of 4

Q11 - What do you value most about Pecor Lake?

What do you value most about Pecor Lake?
Small, quiet no wake lake

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



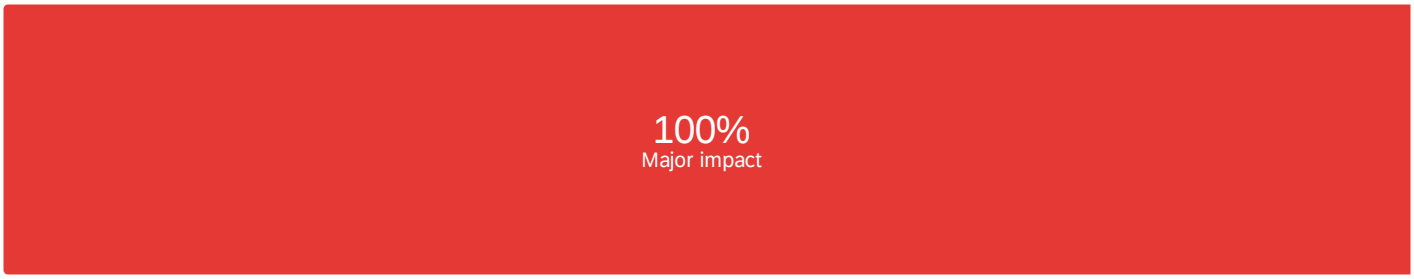


#	Field	*Not Present	**No Impact	Slight negative impact	Moderate negative impact	Great negative impact	Unsure	Total
1	Water quality degradation	0% 0	100% 1	0% 0	0% 0	0% 0	0% 0	1
2	Loss of aquatic habitat	0% 0	100% 1	0% 0	0% 0	0% 0	0% 0	1
3	Shoreline erosion	100% 1	0% 0	0% 0	0% 0	0% 0	0% 0	1

#	Field	*Not Present	**No Impact	Slight negative impact	Moderate negative impact	Great negative impact	Unsure	Total
4	Development	100% 1	0% 0	0% 0	0% 0	0% 0	0% 0	1
5	Aquatic invasive species	100% 1	0% 0	0% 0	0% 0	0% 0	0% 0	1
6	Excessive watercraft traffic	0% 0	100% 1	0% 0	0% 0	0% 0	0% 0	1
7	Unsafe watercraft operation	100% 1	0% 0	0% 0	0% 0	0% 0	0% 0	1
8	Excessive fishing pressure	0% 0	100% 1	0% 0	0% 0	0% 0	0% 0	1
9	Excessive aquatic plant growth	0% 0	0% 0	0% 0	0% 0	100% 1	0% 0	1
10	Algae blooms	0% 0	0% 0	0% 0	100% 1	0% 0	0% 0	1
11	Septic system discharge	0% 0	100% 1	0% 0	0% 0	0% 0	0% 0	1
12	Excessive noise/light pollution	0% 0	100% 1	0% 0	0% 0	0% 0	0% 0	1

Showing rows 1 - 12 of 12

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



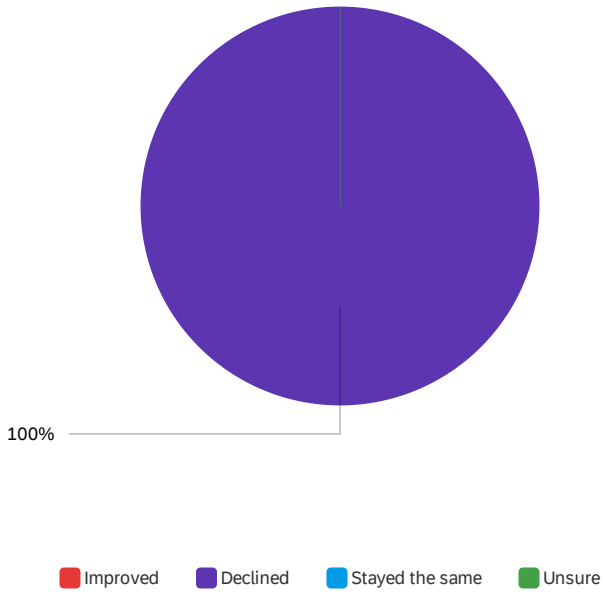
Major impact Some impact No impact Unsure

#	Field	Major impact	Some impact	No impact	Unsure	Total
1	Personal enjoyment value	100% 1	0% 0	0% 0	0% 0	1
2	Economic value	0% 0	100% 1	0% 0	0% 0	1

Showing rows 1 - 2 of 2

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

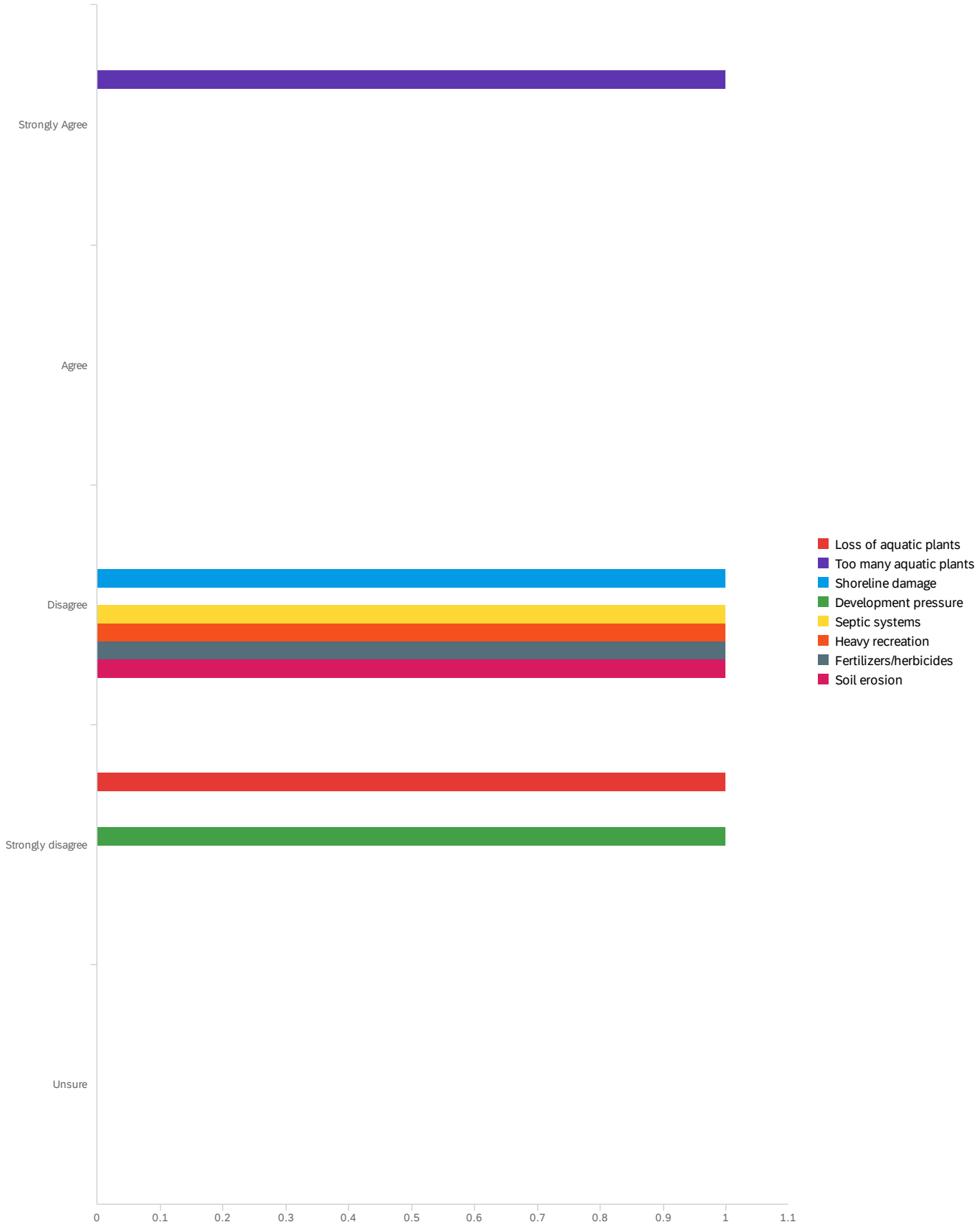
Q18 - During the time that you have lived on, visited or recreated on the lake, how would you say the water quality has changed?



#	Field	Choice Count
1	Improved	0% 0
2	Declined	100% 1
3	Stayed the same	0% 0
4	Unsure	0% 0
		1

Showing rows 1 - 5 of 5

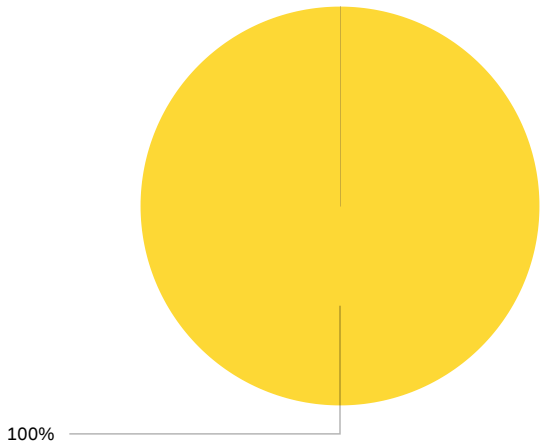
Q19 - If you think it has declined, what, in your opinion, are the primary causes?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Loss of aquatic plants	0% 0	0% 0	0% 0	100% 1	0% 0	1
2	Too many aquatic plants	100% 1	0% 0	0% 0	0% 0	0% 0	1
3	Shoreline damage	0% 0	0% 0	100% 1	0% 0	0% 0	1
4	Development pressure	0% 0	0% 0	0% 0	100% 1	0% 0	1
5	Septic systems	0% 0	0% 0	100% 1	0% 0	0% 0	1
6	Heavy recreation	0% 0	0% 0	100% 1	0% 0	0% 0	1
7	Fertilizers/herbicides	0% 0	0% 0	100% 1	0% 0	0% 0	1
8	Soil erosion	0% 0	0% 0	100% 1	0% 0	0% 0	1

Showing rows 1 - 8 of 8

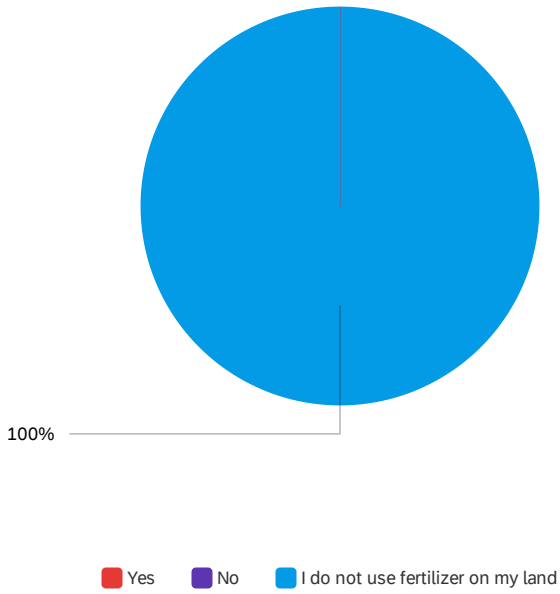
Q20 - If you use fertilizers or herbicides on your land, where are they applied?



#	Field	Choice Count
1	Lawn	0% 0
2	Garden	0% 0
3	Agricultural fields	0% 0
4	Other	0% 0
5	I do not use fertilizers or herbicides on my land	100% 1
		1

Showing rows 1 - 6 of 6

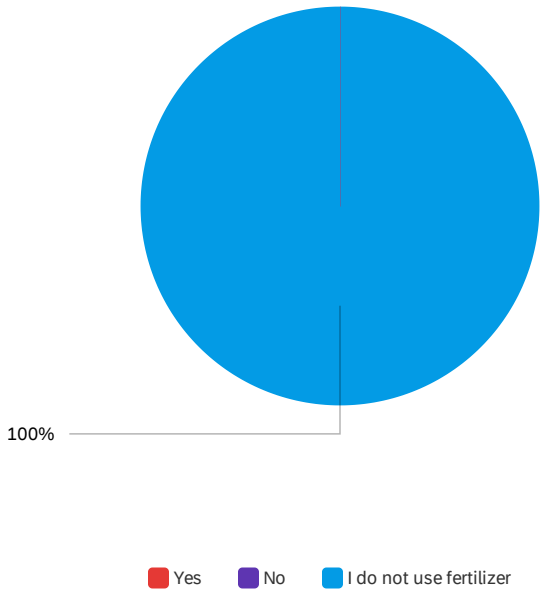
Q21 - Do you use fertilizer that contains phosphorus?



#	Field	Choice Count
1	Yes	0% 0
2	No	0% 0
4	I do not use fertilizer on my land	100% 1
		1

Showing rows 1 - 4 of 4

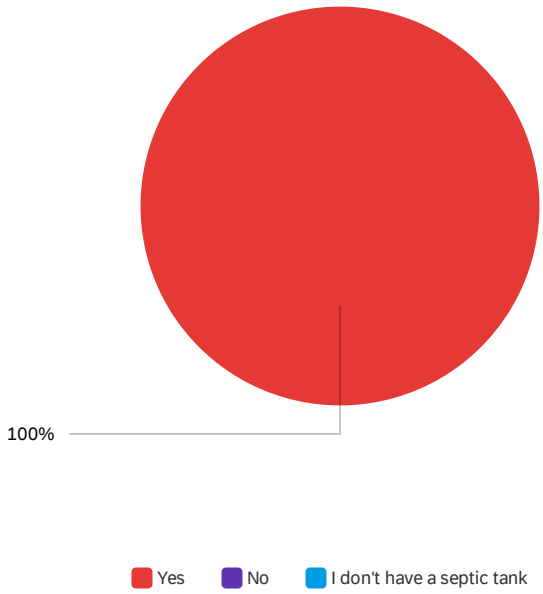
Q23 - Have you had your soil tested before using fertilizer?



#	Field	Choice Count
1	Yes	0% 0
2	No	0% 0
3	I do not use fertilizer	100% 1
		1

Showing rows 1 - 4 of 4

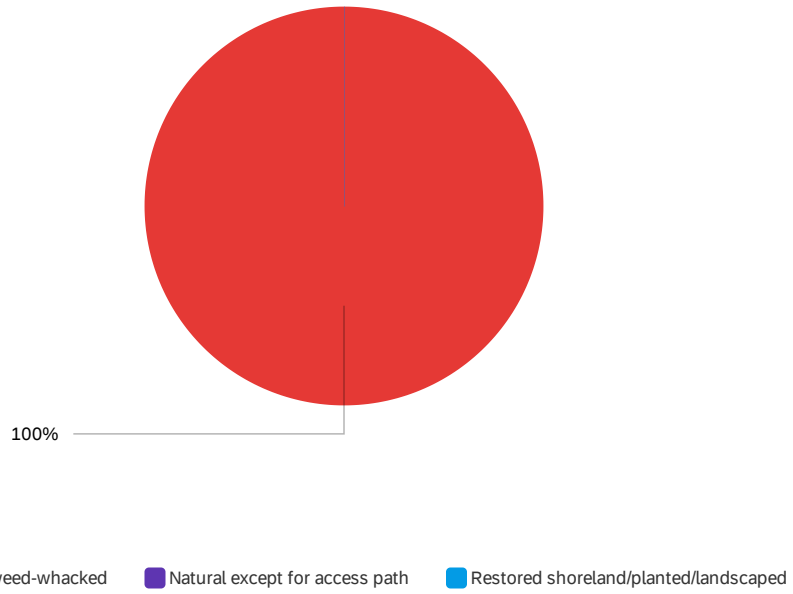
Q22 - Do you have your septic tank pumped regularly (at least every 3 years)?



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

Showing rows 1 - 4 of 4

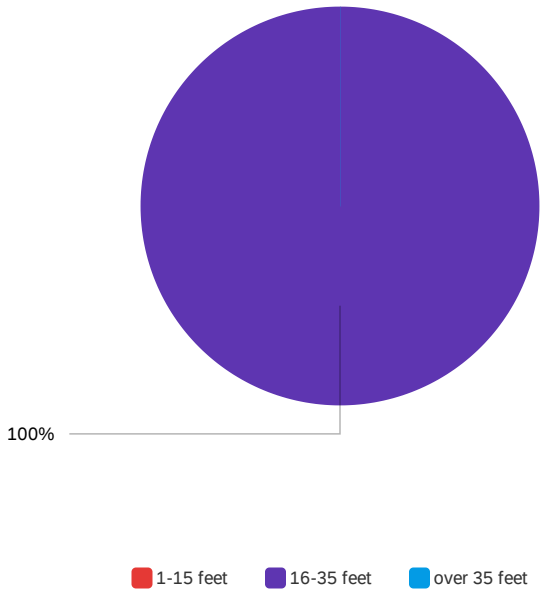
Q25 - How do you currently manage the majority of your property within 35 feet of the lake?



#	Field	Choice Count
1	Mowed or weed-whacked	100% 1
2	Natural except for access path	0% 0
3	Restored shoreland/planted/landscaped	0% 0
		1

Showing rows 1 - 4 of 4

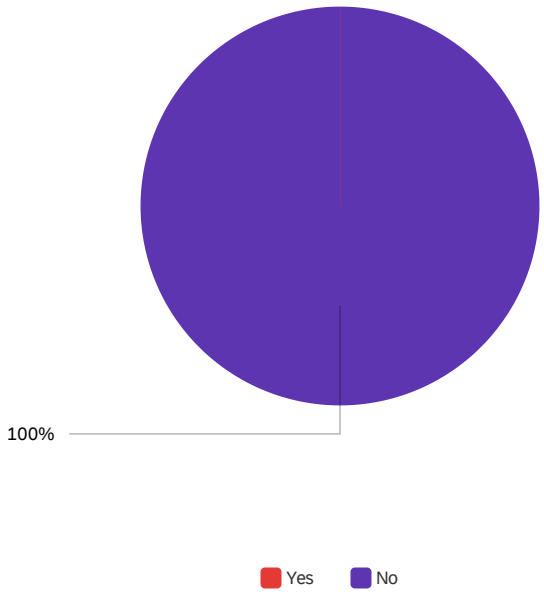
Q26 - If you have unmowed shoreland vegetation, how far inland from the water's edge does it extend?



#	Field	Choice Count	
1	1-15 feet	0%	0
2	16-35 feet	100%	1
3	over 35 feet	0%	0
			1

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	0% 0
2	No	100% 1
		1

Showing rows 1 - 3 of 3

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

Internal System Error

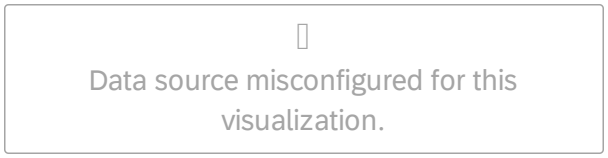
We’re sorry!

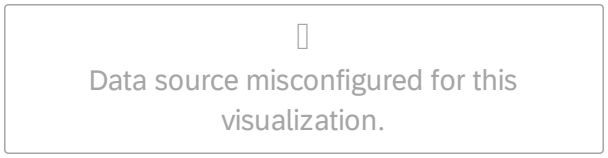
There seems to be a problem with our system – please try refreshing your browser.

If you still can’t reach the page you were looking for, please contact our support team.

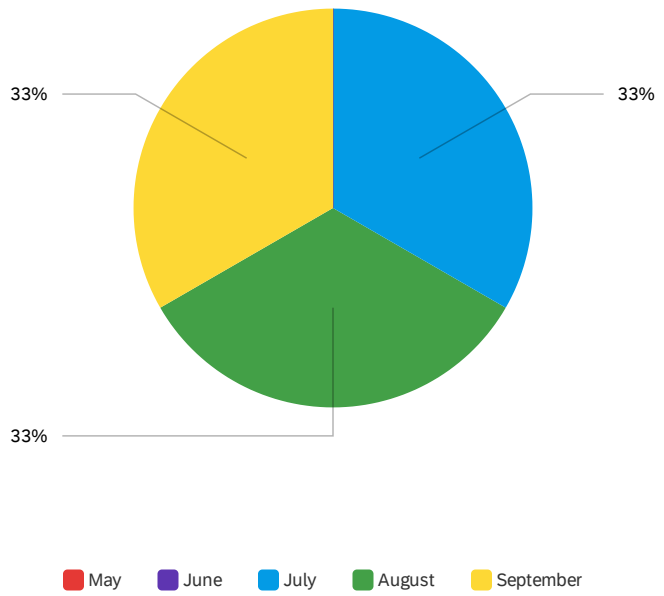
Reference Error:

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





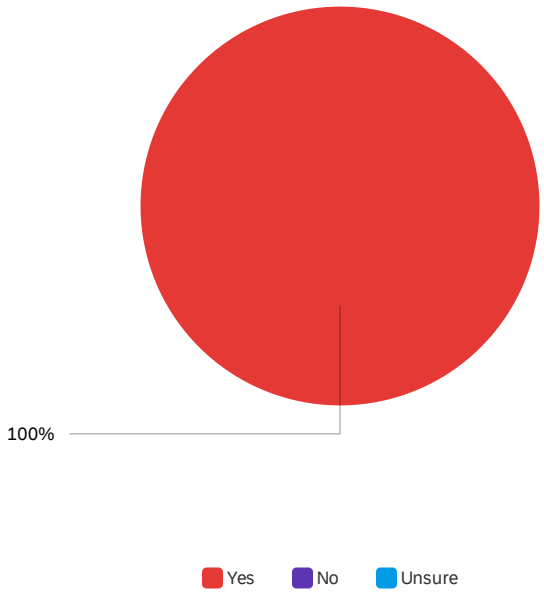
Q33 - If you think the plant growth in Pecor Lake is dense, what month(s) do the problems occur? Check all that apply.



#	Field	Choice Count
1	May	0% 0
2	June	0% 0
3	July	33% 1
4	August	33% 1
5	September	33% 1
		3

Showing rows 1 - 6 of 6

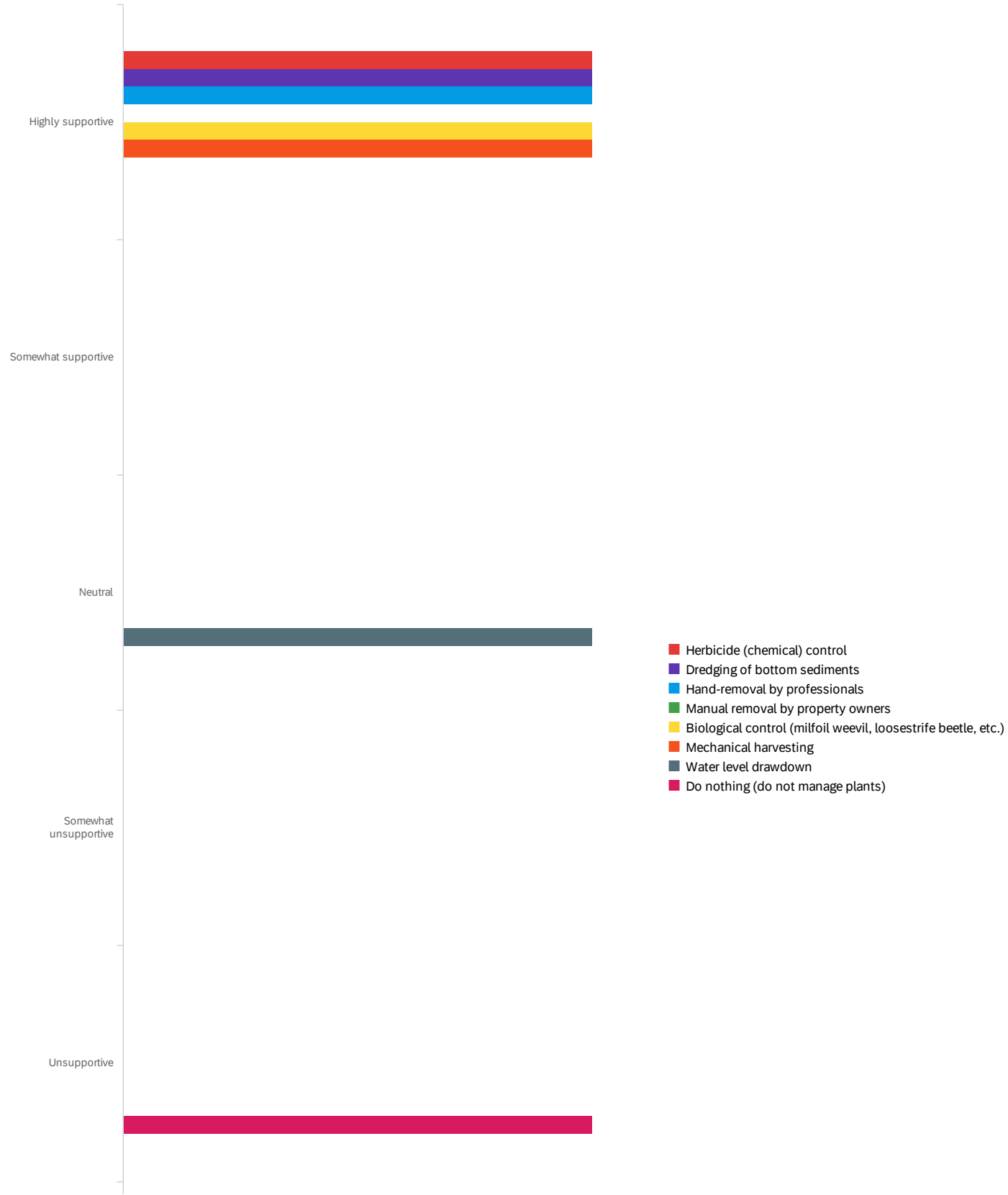
Q34 - Do you believe aquatic plant control is needed on Pecor Lake?

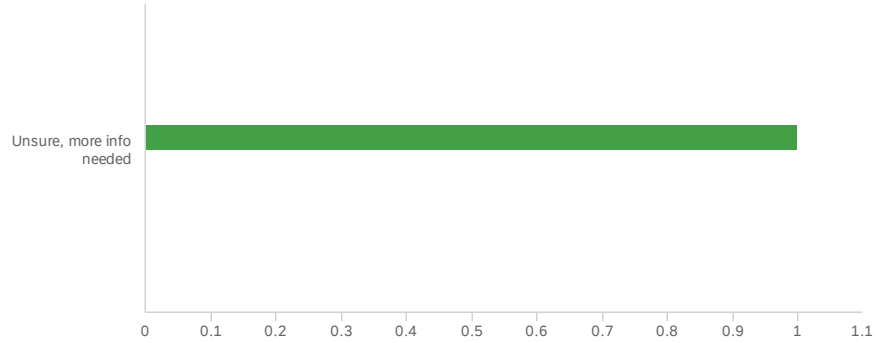


#	Field	Choice Count
1	Yes	100% 1
2	No	0% 0
3	Unsure	0% 0
		1

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 Pecor Lake?

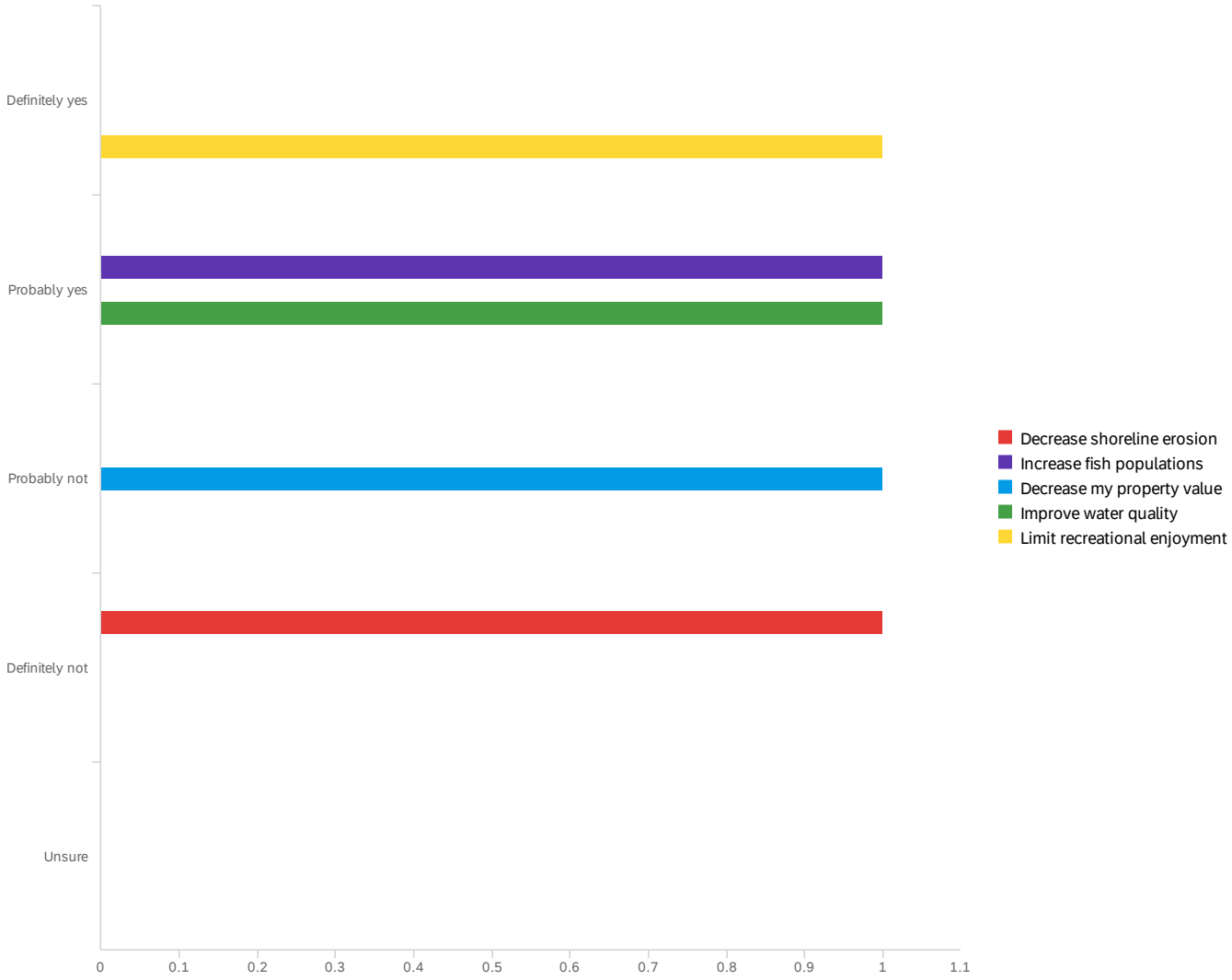




#	Field	Highly supportive	Somewhat supportive	Neutral	Somewhat unsupportive	Unsupportive	Unsure, more info needed	Total
1	Herbicide (chemical) control	100% 1	0% 0	0% 0	0% 0	0% 0	0% 0	1
2	Dredging of bottom sediments	100% 1	0% 0	0% 0	0% 0	0% 0	0% 0	1
3	Hand-removal by professionals	100% 1	0% 0	0% 0	0% 0	0% 0	0% 0	1
4	Manual removal by property owners	0% 0	0% 0	0% 0	0% 0	0% 0	100% 1	1
5	Biological control (milfoil weevil, loosestrife beetle, etc.)	100% 1	0% 0	0% 0	0% 0	0% 0	0% 0	1
6	Mechanical harvesting	100% 1	0% 0	0% 0	0% 0	0% 0	0% 0	1
7	Water level drawdown	0% 0	0% 0	100% 1	0% 0	0% 0	0% 0	1
8	Do nothing (do not manage plants)	0% 0	0% 0	0% 0	0% 0	100% 1	0% 0	1

Showing rows 1 - 8 of 8

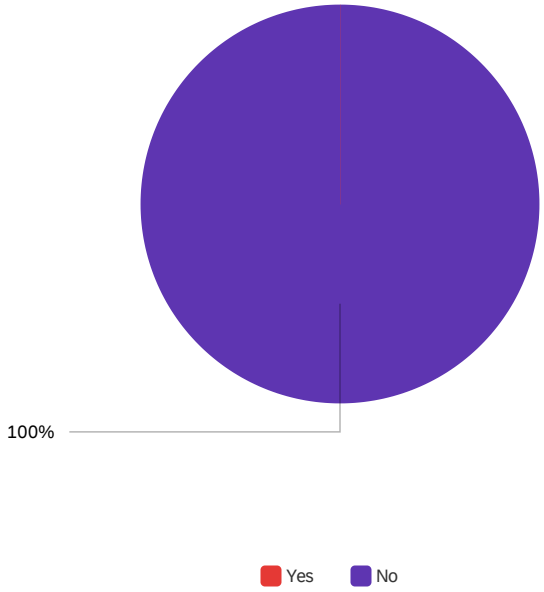
Q36 - In your opinion, does establishing or maintaining native vegetation in the water in the near-shore area...



#	Field	Definitely yes	Probably yes	Probably not	Definitely not	Unsure	Total
1	Decrease shoreline erosion	0% 0	0% 0	0% 0	100% 1	0% 0	1
2	Increase fish populations	0% 0	100% 1	0% 0	0% 0	0% 0	1
3	Decrease my property value	0% 0	0% 0	100% 1	0% 0	0% 0	1
4	Improve water quality	0% 0	100% 1	0% 0	0% 0	0% 0	1
5	Limit recreational enjoyment	100% 1	0% 0	0% 0	0% 0	0% 0	1

Showing rows 1 - 5 of 5

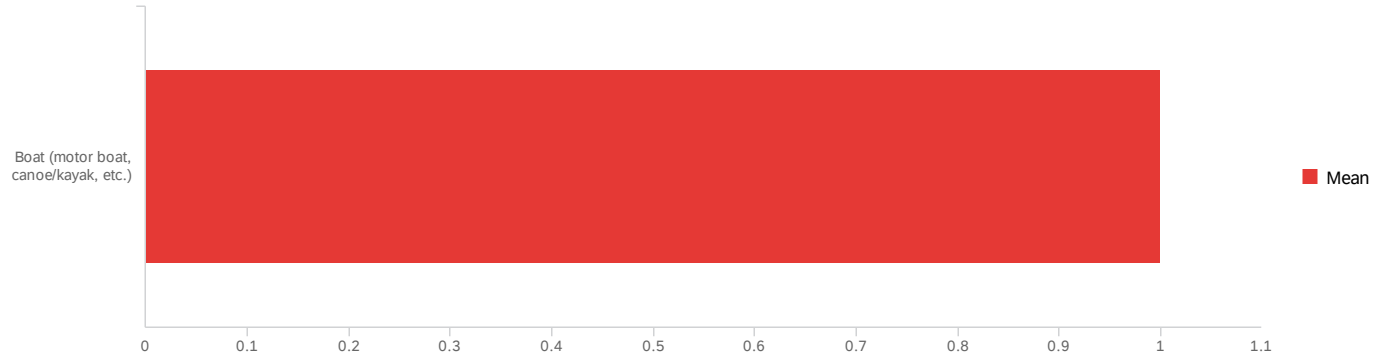
Q37 - Are you aware of invasive species (in general)?



#	Field	Choice Count
1	Yes	0% 0
2	No	100% 1
		1

Showing rows 1 - 3 of 3

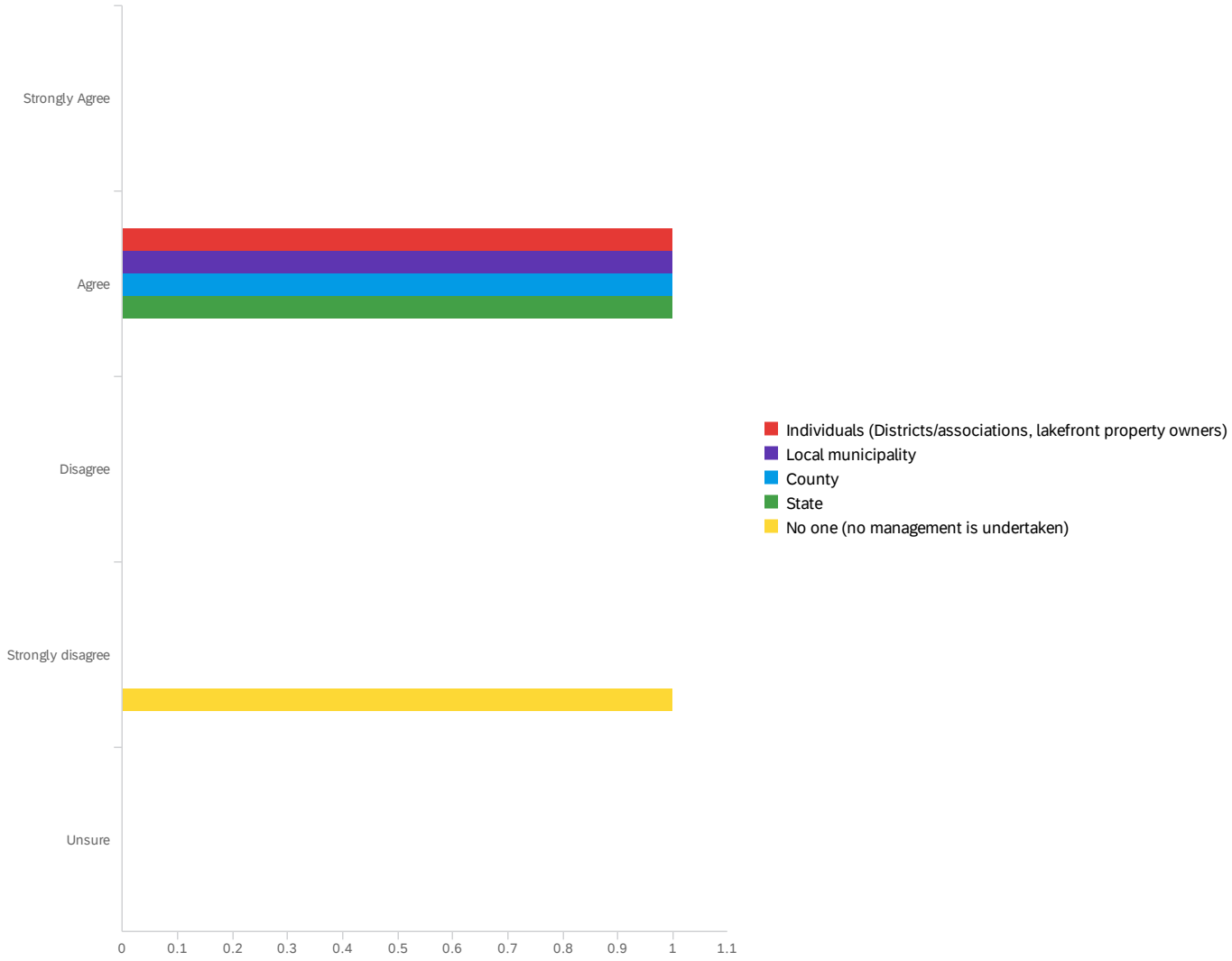
Q39 - After you have been to another lake, do you clean your.... before bringing it back to Pecor Lake?



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

Showing rows 1 - 4 of 4

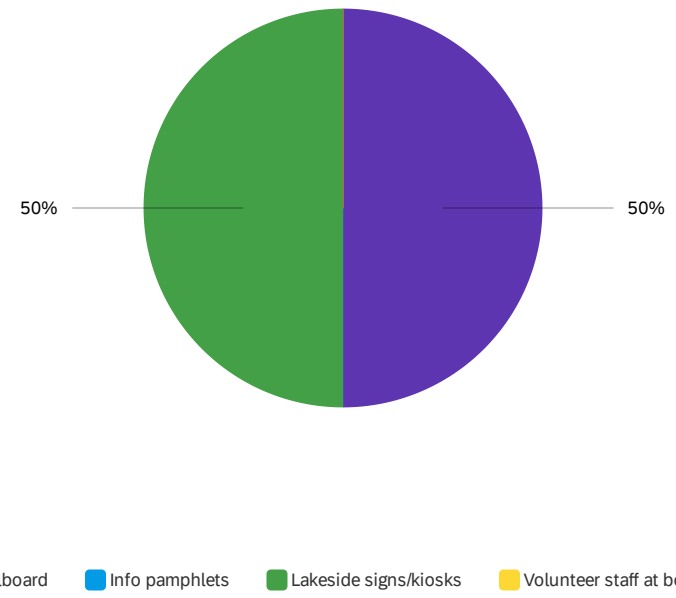
Q40 - Who should pay the cost of managing invasive aquatic plants?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Individuals (Districts/associations, lakefront property owners)	0% 0	100% 1	0% 0	0% 0	0% 0	1
2	Local municipality	0% 0	100% 1	0% 0	0% 0	0% 0	1
3	County	0% 0	100% 1	0% 0	0% 0	0% 0	1
4	State	0% 0	100% 1	0% 0	0% 0	0% 0	1
5	No one (no management is undertaken)	0% 0	0% 0	0% 0	100% 1	0% 0	1

Showing rows 1 - 5 of 5

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



#	Field	Choice Count
1	Newspaper	0% 0
2	Billboard	50% 1
3	Info pamphlets	0% 0
4	Lakeside signs/kiosks	50% 1
5	Volunteer staff at boat launch	0% 0
6	Other	0% 0
		2

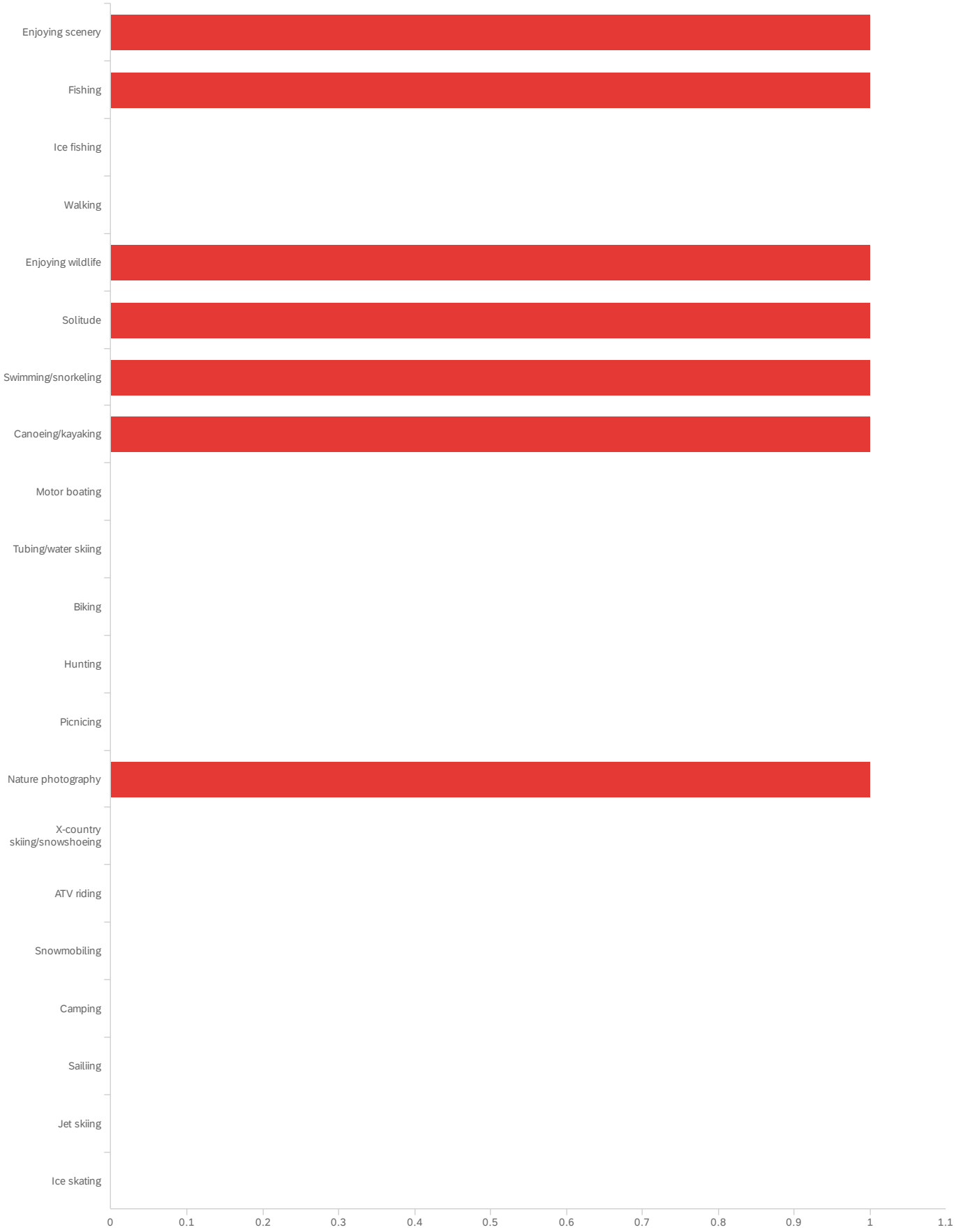
Showing rows 1 - 7 of 7

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

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

Clear some of area around boat launch, also give advice and direction on maintaining and clearing sone very dense weeds around docks, as to not remove to many to hurt ecosystem

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



#	Field	Choice Count

#	Field		Choice Count
1	Enjoying scenery	14%	1
2	Fishing	14%	1
3	Ice fishing	0%	0
4	Walking	0%	0
5	Enjoying wildlife	14%	1
6	Solitude	14%	1
7	Swimming/snorkeling	14%	1
8	Canoeing/kayaking	14%	1
9	Motor boating	0%	0
10	Tubing/water skiing	0%	0
11	Biking	0%	0
12	Hunting	0%	0
13	Picnicing	0%	0
14	Nature photography	14%	1
15	X-country skiing/snowshoeing	0%	0
16	ATV riding	0%	0
17	Snowmobiling	0%	0
18	Camping	0%	0
19	Sailiing	0%	0
20	Jet skiing	0%	0
21	Ice skating	0%	0
			7

Showing rows 1 - 22 of 22

Q46 - Other recreational activities not included above:

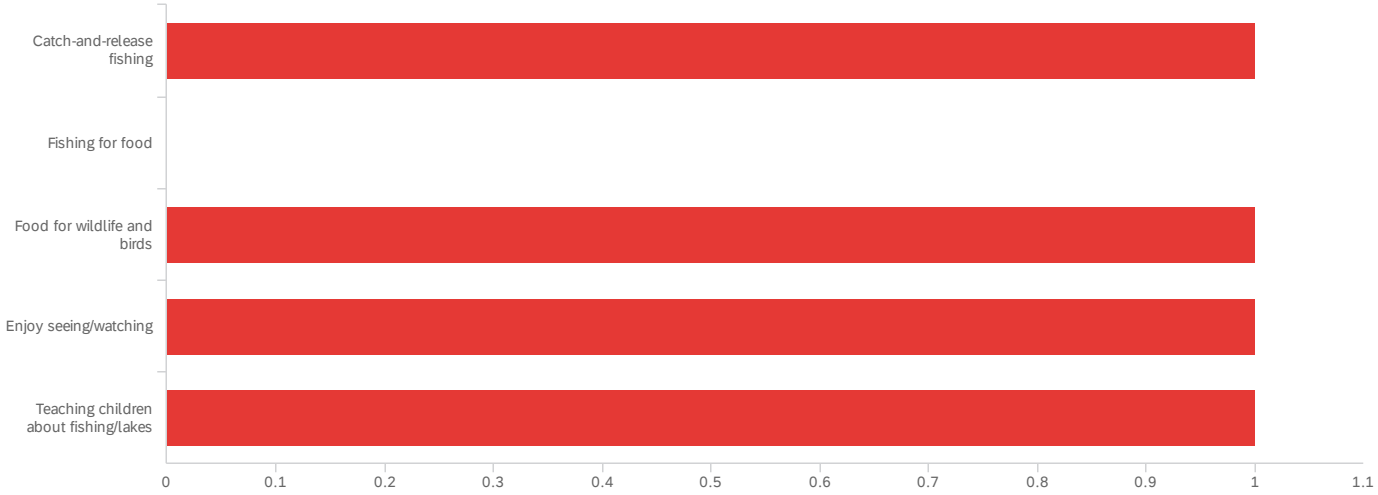
Other recreational activities not included above:

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

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

Dock by boat launch to fish and load boats

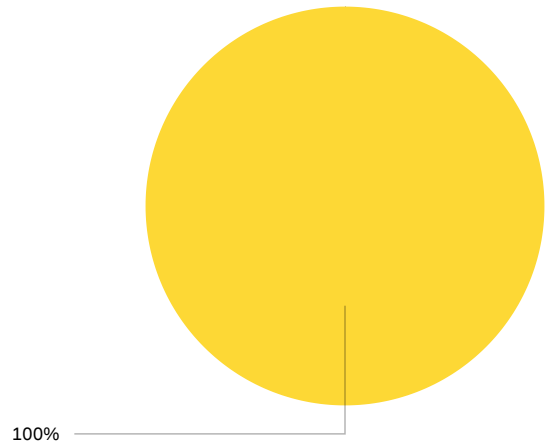
Q51 - For what purposes do you value the fishery in Pecor Lake? (Check all that apply)



#	Field	Choice Count	
1	Catch-and-release fishing	25%	1
2	Fishing for food	0%	0
3	Food for wildlife and birds	25%	1
4	Enjoy seeing/watching	25%	1
5	Teaching children about fishing/lakes	25%	1
			4

Showing rows 1 - 6 of 6

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

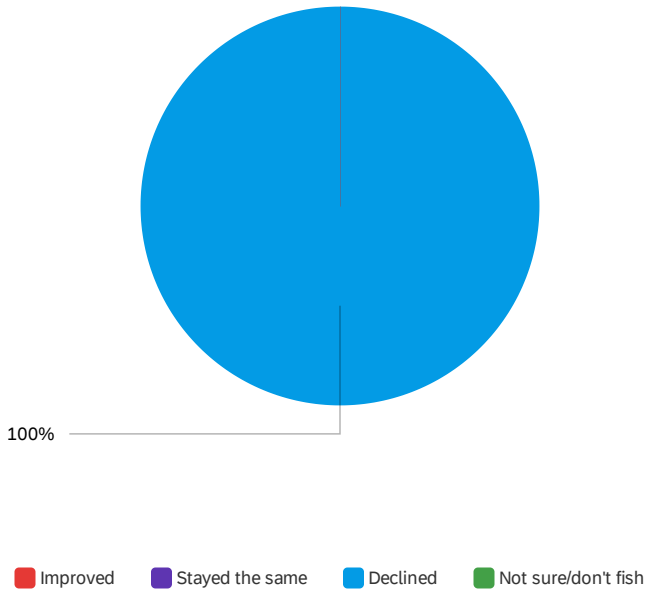


I don't fish Pecor Lake 1-5 years 6-10 years 11-20 years More than 20 years

#	Field	Choice Count
1	I don't fish Pecor Lake	0% 0
2	1-5 years	0% 0
3	6-10 years	0% 0
4	11-20 years	0% 0
5	More than 20 years	100% 1
		1

Showing rows 1 - 6 of 6

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



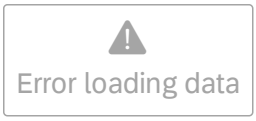
#	Field	Choice Count
1	Improved	0% 0
2	Stayed the same	0% 0
3	Declined	100% 1
4	Not sure/don't fish	0% 0
		1

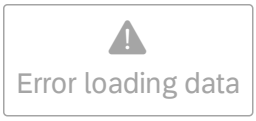
Showing rows 1 - 5 of 5

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

What do you think has contributed to the change in fishing?
Overfished, or fish went under road to white lake

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



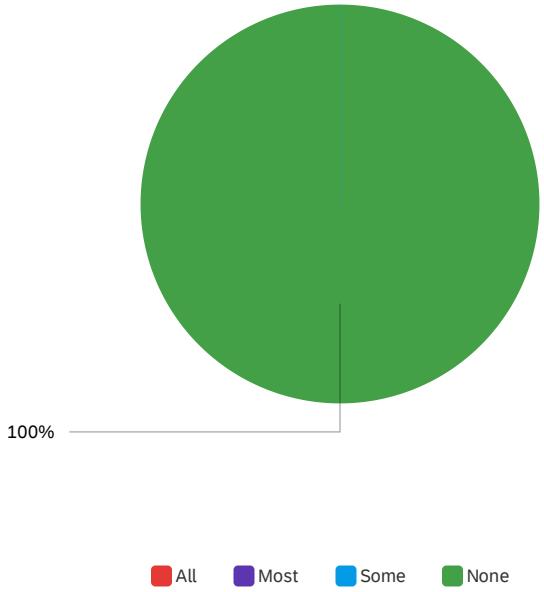


Q56 - What type of fish do you catch on Pecor Lake?

What type of fish do you catch on Pecor Lake?

Large mouth bass, sunfish, perch, bluegil

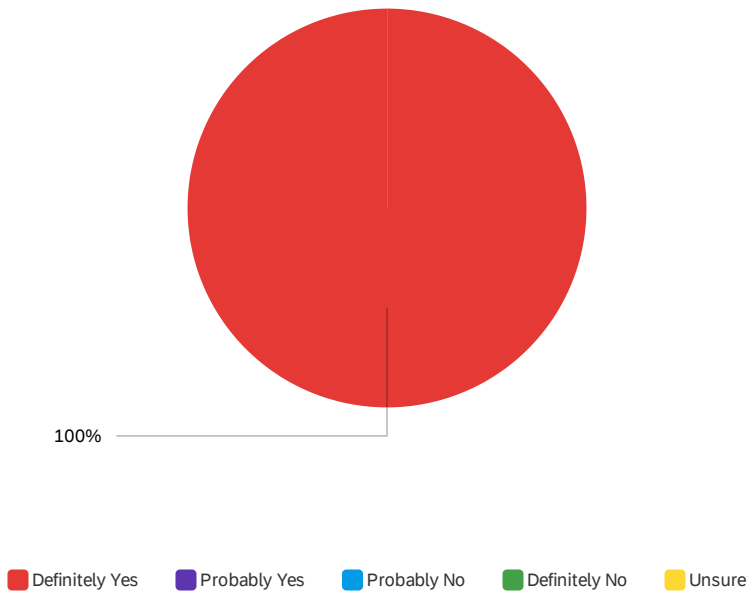
Q57 - In general, how many of the fish you catch are big enough to keep?



#	Field	Choice Count
1	All	0% 0
2	Most	0% 0
3	Some	0% 0
4	None	100% 1
		1

Showing rows 1 - 5 of 5

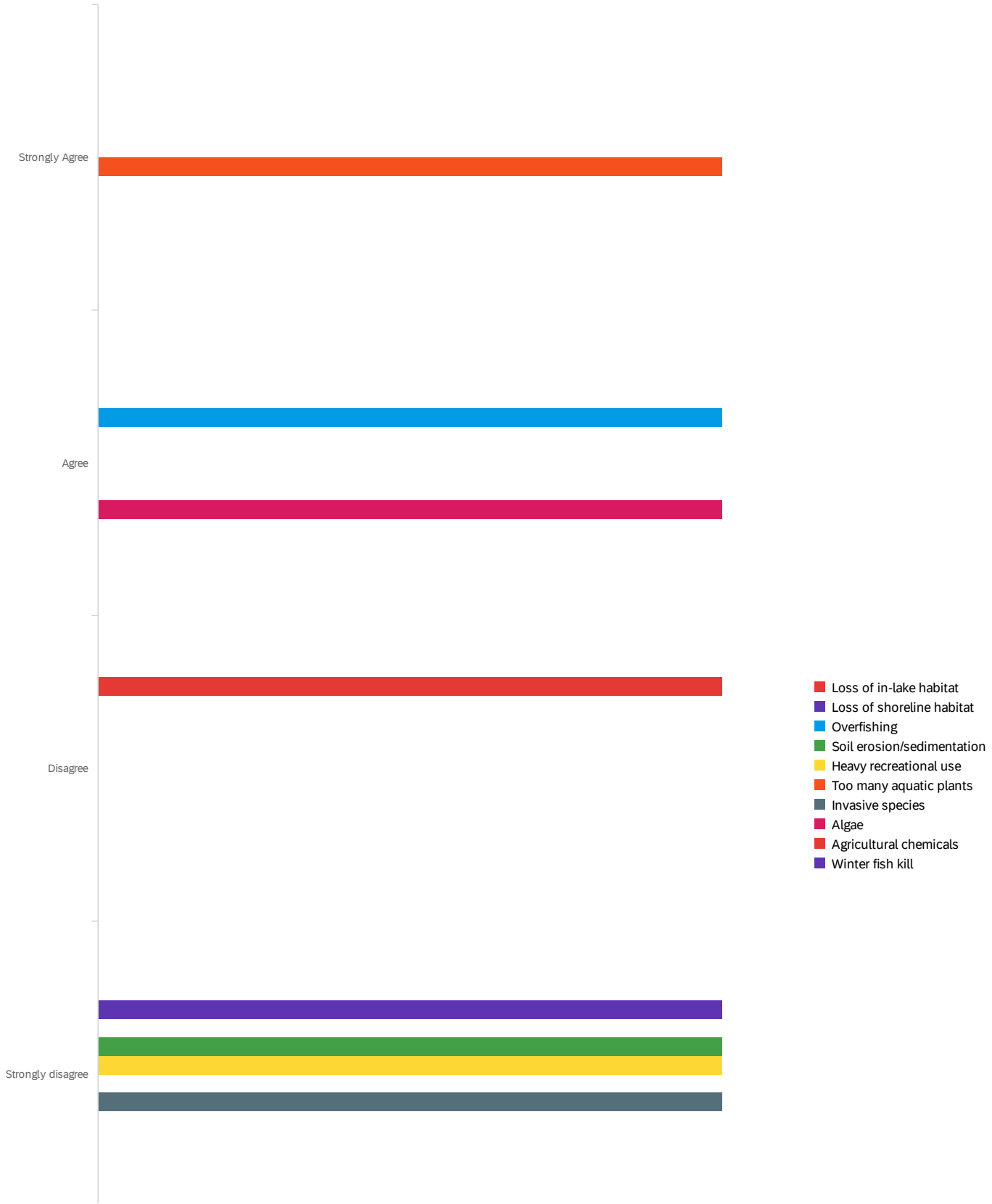
Q58 - Do you believe fish from Pecor Lake are safe to eat?

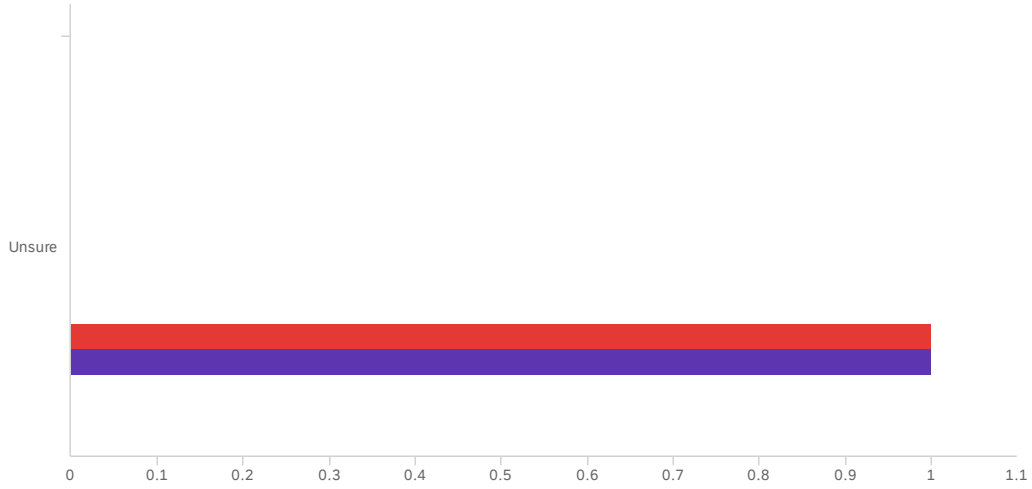


#	Field	Choice Count
1	Definitely Yes	100% 1
2	Probably Yes	0% 0
3	Probably No	0% 0
4	Definitely No	0% 0
5	Unsure	0% 0
		1

Showing rows 1 - 6 of 6

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





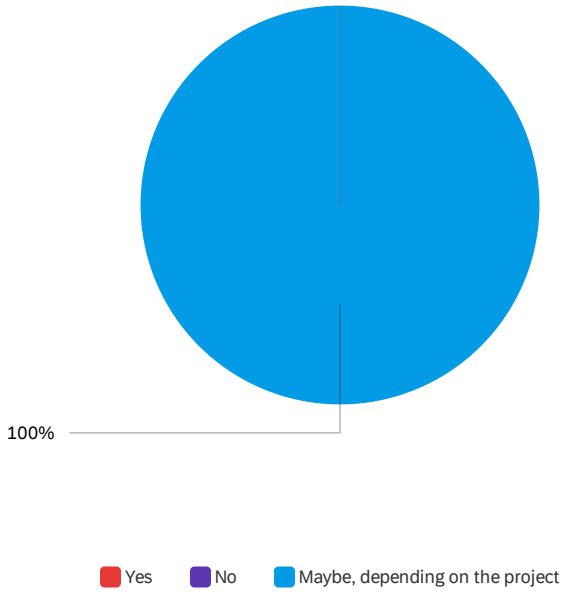
#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Loss of in-lake habitat	0% 0	0% 0	100% 1	0% 0	0% 0	1
2	Loss of shoreline habitat	0% 0	0% 0	0% 0	100% 1	0% 0	1
3	Overfishing	0% 0	100% 1	0% 0	0% 0	0% 0	1
4	Soil erosion/sedimentation	0% 0	0% 0	0% 0	100% 1	0% 0	1
5	Heavy recreational use	0% 0	0% 0	0% 0	100% 1	0% 0	1
6	Too many aquatic plants	100% 1	0% 0	0% 0	0% 0	0% 0	1
7	Invasive species	0% 0	0% 0	0% 0	100% 1	0% 0	1
8	Algae	0% 0	100% 1	0% 0	0% 0	0% 0	1
9	Agricultural chemicals	0% 0	0% 0	0% 0	0% 0	100% 1	1
10	Winter fish kill	0% 0	0% 0	0% 0	0% 0	100% 1	1

Showing rows 1 - 10 of 10

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

Do you have any additional comments regarding Pecor Lake?
Can silt and some excessive plants be removed around dock so it is easier to fish in boats and kayaks, if so how can it be removed

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.)?



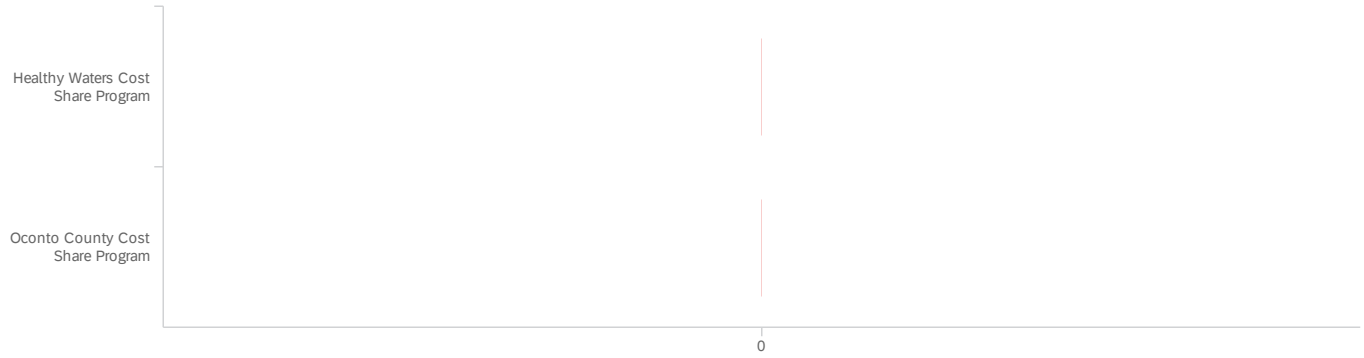
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Would you be interested in volunteering on a project on your lake (such as shoreland restoration planting, invasive species monitoring/removal, water quality monitoring, highway cleanup, etc.)?	3	3	3	0	0	1

#	Field		Choice Count
1	Yes	0%	0
2	No	0%	0
3	Maybe, depending on the project	100%	1
			1

Showing rows 1 - 4 of 4

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

(Check all that apply)



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

Showing rows 1 - 3 of 3

End of Report