

# Oconto County Lakes Project

## UCIL LAKE MANAGEMENT PLAN

### Oconto County Lakes Project Reports:

**State of the  
Oconto County  
Lakes**

Lake Study  
Summary  
Reports

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

Lake  
Management  
Plans

2021

VISION

*Ucil Lake will remain a healthy and clear Northwoods lake for generations to come.*

# Ucil Lake 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 Ucil Lake 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.

Ucil Lake Planning Participants	Technical Contributors to the Planning Process
Karen Borden	Dale Mohr, UW-Extension - Oconto County
Tom Bauer	Ken Dolata, Oconto County Land & Water Conservation Department
Dan Phillips	Brenda Nordin, Wisconsin Department of Natural Resources
Cris Schreiber	Brian Zalay, Wisconsin Department of Natural Resources
James Kohlwey	Tammie Paoli, Wisconsin Department of Natural Resources
Sandy & Pete Lange	Ryan Haney, UWSP Center for Watershed Science and Education
Rob Teske	Sarah Hull, UWSP Center for Watershed Science and Education
Jerry Cebe	Paul McGinley, UWSP Center for Watershed Science and Education

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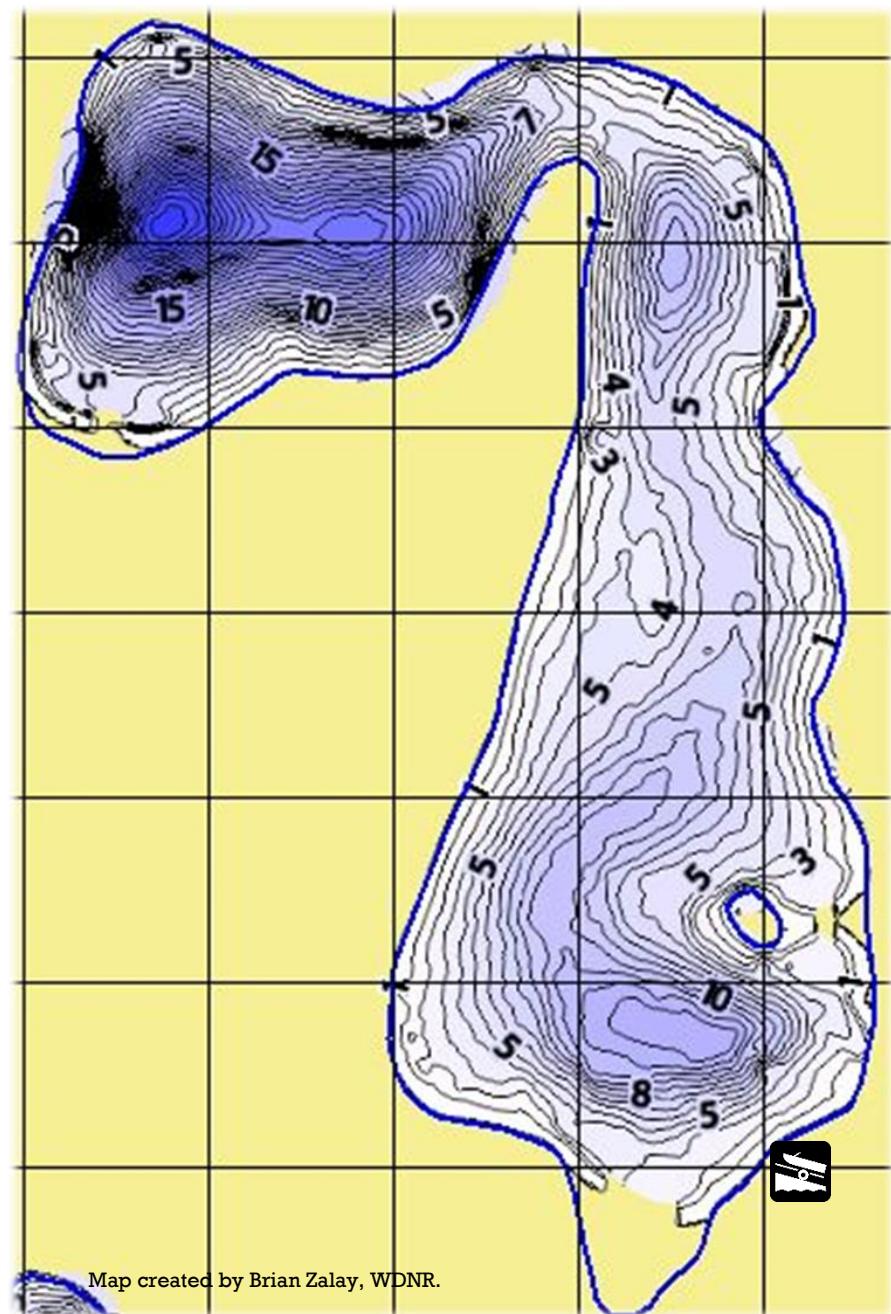
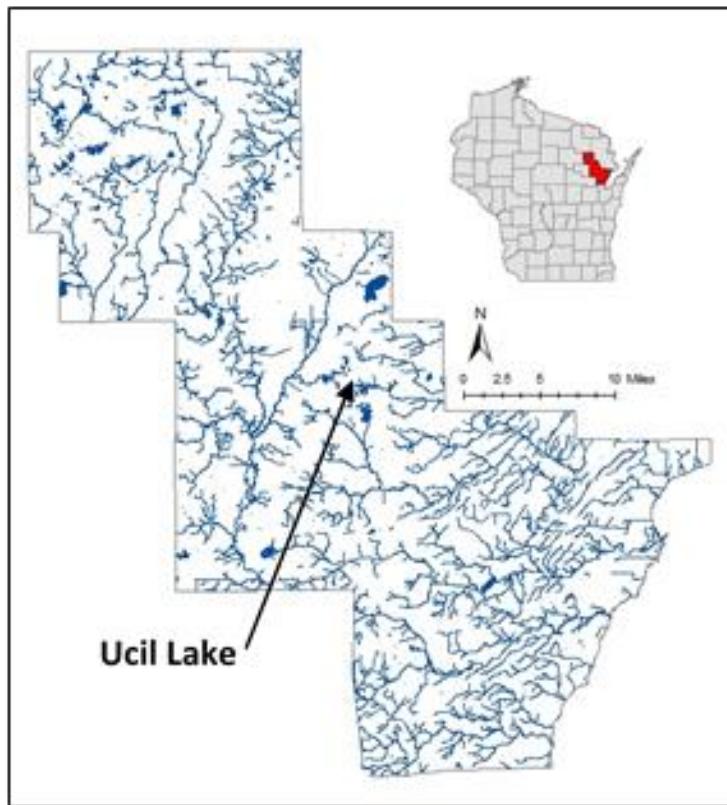
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Resource	Acronym or Truncated Name
Citizen Lake Monitoring Network	CLMN
Clean Boats Clean Waters	CBCW
Lumberjack Resource Conservation & Development Council	LRCD
Oconto County Land & Water Conservation Dept.	OC LCD
Oconto County Board of Supervisors	OC Board
Oconto County Lakes and Waterways Association	OCLAWA
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 UCIL LAKE

Ucil Lake is located in the Town of Bagley, in northeast Wisconsin. This 78-acre drainage lake has a maximum depth of 33 feet (as observed with sonar); however, it is reported as 13 feet (maximum depth of the southern basin) on the WDNR website. Ucil Lake has clear water and its bottom sediments are primarily sand with muck and some gravel. Visitors have access to the lake from one public boat landing on the lake's south side, which is owned and maintained by the Town of Bagley. Water enters Ucil Lake primarily from groundwater and leaves primarily through an outlet on the south side that leads to Wescott Lake.



# What Is A Lake Management Plan?

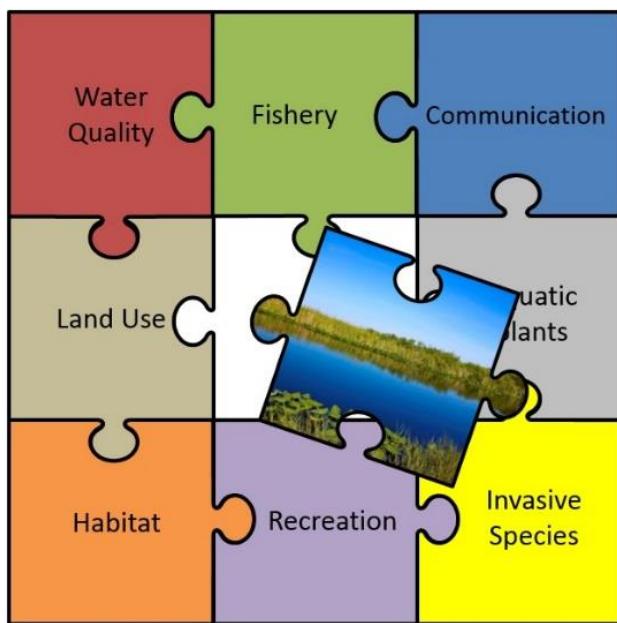
## LAKE MANAGEMENT PLANS (LMP)

### 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?

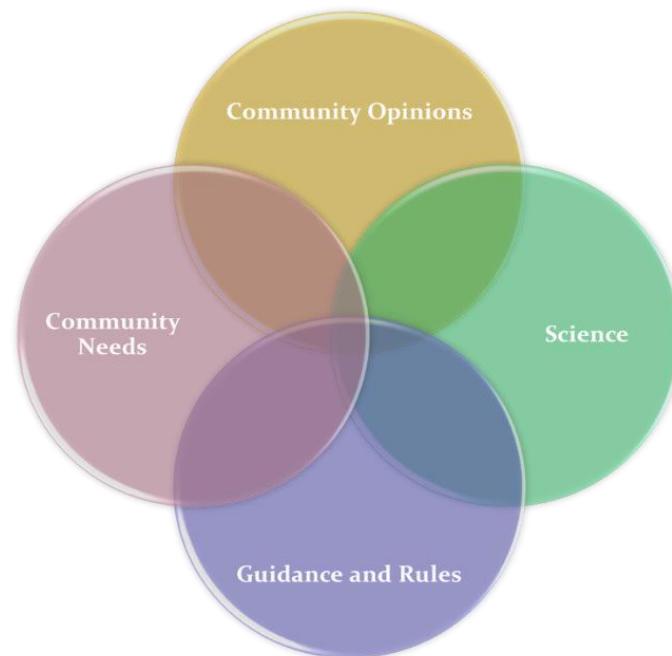
This plan was created to ensure that Ucil Lake is healthy now and for future generations. It was designed to learn about Ucil Lake and identify features important to the Ucil Lake community, in order to provide a framework for the protection and improvement of the lake.



Implementing the content of this LMP will enable citizens and others to work together to achieve the vision for Ucil Lake now and in the years to come. It is a dynamic document that identifies goals and action items for the purpose of

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

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



# How Was This Plan Created?

## **ABOUT THIS PLAN**

One of the first steps in creating this plan was to gather and compile data about the lake and its ecosystem to understand past and current conditions. This was done in 2018-2019 alongside 5 other lakes as part of the Oconto County Lakes Project. The project was initiated by citizens in the Oconto County Lakes and Waterways Association who encouraged Oconto County to prioritize lake interests. This effort led to funding from the WDNR Lake Protection Grant Program. There was insufficient data available for many of the lakes to evaluate current water quality, aquatic plant communities, invasive species, and shorelands. The data that were available had been collected at differing frequencies or periods of time, making it difficult to compare lake conditions. Professionals and students from UW-Stevens Point, Oconto County Land Conservation Department, UW Extension, Oconto County citizens and WDNR staff collected the data for use in the development of lake management plans. Sources of information used in the planning process are listed at the end of this document.

Reports from the Ucil Lake Study and the materials associated with the planning process and reports can be found on the Oconto County website: [www.co.oconto.wi.us](http://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 agencies gathered virtually at a public

meeting held on June 23, 2018 at the Bagley Town Hall and January 14, 2021 on an online platform to learn from one another and make decisions about the fishery, water quality, habitat, and land management in the Ucil 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 Ucil Lake 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 UCIL LAKE

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 Ucil Lake. 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

# Ucil Lake Management Plan Goals

## **Goals for Ucil Lake**

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

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

## **LIST OF GOALS**

<b>Goal 1</b>	Maintain a healthy, well-balanced fishery in Ucil Lake.
<b>Goal 2</b>	Ucil Lake will have a healthy and diverse aquatic plant community that provides habitat and good water quality while minimize recreational impediments or invasive species.
<b>Goal 3</b>	Sensitive areas in Ucil Lake, which provide essential habitat and/or water quality benefits, will be protected.
<b>Goal 4</b>	Watershed and shoreland property owners will know about and utilize resources for healthy land management practices.
<b>Goal 5</b>	Ucil Lake shorelands will be healthy and protective of water quality and habitat. Over the next 5 years, 500 feet of mowed shoreland will be restored and 25 fish stick clusters will be installed. At least 20% (9-10) of properties will implement or maintain shoreline restoration practices (rain garden, native plantings, rock diversions, infiltration, fish sticks, etc.).
<b>Goal 6</b>	Maintain or improve water quality in Ucil Lake.
<b>Goal 7</b>	Lake users will be informed about and respectful of Ucil Lake.
<b>Goal 8</b>	Increase participation in lake stewardship.
<b>Goal 9</b>	Review plan regularly and update as needed.

# Fish Community

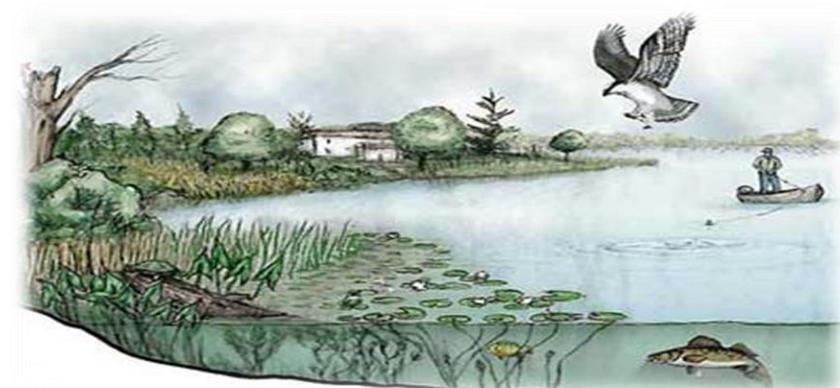
## IN-LAKE HABITAT AND A HEALTHY LAKE

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 Ucil Lake 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.

### 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.

### What People Value about Ucil Lake

- The people around it.
- Serenity of the setting.
- Fishing.



# 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.

Stocking Date	Species	# Stocked	Size/Age Class	Source
1972	Northern pike	150	15"	Federal
1978	Northern pike	30,000	fry	DNR
1978	Largemouth bass	2,200	1"	Private
1986	Northern pike	20,000	1"	DNR
1987	Largemouth bass	7,250	5"	DNR
1987	Largemouth bass	14,500	5"	DNR

## Ucil Lake June 10, 2014 Fish Survey Summary

- ✓ Previous survey conducted in 2006.
- ✓ Fishing regulations follow general inland lake regulations.
- ✓ Seven species of fish were observed during the survey: Largemouth bass, Yellow perch, bluegill, Green sunfish, pumpkinseed, Yellow bullhead, and Brook silverside.
- ✓ Largemouth bass were most abundant, of medium density (30/mile), and poor size structure.
- ✓ Bluegill and yellow perch were common with good size structure.
- ✓ Electrofishing survey not designed for Northern pike. WDNR will try to net Ucil Lake in spring 2021 or 2022, if time allows, to assess this population and possible regulation change. Some local fishermen report good Northern pike fishing.
- ✓ Next electrofishing survey scheduled for 2026.

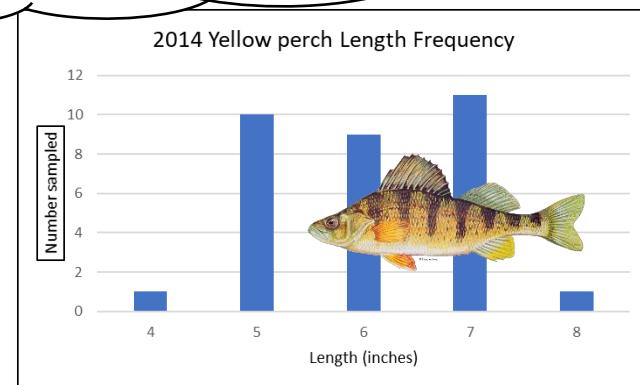
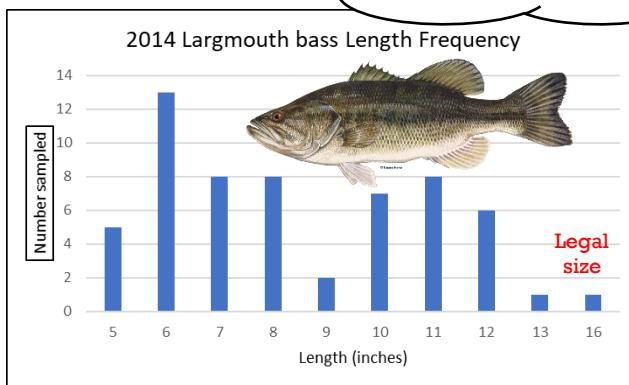
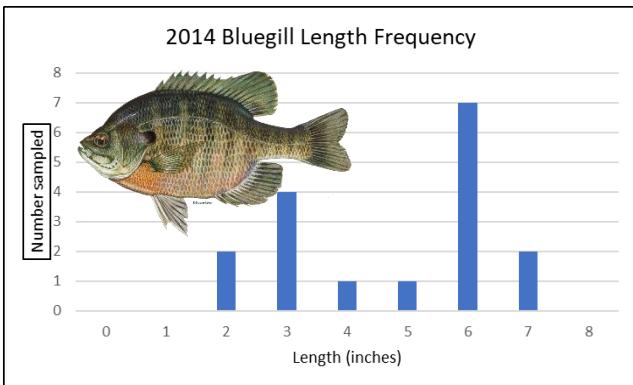


Brook silverside

*Good fishing doesn't just happen. It's the result of clean water and abundant spawning habitat found in lakes and rivers that still have plenty of natural shoreline.*

# Fish Community

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



## Goal 1. Maintain a healthy, well-balanced fishery in Ucili Lake.

**Objective 1.1** Continue to improve fish habitat around the lake. At least 5 fish stick clusters will be installed in the next 5 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	2022
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 (see <b>Shorelands</b> section).		Shoreland property owners	Ongoing

**Objective 1.2** Augment/enhance fish populations as appropriate.

Actions	Lead person/group	Resources	Timeline
Explore private stocking of panfish, such as crappie. A WDNR permit is required (free).		WDNR-Tammie Paoli	
Contact WDNR to learn results of future fyke net survey. Is a Northern pike regulation change appropriate?		WDNR-Tammie Paoli	Fall 2021

# Aquatic Plant Community

## Aquatic Plants

Aquatic plants provide the forested landscape within Ucil 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.

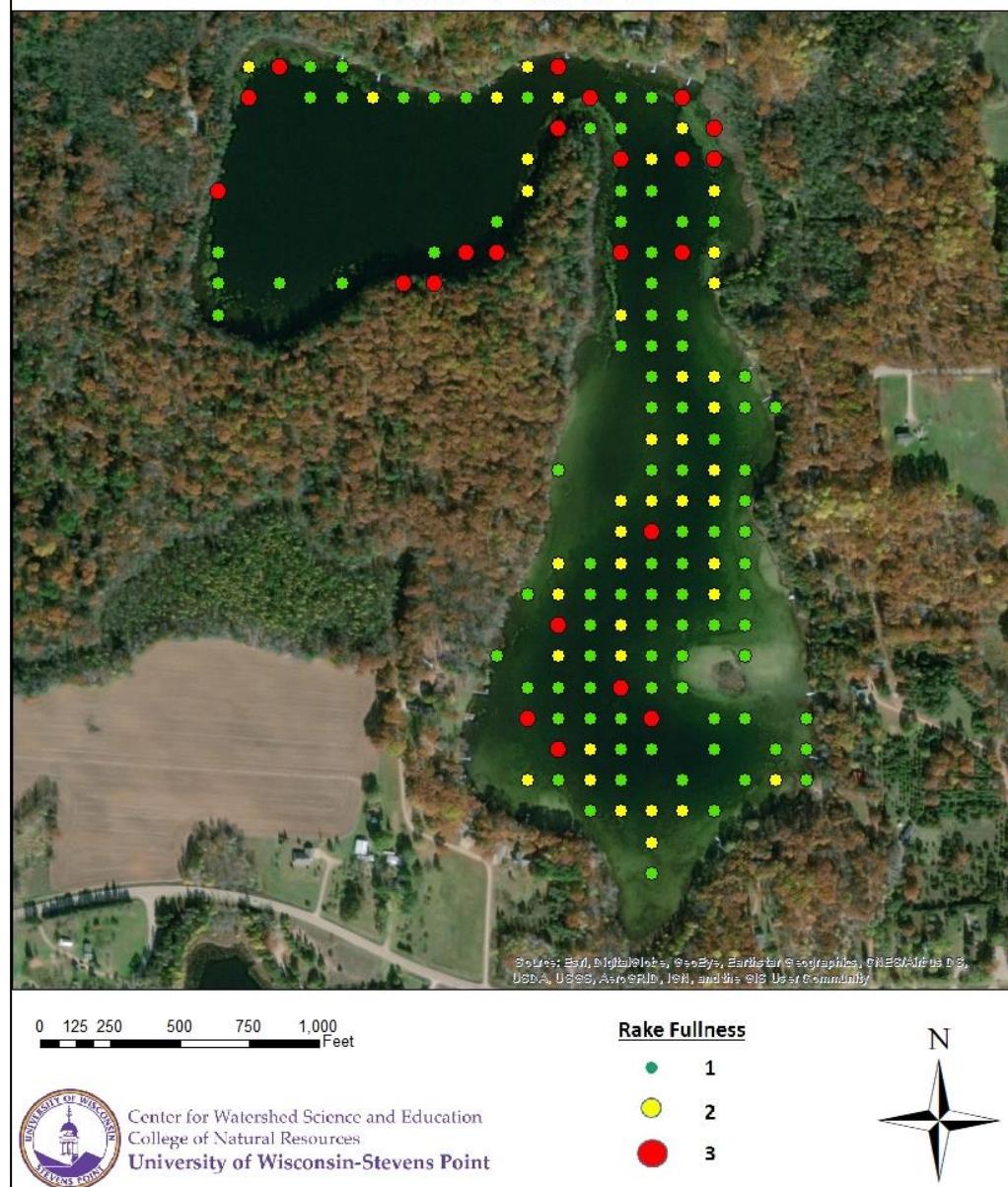
Aquatic plants near shore and in shallows provide food, shelter, and nesting material for shoreland mammals, shorebirds and waterfowl. It is not unusual for otters, beavers, muskrats, weasels, and deer to be seen along a shoreline in their search for food, water or nesting material. Aquatic plants also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

### Ucil Lake 2018 Aquatic Plant Survey Highlights

- ✓ 61% (167 of 274) of the sites visited had vegetative growth.
- ✓ The greatest depth aquatic plants were found was 15 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 (45%), slender naiad (32%), white-stem pondweed (25%).
- ✓ The Floristic Quality Index (FQI) was 26. The northcentral hardwood average is 23.3.
- ✓ The invasive species curly-leaf pondweed was observed at one location.

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

## Ucil Lake Aquatic Plant Survey 2018: Rake Fullness



# Aquatic Plant Community

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

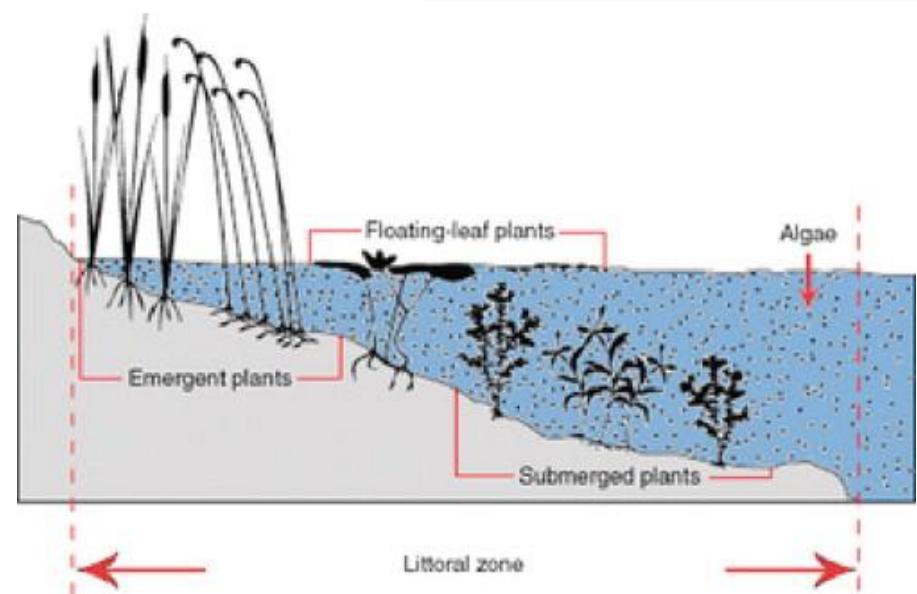


**Slender naiad**, also called nodding water-nymph, is a primary food source for waterfowl and provides habitat for many invertebrates.

**Largeleaf pondweed** is a submerged plant found in soft sediments where the water is quiet. The broad leaves, growing in depths up to several meters, offer shade, shelter and foraging opportunities for fish. Its fruits are a valuable food for waterfowl.



**White-stem pondweed** is commonly found in northern lakes in soft sediment shallower than 4 meters but does not tolerate turbidity. Its late summer fruits are common forage.



# 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.

Curly-leaf pondweed was observed during the 2018 survey at one location. **Curly-leaf pondweed** invades freshwater lakes and can become dominant due to its tolerance of a variety of habitats. CLP grows primarily during the winter and dies off by June, just as water is warming up which can drastically increase nutrient concentrations.



**Chinese mystery snails** were documented in Ucil Lake in 2011. Not a lot is known about the impacts of this species, but they 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.



**Eurasian watermilfoil**, documented in Ucil Lake in 2018, is one of the most common invasive aquatic plants in Wisconsin. It can form dense mats that choke out native plants and inhibit navigation. New plants can grow from stem fragments that root on contact with the substrate.



**Hybrid watermilfoil**, confirmed in 2018, is a cross between the native northern watermilfoil and the invasive Eurasian. It is known to be more aggressive and can be more tolerant to pesticides.

# Aquatic Plant Community

The **Faucet snail**, native to Europe, is dark-brown to black and up to  $\frac{1}{2}$ " in length. It spreads by attaching itself to equipment or by ingestion by waterfowl. It is linked to deaths of waterfowl in some areas. The Faucet snail was verified in Ucil Lake in 2018.

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



## Aquatic Plant Management in Ucil Lake

Management strategies in Ucil Lake 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 Ucil Lake as a whole, have

**Goal 2. Ucil Lake will have a healthy and diverse aquatic plant community that provides habitat and good water quality while minimize recreational impediments or invasive species.**

#### ***Objective 2.1 Minimize disturbance to native aquatic plants.***

<b>Actions</b>	<b>Lead person/group</b>	<b>Resources</b>	<b>Timeline</b>
Inform property owners of the importance of native aquatic vegetation to impede the establishment of additional AIS, provide food and habitat for wildlife, and protect the shoreline via educational materials provided in mailings or a newsletter.		WNDR-Brenda Nordin	Ongoing
Encourage landowners to limit plant removal to invasive species or skimming off those that have become unrooted and free-floating. If		WDNR-Brenda Nordin	Ongoing

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 Ucil Lake, a series of successful strategies (integrated plant management) should lead to a balance between healthy aquatic habitat, water quality, and recreation with minimal annual management.

# Aquatic Plant Community

plants severely impeded recreation, consider hand-pulling small areas around private docks (within WDNR guidelines). Cleared lakebed is ideal habitat for AIS to become established, so be vigilant about watching for AIS in these areas.			
Regularly monitor the aquatic plant community to detect any changes in lake conditions and ensure stable populations. A point-intercept survey is recommended.		WDNR-Brenda Nordin Consultants	Every 10 years if no active plant management taking place
Reduce nutrient and sediment loading to lake (to limit abundance of plants and algae) by improving shoreland buffers (see <b>Shorelands</b> section) and implementing BMPs in the watershed (see <b>Watershed</b> section).		WDNR-Brenda Nordin OCLCD	Ongoing

## ***Objective 2.2 Protect against establishment or spread of AIS.***

<b>Actions</b>	<b>Lead person/group</b>	<b>Resources</b>	<b>Timeline</b>
Encourage or host training to identify and look for invasive species, particularly EWM.		WDNR-Brenda Nordin LRCD	Summer 2022
Identify Clean Boats Clean Waters volunteers or hire someone to staff boat launch on busy days. This can be paid for with a CBCW grant. OCLWA could sponsor a grant and share the inspectors amongst several lakes.		CBCW	Summers
Educate landowners on importance of native aquatic vegetation for preventing AIS. Bring in speaker, mail literature to property owners, put out a newsletter, etc.		WDNR-Brenda Nordin	Ongoing
Support/organize volunteer crews in monitoring for and removing new populations of EWM. Map and track these observations.		WDNR-Brenda Nordin LRCD	Ongoing as needed
If new AIS is suspected or observed, follow the guidelines in <b>Appendix B</b> .		WDNR-Brenda Nordin	As needed



# Critical Habitat

## 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.

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

Although Ucil Lake does not have an official critical habitat area designation, there are areas within Ucil Lake that are important for fish and wildlife. Natural, minimally-impacted areas with woody habitat such as logs, branches, and stumps; areas with emergent and other forms of aquatic vegetation; areas with overhanging vegetation; and wetlands are 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 Ucil Lake, 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 Ucil Lake.***

<b>Actions</b>	<b>Lead person/group</b>	<b>Resources</b>	<b>Timeline</b>
Request a Critical Habitat Designation from WDNR.		WDNR-Brenda Nordin	2022
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



# Watershed

## LANDSCAPES AND THE LAKE

### Ucil Lake Watershed

#### A Lake is a Reflection of its Watershed...

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

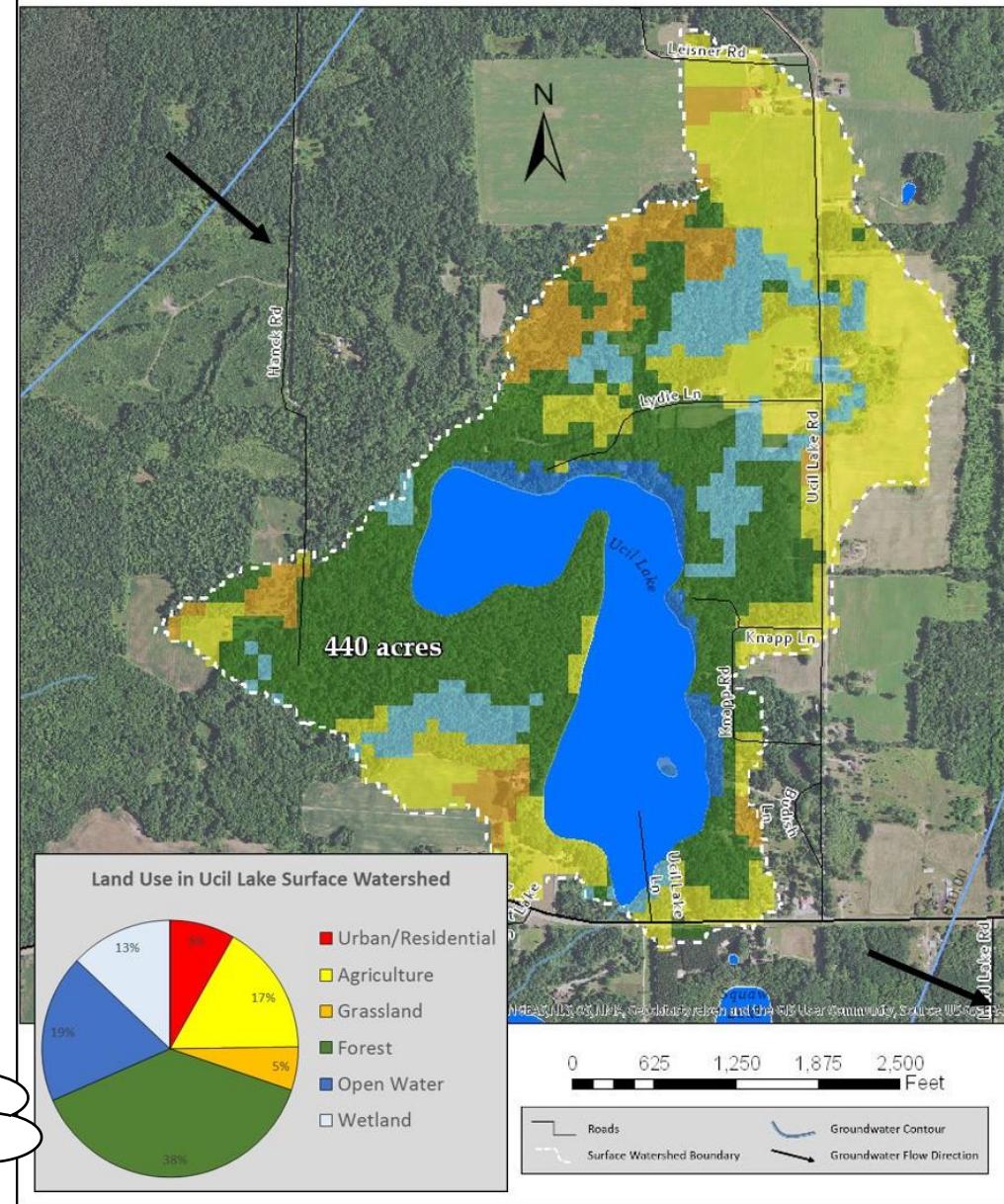
Less runoff is desirable because it allows more water to recharge the groundwater, which feeds the lake year-round - even during dry periods or when the lake is covered with ice. The capacity of the landscape to shed or hold water and contribute or filter particles determines the amount of erosion that 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.

#### Ucil Lake's Watershed

The Ucil Lake watershed is 440 acres. Primary land use is forested land and agriculture. The lake's shoreland is surrounded primarily by developed residential lots and forest. 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.**

### Ucil Lake Surface Watershed & Groundwater Flow



# Watershed

## Why does land matter?

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

### **Soil and Erosion**

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

### **Development**

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

### **What can be done?**

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

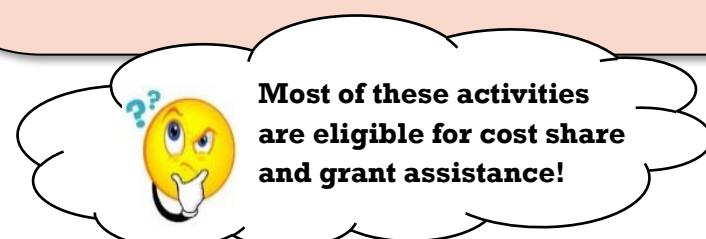
## ***Be Part of the Solution!***

Practices designed to reduce runoff include:

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

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

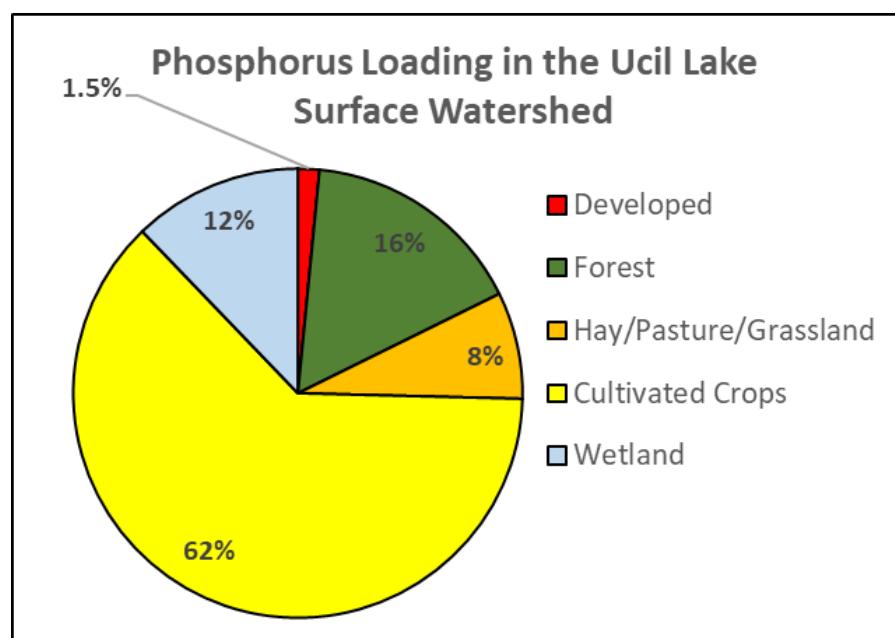
- eliminating/reducing the use of fertilizers,
- increasing the distance between the lake and a septic drainfield,
- protecting/restoring wetlands and native vegetation in the shoreland,
- controlling erosion,
- manure management and cropping practices.



# Watershed

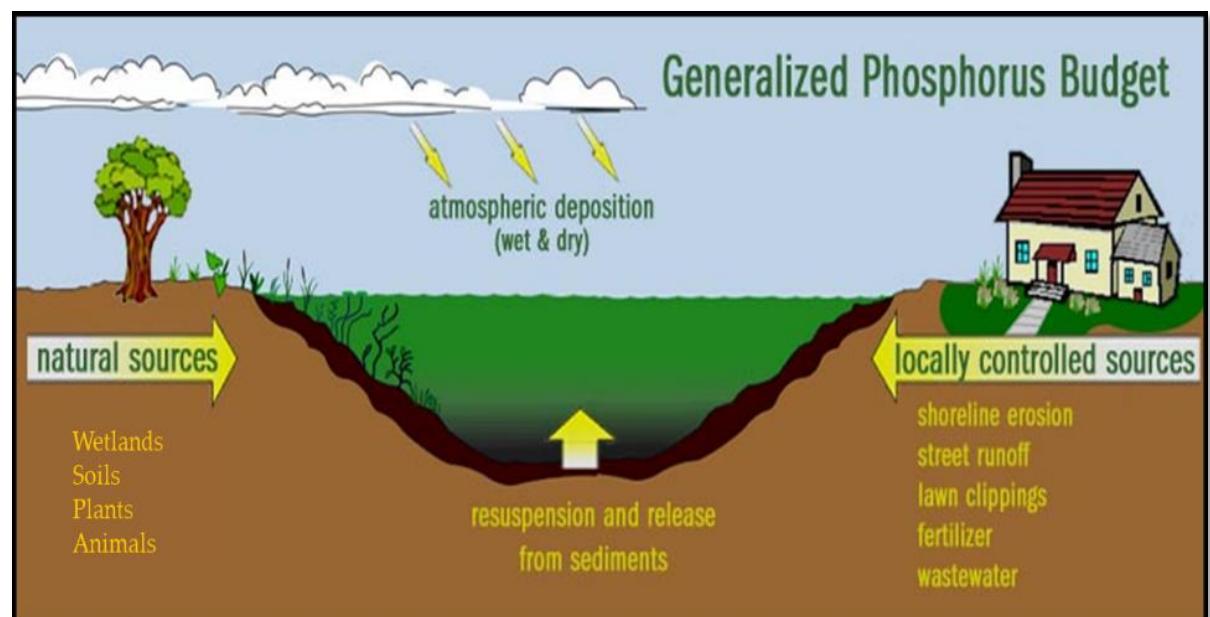
## Phosphorus Modeling

Estimates of phosphorus from the landscape can help to understand the phosphorus sources to Ucil Lake. 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 Ucil Lake watershed, some of these sources are natural and cannot be changed.



## Phosphorus Loading in Ucil Lake 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.

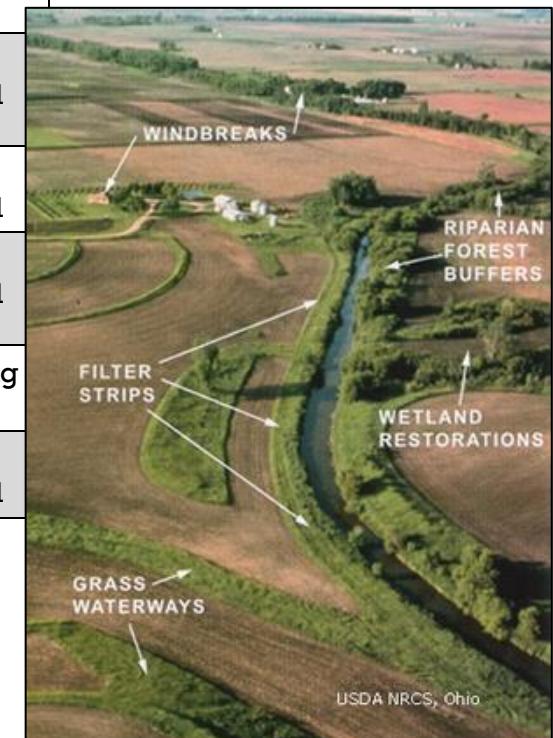


# Watershed

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

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

Actions	Resources	Timeline
Encourage the County to support and follow-up with water quality-based best management practices (BMPs) within the lake's watershed. Include BMPs that reduce application of excess nitrogen and pesticides that leach to groundwater.	NRCS DATCP County Board Supervisors	Ongoing
Support landowners interested in the protection of their land via a land conservation program (i.e., Conservation Easement, Purchase of Development Rights, or sale of land for protection.	WDNR Lake Protection Grant Knowles-Nelson Stewardship Fund NWLT	As needed
Encourage and new development to manage runoff on site and consider ways to minimize impacts from septic systems on Ucil Lake.	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 Ucil Lake. Any altered wetlands should be mitigated within the lake's watershed.	WDNR	As needed
'Team up' with Wescott Lake landowners to leverage efforts in your shared watershed.	Ucil Lake landowners UWEX Lakes	Ongoing
Work with Town of Bagley to maintain and make improvements to boat launch to reduce erosion and runoff.	Town of Bagley WDNR	As needed



# Shorelands

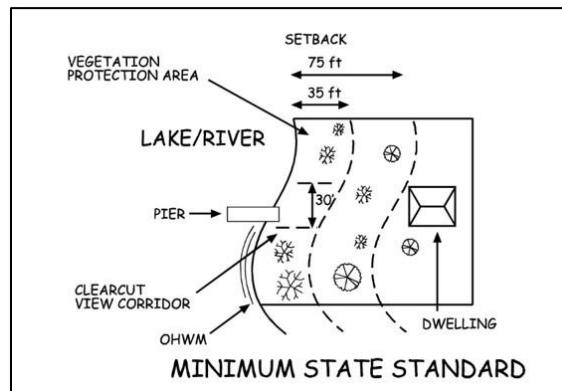
## Shorelands

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

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

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

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



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

## Be Part of the Solution!

### Follow Healthy Shoreland Practices

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

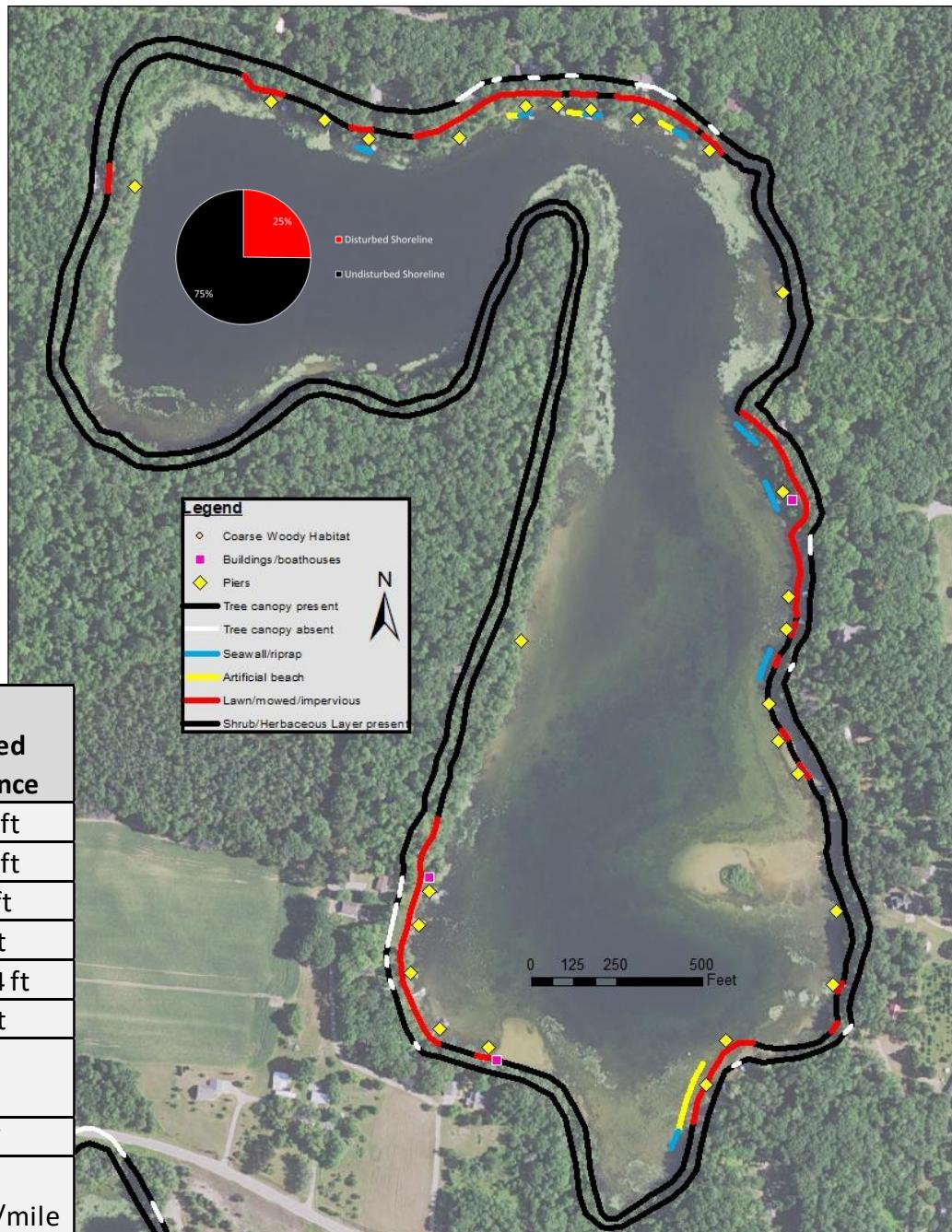
## Ucil Lake's Shorelands

To better understand the health of Ucil Lake, shorelands were evaluated. The survey inventoried shoreland vegetation, erosion, riprap, barren ground, seawalls, structures, and docks. About 1/4 of the 2.2 miles of shoreline is developed as homes and seasonal cottages. A total of 27 piers were counted during the survey (1/437 ft).

- With 47 lakefront lots, 1,410 feet (12%) of disturbed shoreland is permitted under NR115. Based on the 2018 shoreland inventory, ~25% (3,289 feet) of Ucil Lake's shoreland was disturbed. Coarse woody habitat was measured at 27 logs/mile (250 logs/mile recommended.)
- Ucil Lake had above average shoreland health compared to other lakes in the study. Many stretches are in good shape, but some portions have challenges that should be addressed.



Modifications, Structures, Erosion	Measured Occurrence
Artificial Beach	150 ft
Rip Rap	215 ft
Sea Wall	30 ft
Impervious Surface	0 ft
Mowed Lawn	2,894 ft
Erosion	0 ft
Nonconforming Buildings	0
Piers	27
Coarse Woody Habitat	27 logs/mile



# Shorelands

## 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.



# Shorelands

## Ucil Lake 2018 Shoreland Survey Results

Total lakefront footage	# Riparian lots	Total allowable (NR115) disturbed shoreland	Measured disturbed shoreland
11,785	47	1,410 feet (12%)	2,968 feet (25%)

**Goal 5. Ucil Lake shorelands will be healthy and protective of water quality and habitat. Over the next 5 years, 500 feet of mowed shoreland will be restored and 25 fish stick clusters will be installed. At least 20% (9-10) of properties will implement or maintain shoreline restoration practices (rain garden, native plantings, rock diversions, infiltration, fish sticks, etc.).**

***Objective 5.1 Shoreland property owners will be knowledgeable and make good decisions regarding shoreland practices.***

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 debris). 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 restorations 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	2022
Work with landowners of large undeveloped shoreline areas to develop protections for these areas such as conservation easement, purchase, or other strategies.		UWEX Lakes Knowles-Nelson Stewardship Fund	Ongoing
Identify willing property owners to install fish sticks to improve fish habitat (see <b>Fish Community</b> section).		WDNR-Tammie Paoli OCLCD	2022

Work with Town to design and install a water diversion structure at the boat ramp to keep runoff from flowing directly into lake.		Town of Bagley WDNR OCLCD	2022
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# Water Quality

## Water Quality

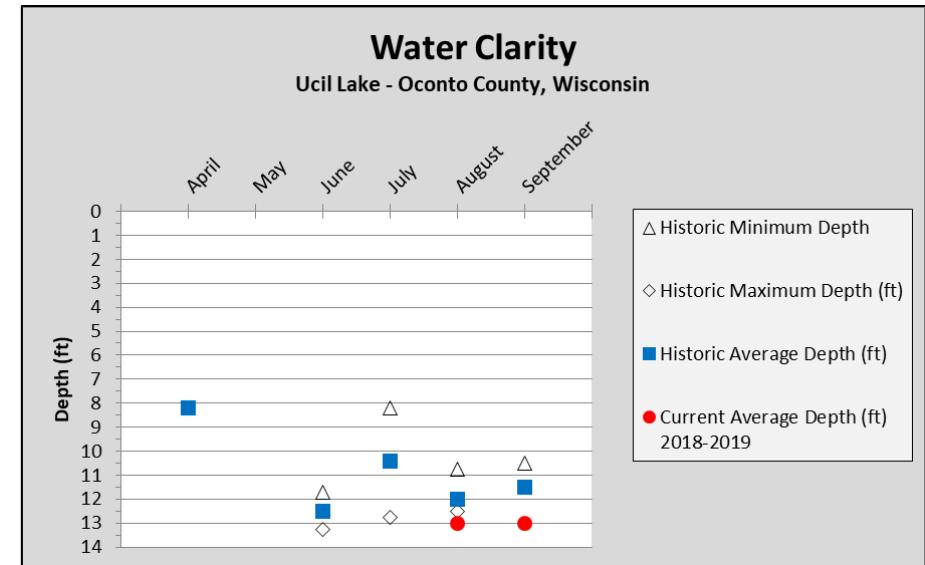
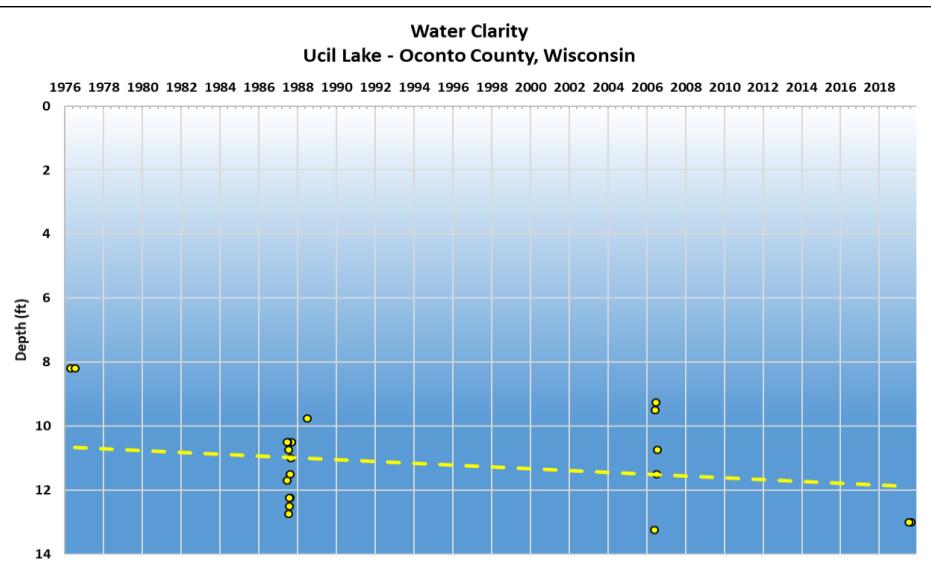
A variety of water chemistry measurements were used to characterize the water quality in Ucil Lake. Water quality was assessed during the 2018-2019 lake study and involved a number of measures including temperature, dissolved oxygen, water chemistry, and nutrients (phosphorus and nitrogen). Nutrients 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 Ucil Lake's water quality.

## Water Clarity

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

### Ucil Lake's Water Quality Summary

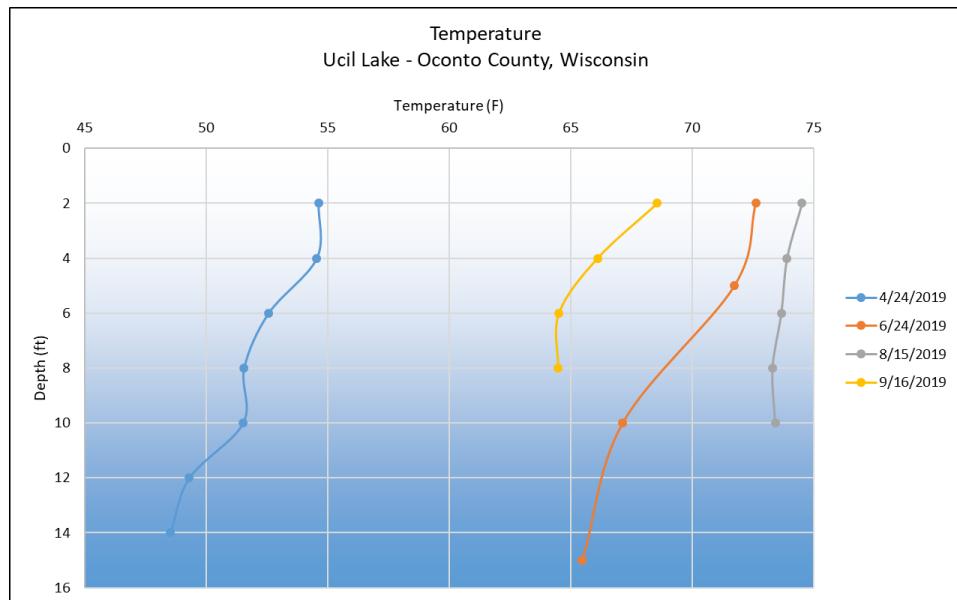
- ✓ Water clarity averaged 13 feet (considered very good), which is similar to historic measurements and suggests a very stable trend.
- ✓ Sufficient dissolved oxygen was present in at least the upper 8 feet of water at all times during the study.
- ✓ Concentrations of contaminants were all low during the study. Atrazine was not detected.
- ✓ Phosphorus concentrations remained well below the standard of 40 ug/L throughout the study. Inorganic nitrogen remained below concentrations that spur algal blooms.
- ✓ Water in Ucil Lake is hard (123 mg/L CaCO<sub>3</sub>), having an elevated level of dissolved minerals. This mineral enriched can water help buffer the impacts of phosphorus.



# Water Quality

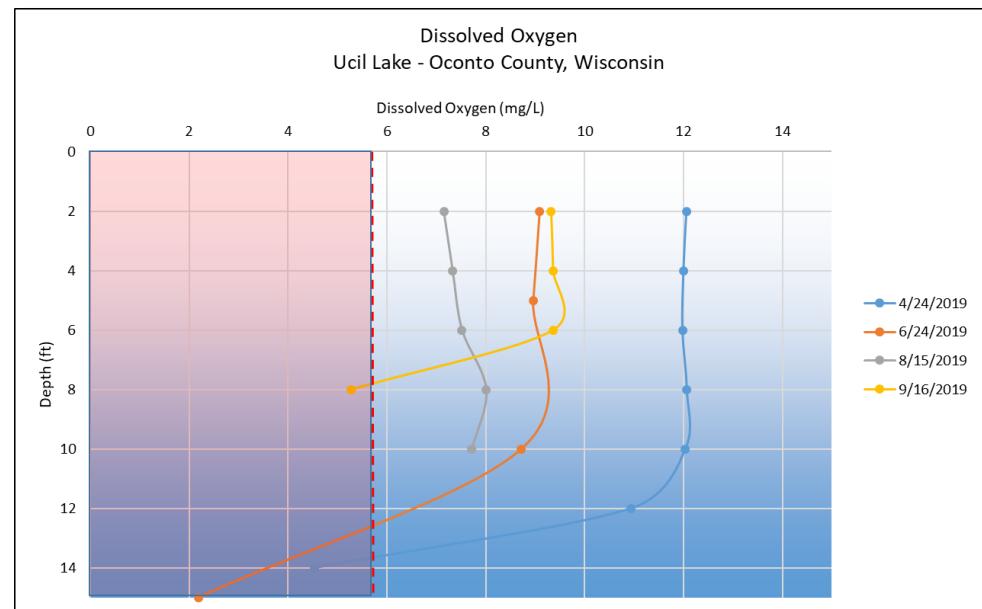
## Temperature and Dissolved oxygen

Temperature profiles for Ucil Lake illustrate a typical shallow, mixed lake with similar temperatures from the surface to depth at most times of the year.



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

Dissolved oxygen concentrations generally decline with depth as access to sources such as the atmosphere and growing plants is decreased. Oxygen levels in Ucil Lake are typically constant with depth until they reach an anoxic zone around 10 feet.



## Contaminants

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

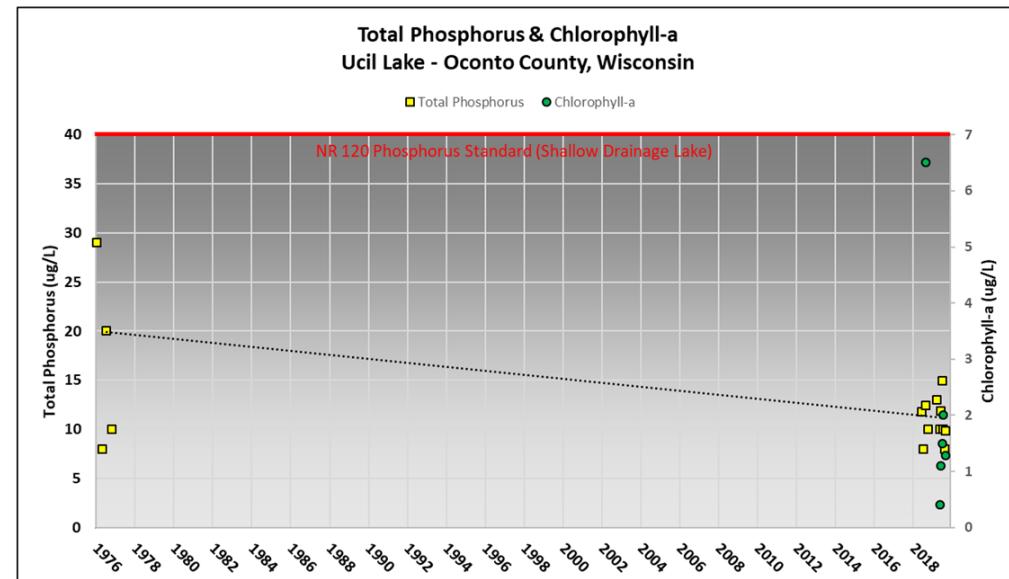
## Nutrients

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

# Water Quality

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. Shallow seepage lakes such as Ucil have a standard of 40 ug/L they must remain stay to remain healthy. The very limited data available show concentrations in Star to be well below this standard. Continued monitoring is necessary to verify this and establish reliable trends. Concentrations of 0.3 mg/L inorganic nitrogen in spring are sufficient to fuel algal blooms throughout the summer. Sources of inorganic nitrogen include animal waste, septic systems/waste treatment effluent, and fertilizers.

In Ucil Lake, phosphorus concentrations remained well below the threshold of 40 ug/L throughout the study. Chlorophyll-a



exceeded its threshold of 6 ug/L in one sample. Based on limited data collected during the two-year study, a decreasing trend in concentrations is suggested. Continued monitoring is recommended.

## *Be part of the solution!*

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

# Water Quality

## Goal 6. Maintain or improve water quality in Ucil Lake.

**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, 2022
Refrain from the use of fertilizers. Encourage soil testing to determine if amendments are necessary.		OC UWEX	Ongoing
Encourage the restoration of unmowed vegetation to slow and absorb runoff and pollutants (see <b>Shorelands</b> section).		UWEX Lakes	Ongoing

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

Actions	Lead person/group	Resources	Timeline
Identify volunteer(s) to participate in the Citizen Lake Monitoring Network to continue collection of water clarity and phosphorus data.		CLMN WDNR-Brenda Nordin	3+ times annually in summer
Submit all collected data to WDNR for archival and use by scientists and resource managers.		WDNR	Ongoing



# Recreation

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

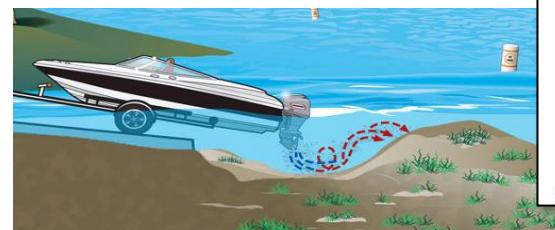
## PEOPLE AND THE LAKE

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

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

#### Objective 7.1 Cultivate an environment of compliance amongst lake users.

Actions	Lead person/group	Resources	Timeline
Work with other lake groups and towns to support a recreational officer and municipal court for enforcement of regulations, including 'No Wake' and safe boat operation.		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, etc.		Town of Bagley WDNR	Ongoing
Update signage at boat launch with interpretive kiosk.		UWEX Lakes	2022



community and suite of lake users are essential to maximize the effects of plan implementation.

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

## Recreation

According to survey responses, the lake is enjoyed for its scenery, wildlife, and fishing. There is one public boat launch located on Ucil Lake on the south end which is owned and maintained by the Town of Bagley. No Wake is allowed at any time.

# Communication & Organization

## Communication and Organization

Working together on common values will help to achieve the goals outlined in this plan. This will involve communication between individuals, the 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.

### Goal 8. Increase participation in lake stewardship.

#### *Objective 8.1 Develop opportunities and incentives for active participation in the management of Ucil Lake.*

<b>Actions</b>	<b>Lead person/group</b>	<b>Resources</b>	<b>Timeline</b>
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 Ucil Lake.		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 lake management plan and management activities to residents and users of the lake via email list and/or newsletter.			As needed
Host gatherings to learn about topics identified in this plan. Invite speakers or conduct demonstrations.		UWEX Lakes WDNR	Ongoing

#### *Objective 8.2. Organize stewards of Ucil Lake to maximize and access resources. Communicate with municipalities, agencies and organizations to leverage resources and opportunities.*

<b>Actions</b>	<b>Lead person/group</b>	<b>Resources</b>	<b>Timeline</b>
Explore creation of lake association or 'friends' group.	Interested citizens	UWEX Lakes	2022
Network with other lake groups by having Ucil Lake represented at OCLWA.		OCLWA	
Attend Wisconsin Lakes Convention or Lake Leaders Institute.		UWEX Lakes	April



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

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 Ucil 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.

# 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 regularly (annually) and discuss/document accomplishments and identification of goals/objectives for coming year.			Annually
Formally update this plan every 5 years.		OC UWEX UWEX Lakes WDNR	2026



# References

## REFERENCES

Boat Ed, 2013. The Handbook of Wisconsin Boating Laws and Responsibilities. Approved by Wisconsin Department of Natural Resources. [www.boat-ed.com](http://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, 2020. Ucil Lake Study Summary Report. Center for Watershed Science and Education-University of Wisconsin Stevens Point.

Haney, Ryan, 2020. State of the Oconto County Lakes. Center for Watershed Science and Education-University of Wisconsin-Stevens Point.

Paoli, Tammie, 2021. Ucil Lake Fishery, Oconto County. Presentation to Ucil Lake Planning Meeting, January 14, 2021. 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

## 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](mailto: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](http://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](mailto: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](mailto: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](mailto:ejudziew@uwsp.edu)

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

Best Management Practices (rain gardens, shoreland buffers, agricultural practices, runoff controls)  
Contact: Ken Dolata  
Oconto County Land Conservation Department  
410 ½ East Main Street, Lena, WI 54139  
Phone: 920-834-7152  
E-mail: [ken.dolata@co.oconto.wi.us](mailto: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](mailto: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](mailto: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](mailto: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](mailto: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](mailto:newlt@newlt.org)  
Website: [www.newlt.org](http://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](mailto: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](mailto:meg.galloway@wisconsin.gov)

Website: <http://dnr.wi.gov/org/water/wm/dsfn/dams/>

## Fertilizers/Soil Testing

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

## Fisheries Biologist (management, habitat)

Contact: Tammie Paoli  
Wisconsin Department of Natural Resources  
101 N. Ogden Road, Peshtigo, WI 54157  
Phone: 715-582-5052  
E-mail: [Tammie.Paoli@wisconsin.gov](mailto: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](mailto:Andrew.badje@wisconsin.gov)  
Website: [WFTS@wisconsin.gov](mailto:WFTS@wisconsin.gov)

## Grants

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

# Appendix A

Contact: Ken Dolata  
Oconto County Land Conservation Department  
410 ½ East Main Street, Lena, WI 54139  
Phone: 920-834-7152  
E-mail: [ken.dolata@co.oconto.wi.us](mailto: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](mailto:kmasarik@uwsp.edu)  
Website: <http://www.uwsp.edu/cnr/watersheds/>

Groundwater Levels/Quantity  
Contact: Ken Dolata  
Oconto County Land Conservation Department  
410 ½ East Main Street, Lena, WI 54139  
Phone: 920-834-7152  
E-mail: [ken.dolata@co.oconto.wi.us](mailto: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](mailto: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](mailto:uwexlakes@uwsp.edu)

Lake Groups – Friends, Associations, Districts  
Contact: Dale Mohr  
Oconto County UW- Extension  
301 Washington Street, Oconto, WI 54153

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

Contact: Patrick Goggin  
UWEX Lakes  
TNR 203, 800 Reserve St., Stevens Point, WI 54481  
Phone: 715-365-8943  
E-mail: [pgoggin@uwsp.edu](mailto: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](mailto: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](mailto:lakeinfo@wisconsinlakes.org)  
Website: <http://wisconsinlakes.org/>

Lake Levels  
See: Groundwater

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

# Appendix A

## Land Use Plans and Zoning Ordinances

Contact: Patrick Virtues

Oconto County Planning/Zoning/Solid Waste  
301 Washington Street, Oconto, WI 54153

Phone: 920-834-6827

E-mail: [Patrick.virtues@co.oconto.wi.us](mailto: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](mailto:Center.for.Land.Use.Education@uwsp.edu)

Website: <http://www.uwsp.edu/cnr/landcenter/>

## Nutrient Management Plans

Contact: Ken Dolata

Oconto County Land Conservation Department

410 ½ East Main Street, Lena, WI 54139

Phone: 920-834-7152

E-mail: [ken.dolata@co.oconto.wi.us](mailto: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](mailto: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](mailto:newlt@newlt.org)

Website: [www.newlt.org](http://www.newlt.org)

## Purchase of Land

Contact: Brenda Nordin

Wisconsin Department of Natural Resources

Phone: 920-360-3167

E-mail: [brenda.nordin@wisconsin.gov](mailto:brenda.nordin@wisconsin.gov)

Website: <http://dnr.wi.gov/topic/stewardship/>

## Rain Gardens and Stormwater Runoff

Contact: Ken Dolata

Oconto County Land Conservation Department

410 ½ East Main Street, Lena, WI 54139

Phone: 920-834-7152

E-mail: [ken.dolata@co.oconto.wi.us](mailto: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](mailto:Patrick.virtues@co.oconto.wi.us)

Website: <http://www.co.waushara.wi.us/zoning.htm>

## Shoreland Management

Contact: Ken Dolata

Oconto County Land Conservation Department

410 ½ East Main Street, Lena, WI 54139

Phone: 920-834-7152

E-mail: [ken.dolata@co.oconto.wi.us](mailto:ken.dolata@co.oconto.wi.us)

Website: <http://www.co.oconto.wi.us/departments/>

## Shoreland Vegetation

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

## Shoreland Zoning Ordinances

See: Land Use Plans and Zoning Ordinances

# Appendix A

## Soil Fertility Testing

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

E-mail: [ejudziew@uwsp.edu](mailto: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](mailto:Tammie.Paoli@wisconsin.gov)  
Website: <http://dnr.wi.gov/fish/>

## Water Quality Monitoring

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

# Appendix B

## Appendix B. Rapid Response Plan

### REPORTING A SUSPECTED INVASIVE SPECIES

#### **1. Collect specimens or take photos.**

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

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

**-OR-**

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

**-OR-**

Take detailed photos (digital or film).

#### **2. Note the location where the specimen was found.**

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

Provide one or more of the following:

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

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

#### **3. Gather information to aid in positive species identification.**

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

# Appendix B

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

**Wisconsin Dept. Natural Resources**

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

**UW-Stevens Point Herbarium**

301 Trainer Natural Resources Building  
800 Reserve Street  
Stevens Point, WI 54481  
Phone: 715-346-4248  
E-Mail: [ejudziew@uwsp.edu](mailto: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](mailto:invasiveplants@mailplus.wisc.edu)

# Appendix C

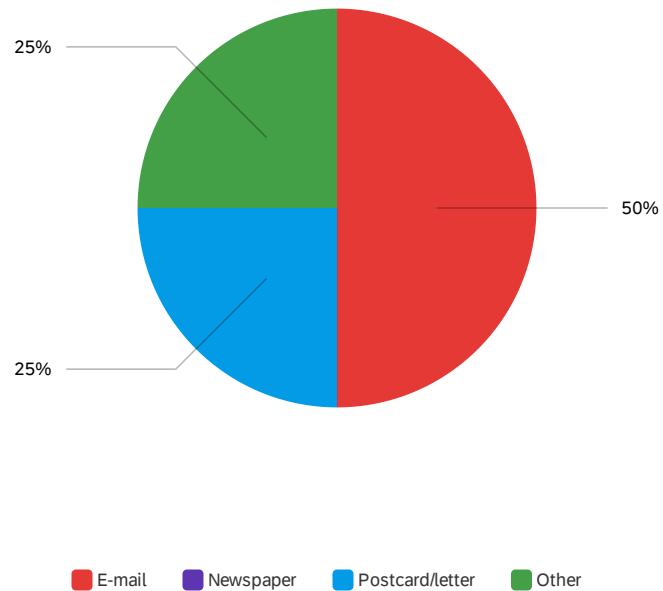
## **Appendix C. Lake User Survey Results**

# Default Report

Ucili Lake Survey - Oconto County Lakes Project

March 24, 2021 10:14 AM MDT

## Q2 - How did you hear about this survey?

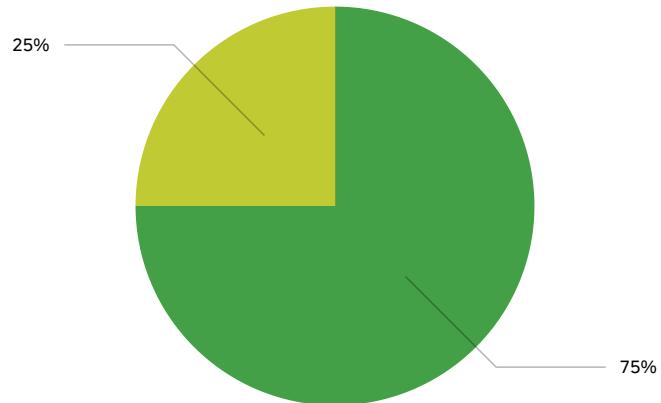


#	Field	Choice Count
1	E-mail	50% 2
2	Newspaper	0% 0
3	Postcard/letter	25% 1
4	Other	25% 1

4

Showing rows 1 - 5 of 5

### Q3 - Do you own or rent property...

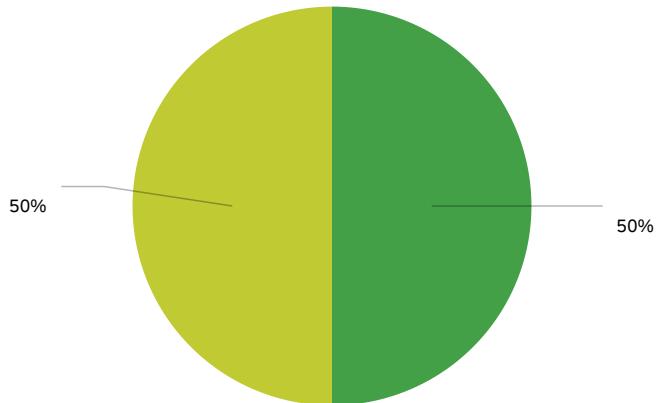


■ Around the lake ■ Less than 1/2 mile from the lake ■ Near the lake, but more than 1/2 mile away ■ I do not own or rent property near the lake

#	Field	Choice	Count
1	Around the lake	75%	3
2	Less than 1/2 mile from the lake	25%	1
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
			4

Showing rows 1 - 5 of 5

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

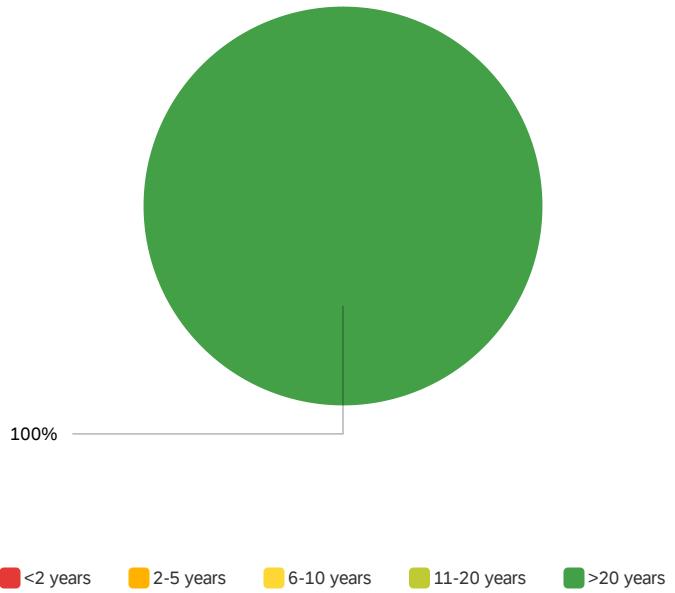


■ Permanent residence ■ Part-time residence ■ I do not own or rent property near the lake

#	Field	Choice Count
1	Permanent residence	50% 1
2	Part-time residence	50% 1
3	I do not own or rent property near the lake	0% 0
		2

Showing rows 1 - 4 of 4

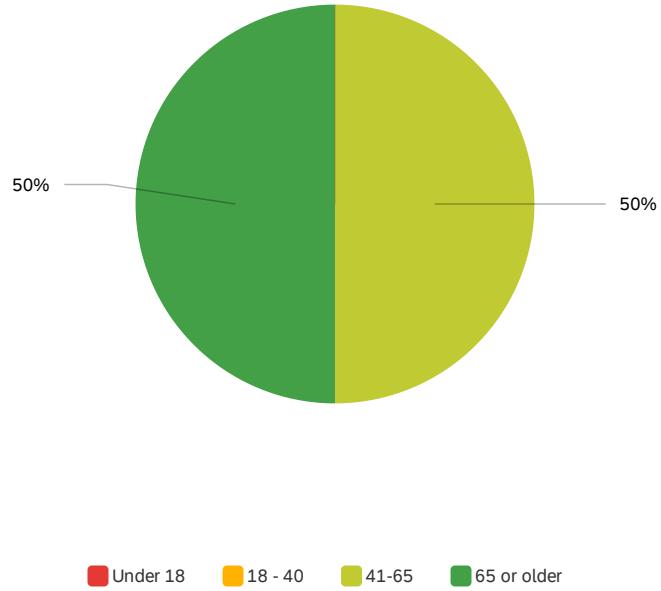
## Q5 - How long have you lived on, visited or recreated on the lake?



#	Field	Choice Count
1	<2 years	0% 0
2	2-5 years	0% 0
3	6-10 years	0% 0
4	11-20 years	0% 0
5	>20 years	100% 4
		4

Showing rows 1 - 6 of 6

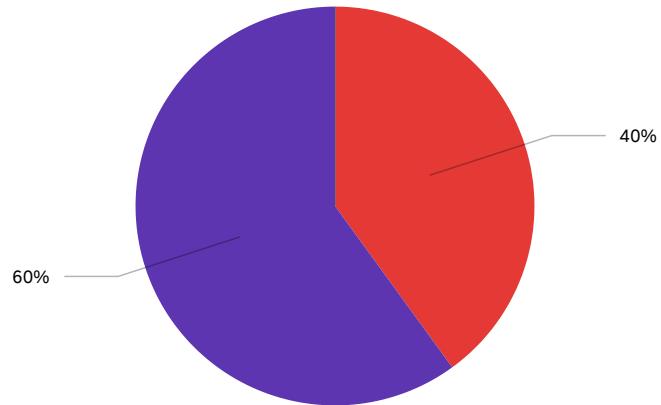
## Q8 - Which category below includes your age?



#	Field	Choice Count
1	Under 18	0% 0
2	18 - 40	0% 0
3	41-65	50% 2
4	65 or older	50% 2
		4

Showing rows 1 - 5 of 5

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

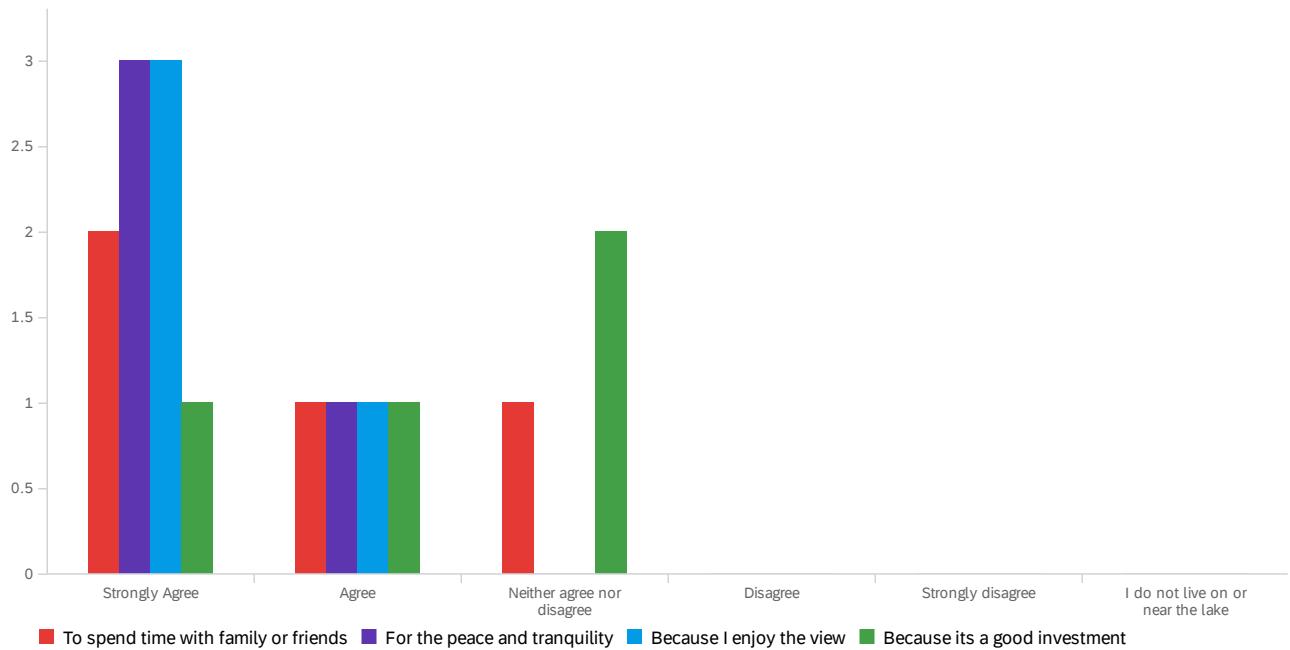


■ Alone ■ With family ■ With friends ■ With members of a club

#	Field	Choice Count
1	Alone	40% 2
2	With family	60% 3
3	With friends	0% 0
4	With members of a club	0% 0
		5

Showing rows 1 - 5 of 5

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



#	Field	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I do not live on or near the lake	Total
1	To spend time with family or friends	50% 2	25% 1	25% 1	0% 0	0% 0	0% 0	4
2	For the peace and tranquility	75% 3	25% 1	0% 0	0% 0	0% 0	0% 0	4
3	Because I enjoy the view	75% 3	25% 1	0% 0	0% 0	0% 0	0% 0	4
4	Because its a good investment	25% 1	25% 1	50% 2	0% 0	0% 0	0% 0	4

Showing rows 1 - 4 of 4

## Q11 - What do you value most about Ucil Lake?

What do you value most about Ucil Lake?

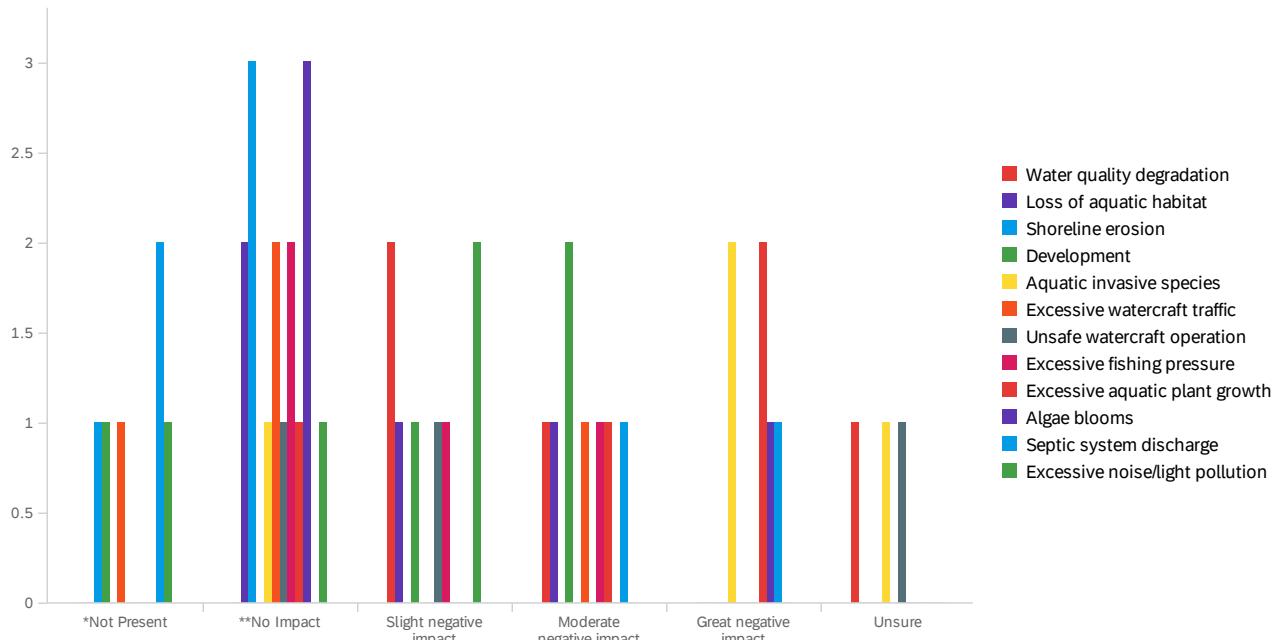
It's friendly neighbors and tranquility

the people around it.

Serenity of setting

Fishing

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

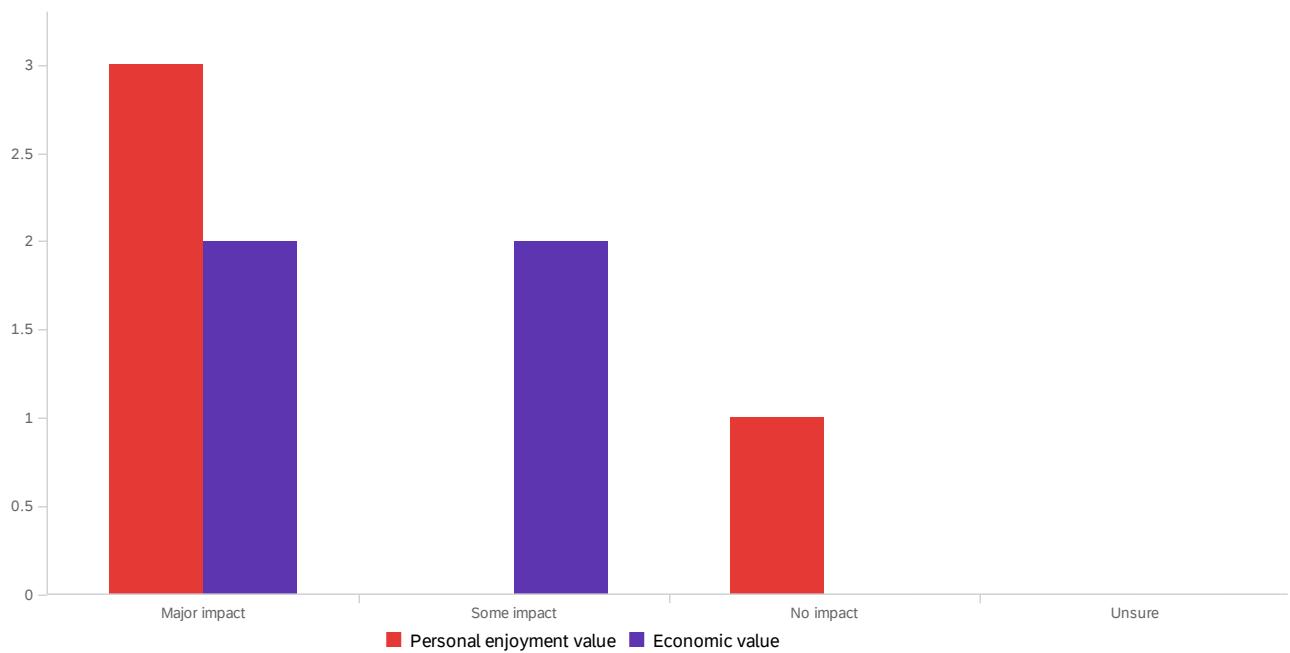


#	Field	*Not Present	**No Impact	Slight negative impact	Moderate negative impact	Great negative impact	Unsure	Total
1	Water quality degradation	0% 0	0% 0	50% 2	25% 1	0% 0	25% 1	4
2	Loss of aquatic habitat	0% 0	50% 2	25% 1	25% 1	0% 0	0% 0	4
3	Shoreline erosion	25% 1	75% 3	0% 0	0% 0	0% 0	0% 0	4
4	Development	25% 1	0% 0	25% 1	50% 2	0% 0	0% 0	4
5	Aquatic invasive species	0% 0	25% 1	0% 0	0% 0	50% 2	25% 1	4
6	Excessive watercraft traffic	25% 1	50% 2	0% 0	25% 1	0% 0	0% 0	4
7	Unsafe watercraft operation	0% 0	33% 1	33% 1	0% 0	0% 0	33% 1	3
8	Excessive fishing pressure	0% 0	50% 2	25% 1	25% 1	0% 0	0% 0	4

#	Field	*Not Present	**No Impact	Slight negative impact	Moderate negative impact	Great negative impact	Unsure	Total
9	Excessive aquatic plant growth	0% 0	25% 1	0% 0	25% 1	50% 2	0% 0	4
10	Algae blooms	0% 0	75% 3	0% 0	0% 0	25% 1	0% 0	4
11	Septic system discharge	50% 2	0% 0	0% 0	25% 1	25% 1	0% 0	4
12	Excessive noise/light pollution	25% 1	25% 1	50% 2	0% 0	0% 0	0% 0	4

Showing rows 1 - 12 of 12

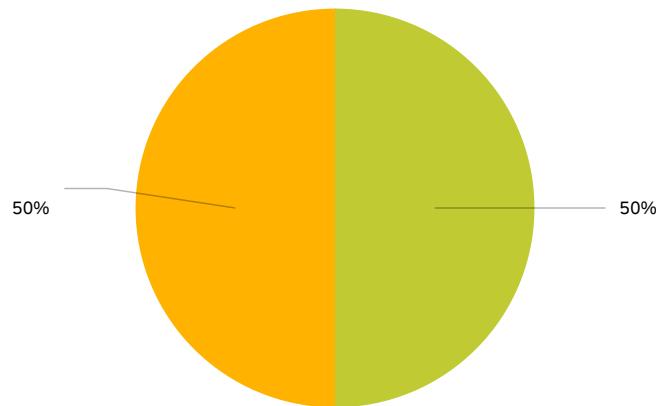
## Q16 - How much impact does the water quality of Ucil Lake have on the following?



#	Field	Major impact	Some impact	No impact	Unsure	Total
1	Personal enjoyment value	75% 3	0% 0	25% 1	0% 0	4
2	Economic value	50% 2	50% 2	0% 0	0% 0	4

Showing rows 1 - 2 of 2

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



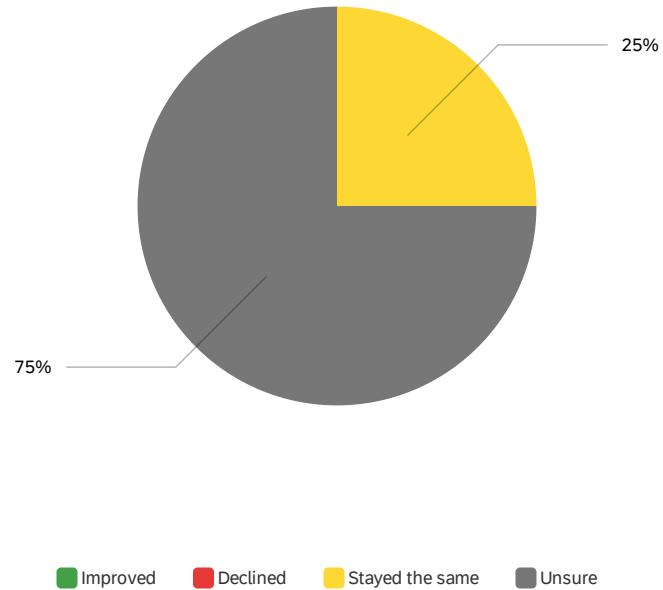
- Beautiful, could not be any nicer      ■ Very minor aesthetic problems; excellent for swimming and boating enjoyment
- Enjoyment of the lake is moderately impaired because of algae or other water quality problems
- Enjoyment of the lake is substantially impaired because of algae or other water quality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

#	Field	Choice Count
1	Beautiful, could not be any nicer	0% 0
2	Very minor aesthetic problems; excellent for swimming and boating enjoyment	50% 2
3	Enjoyment of the lake is moderately impaired because of algae or other water quality problems	50% 2
4	Enjoyment of the lake is substantially impaired because of algae or other water quality problems	0% 0

4

Showing rows 1 - 5 of 5

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

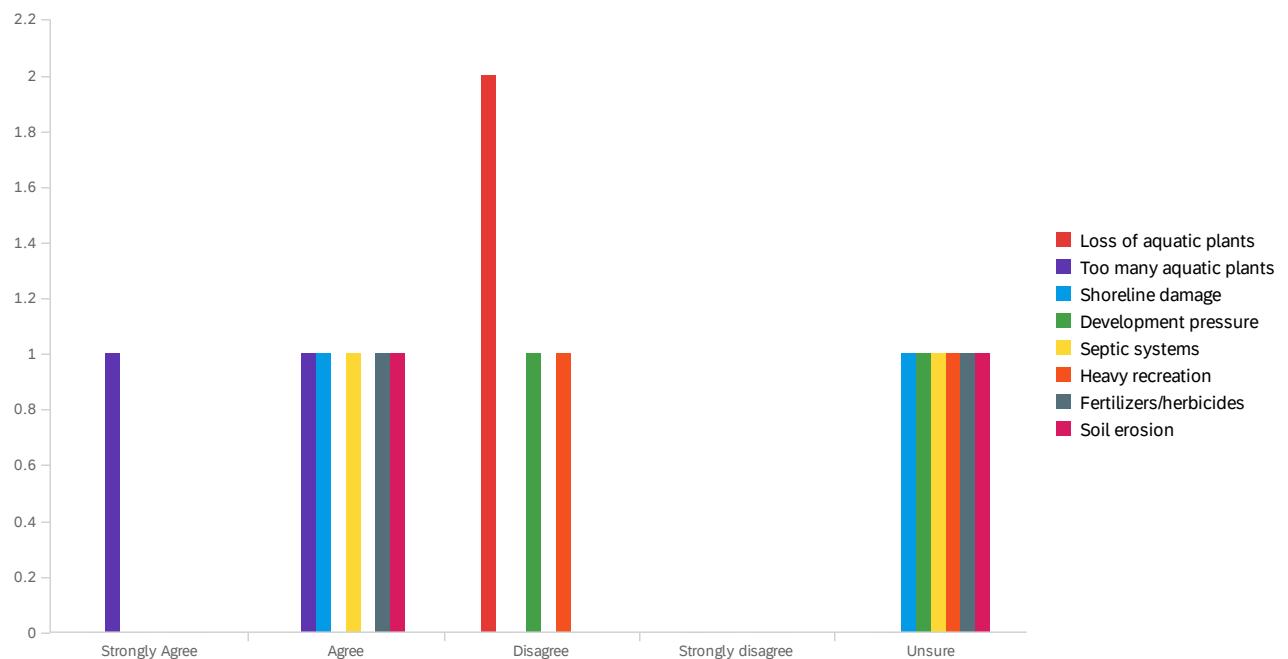


#	Field	Choice	Count
1	Improved	0%	0
2	Declined	0%	0
3	Stayed the same	25%	1
4	Unsure	75%	3

4

Showing rows 1 - 5 of 5

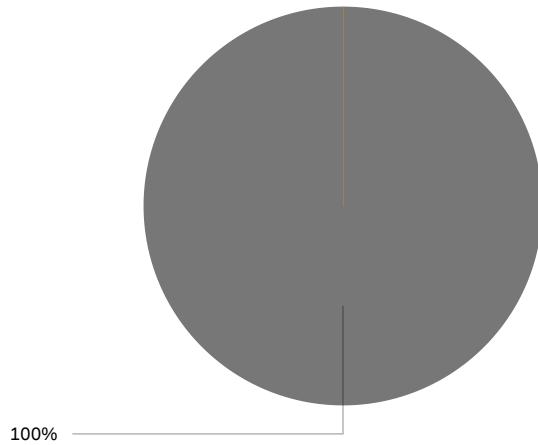
## Q19 - If you think it has declined, what, in your opinion, are the primary causes?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Loss of aquatic plants	0% 0	0% 0	100% 2	0% 0	0% 0	2
2	Too many aquatic plants	50% 1	50% 1	0% 0	0% 0	0% 0	2
3	Shoreline damage	0% 0	50% 1	0% 0	0% 0	50% 1	2
4	Development pressure	0% 0	0% 0	50% 1	0% 0	50% 1	2
5	Septic systems	0% 0	50% 1	0% 0	0% 0	50% 1	2
6	Heavy recreation	0% 0	0% 0	50% 1	0% 0	50% 1	2
7	Fertilizers/herbicides	0% 0	50% 1	0% 0	0% 0	50% 1	2
8	Soil erosion	0% 0	50% 1	0% 0	0% 0	50% 1	2

Showing rows 1 - 8 of 8

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

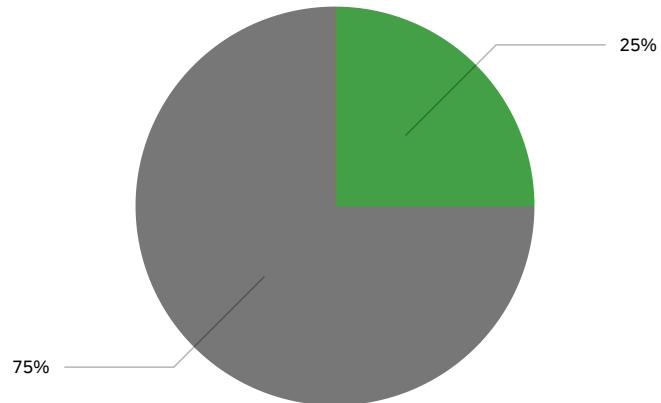


■ Lawn ■ Garden ■ Agricultural fields ■ Other ■ I do not use fertilizers or herbicides on my land

#	Field	Choice Count
1	Lawn	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% 4
		4

Showing rows 1 - 6 of 6

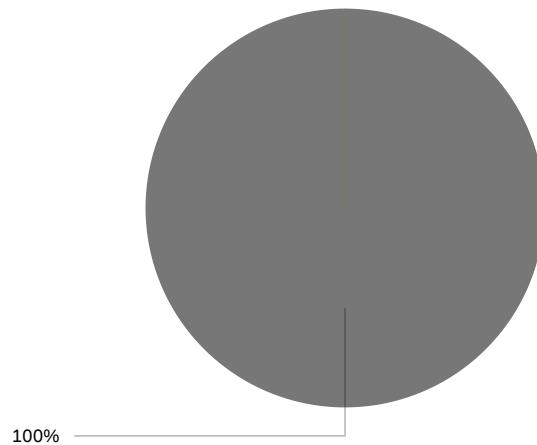
## Q21 - Do you use fertilizer that contains phosphorus?



■ Yes ■ No ■ I do not use fertilizer on my land

#	Field	Choice	Count
1	Yes	0%	0
2	No	25%	1
4	I do not use fertilizer on my land	75%	3
Showing rows 1 - 4 of 4			4

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

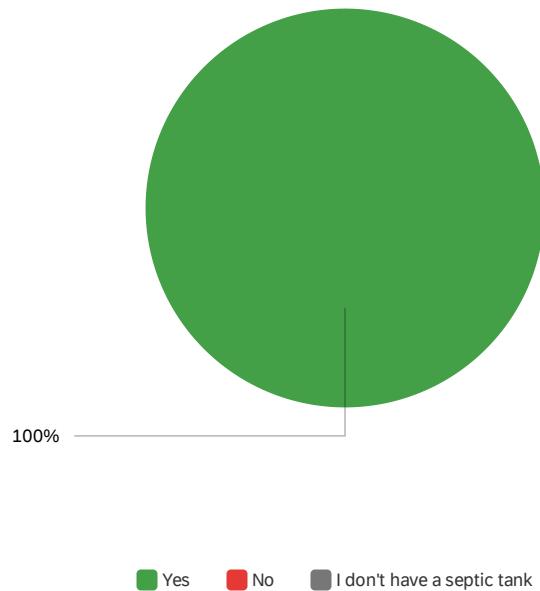


■ Yes   ■ No   ■ I do not use fertilizer

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

Showing rows 1 - 4 of 4

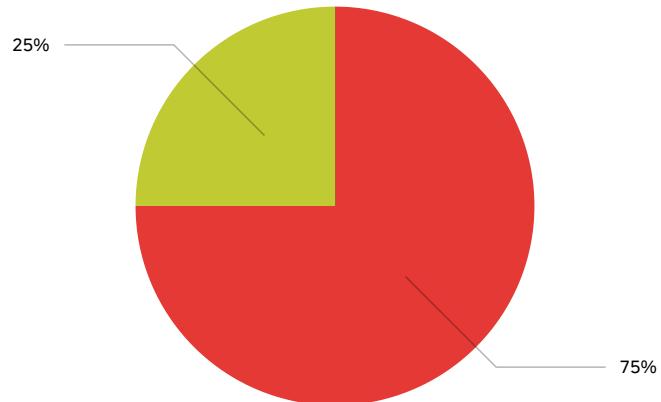
Q22 - Do you have your septic tank pumped regularly (at least every 3 years)?



#	Field	Choice Count
1	Yes	100% 4
2	No	0% 0
3	I don't have a septic tank	0% 0
4		

Showing rows 1 - 4 of 4

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

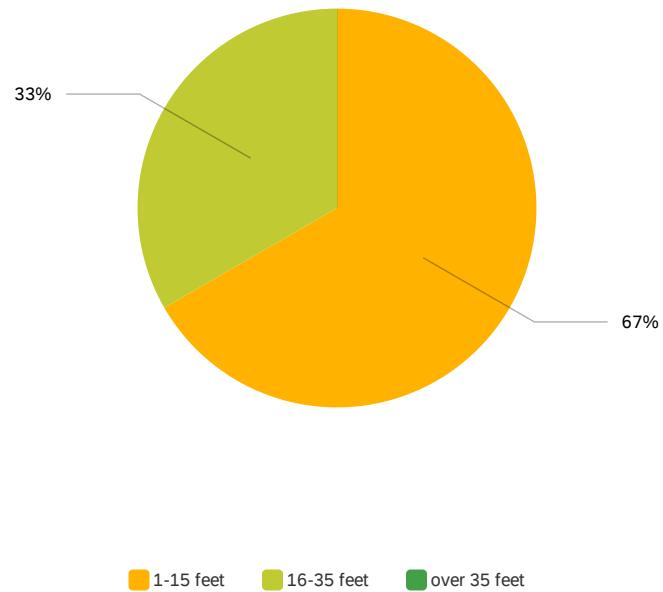


■ Mowed or weed-whacked ■ Natural except for access path ■ Restored shoreland/planted/landscaped

#	Field	Choice Count
1	Mowed or weed-whacked	75% 3
2	Natural except for access path	25% 1
3	Restored shoreland/planted/landscaped	0% 0
		4

Showing rows 1 - 4 of 4

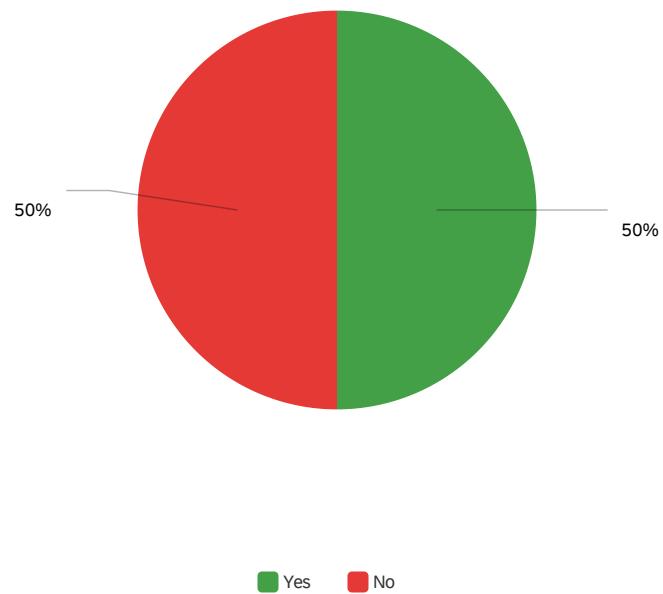
Q26 - If you have unmowed shoreland vegetation, how far inland from the water's edge does it extend?



#	Field	Choice	Count
1	1-15 feet	67%	2
2	16-35 feet	33%	1
3	over 35 feet	0%	0
			3

Showing rows 1 - 4 of 4

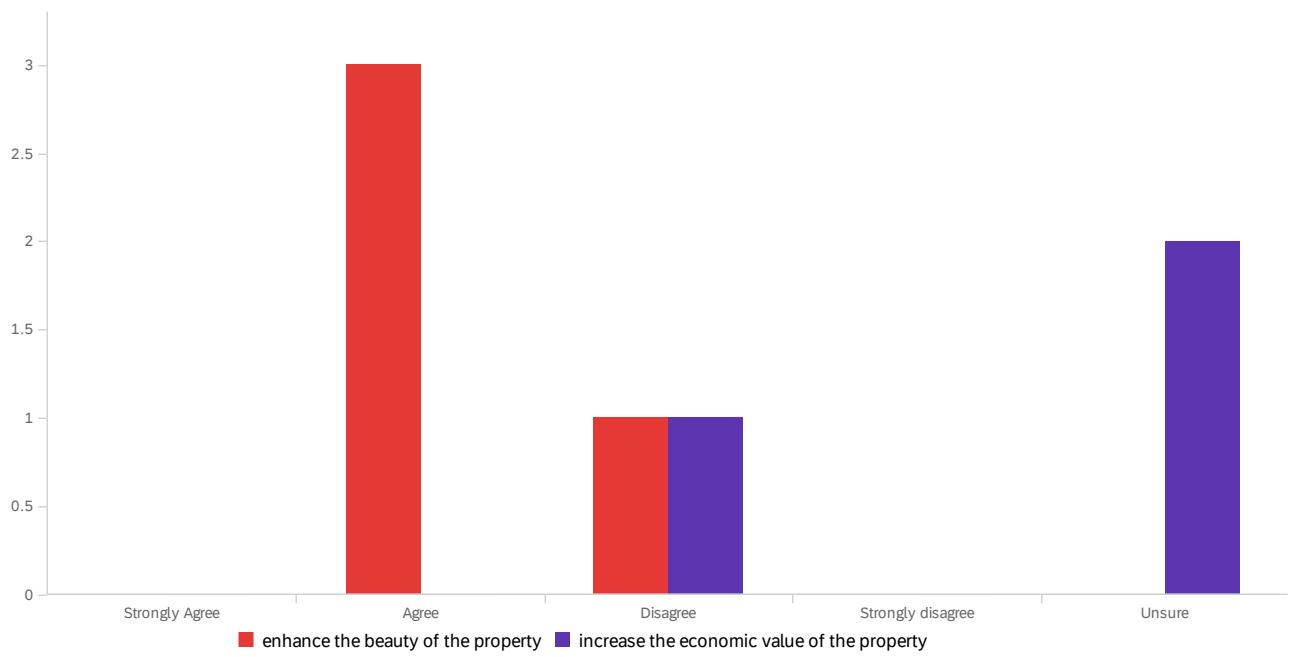
Q31 - Do you have woody structure such as fallen trees or large branches in the shallow water along your property?



#	Field	Choice	Count
1	Yes	50%	2
2	No	50%	2
			4

Showing rows 1 - 3 of 3

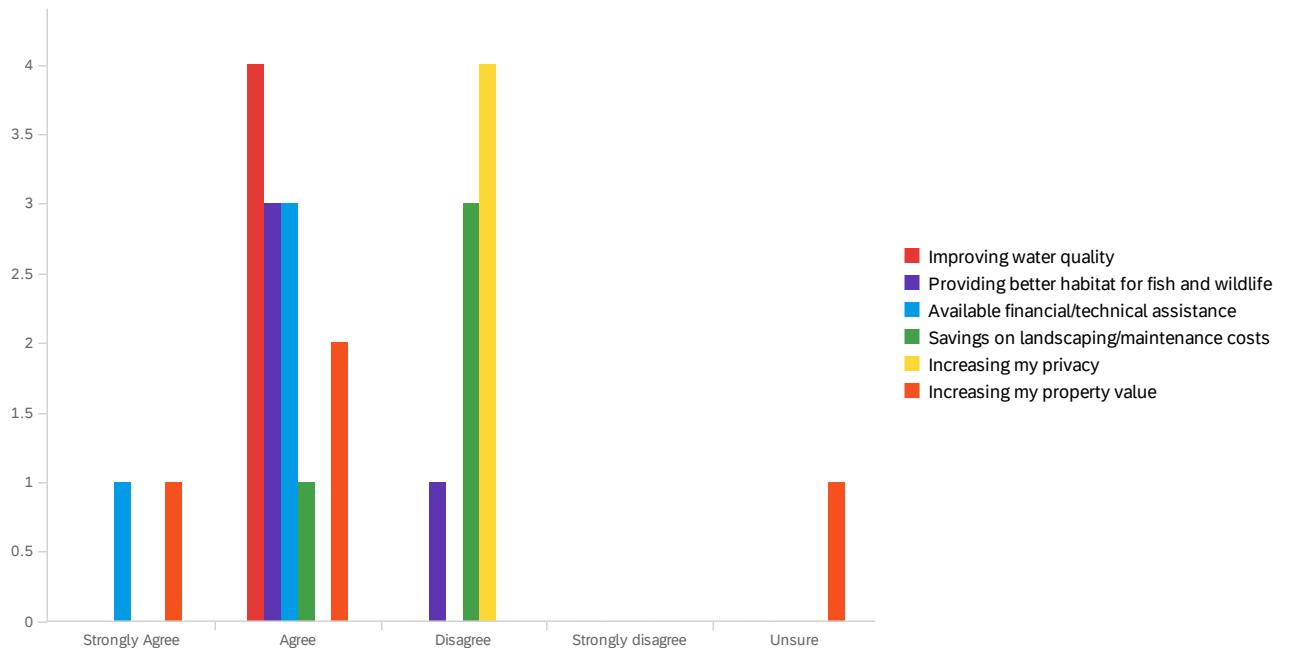
## Q27 - In your opinion, does shoreland vegetation...



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	enhance the beauty of the property	0% 0	75% 3	25% 1	0% 0	0% 0	4
2	increase the economic value of the property	0% 0	0% 0	33% 1	0% 0	67% 2	3

Showing rows 1 - 2 of 2

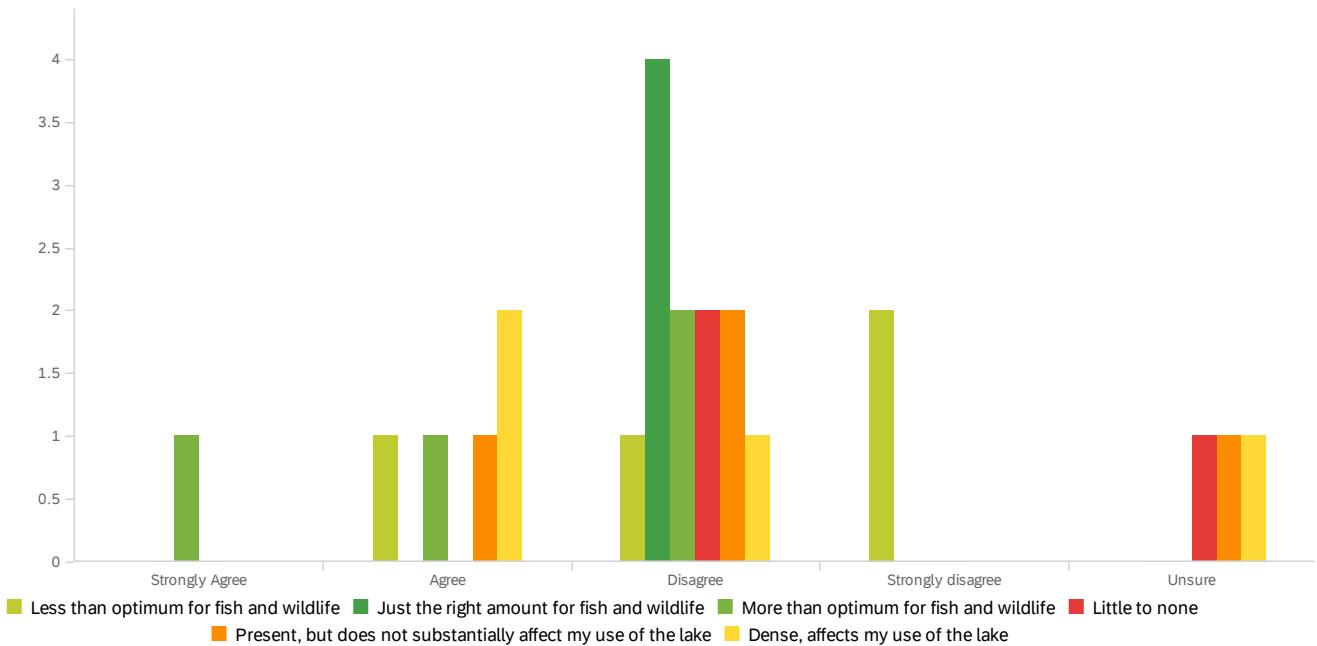
## Q28 - What might motivate you to change how you manage your shoreland?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Improving water quality	0% 0	100% 4	0% 0	0% 0	0% 0	4
2	Providing better habitat for fish and wildlife	0% 0	75% 3	25% 1	0% 0	0% 0	4
3	Available financial/technical assistance	25% 1	75% 3	0% 0	0% 0	0% 0	4
4	Savings on landscaping/maintenance costs	0% 0	25% 1	75% 3	0% 0	0% 0	4
5	Increasing my privacy	0% 0	0% 0	100% 4	0% 0	0% 0	4
6	Increasing my property value	25% 1	50% 2	0% 0	0% 0	25% 1	4

Showing rows 1 - 6 of 6

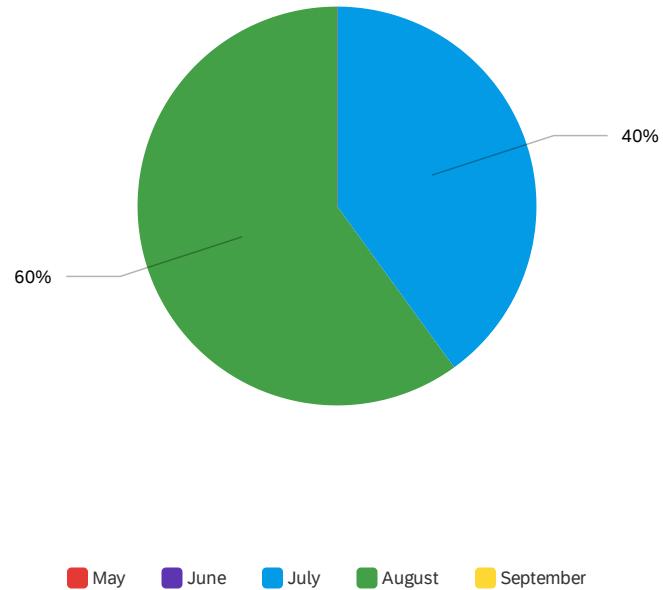
Q32 - In your opinion, which statement best describes the amount of aquatic plant growth in Ucil Lake?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Less than optimum for fish and wildlife	0% 0	25% 1	25% 1	50% 2	0% 0	4
2	Just the right amount for fish and wildlife	0% 0	0% 0	100% 4	0% 0	0% 0	4
3	More than optimum for fish and wildlife	25% 1	25% 1	50% 2	0% 0	0% 0	4
4	Little to none	0% 0	0% 0	67% 2	0% 0	33% 1	3
5	Present, but does not substantially affect my use of the lake	0% 0	25% 1	50% 2	0% 0	25% 1	4
6	Dense, affects my use of the lake	0% 0	50% 2	25% 1	0% 0	25% 1	4

Showing rows 1 - 6 of 6

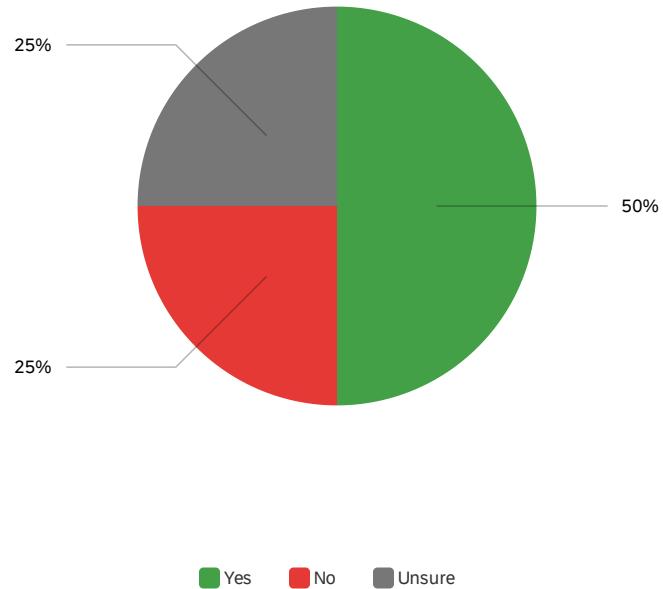
Q33 - If you think the plant growth in Ucil Lake is dense, what month(s) do the problems occur? Check all that apply.



#	Field	Choice	Count
1	May	0%	0
2	June	0%	0
3	July	40%	2
4	August	60%	3
5	September	0%	0
			5

Showing rows 1 - 6 of 6

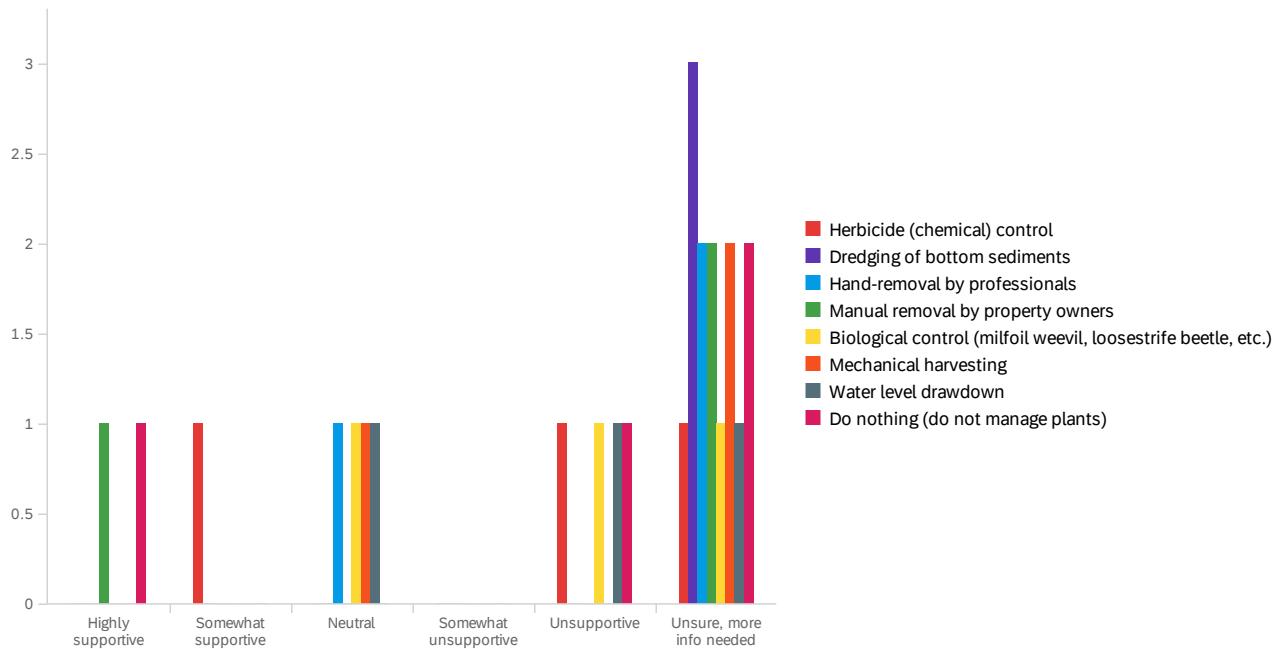
## Q34 - Do you believe aquatic plant control is needed on Ucil Lake?



#	Field	Choice Count
1	Yes	50% 2
2	No	25% 1
3	Unsure	25% 1
4		

Showing rows 1 - 4 of 4

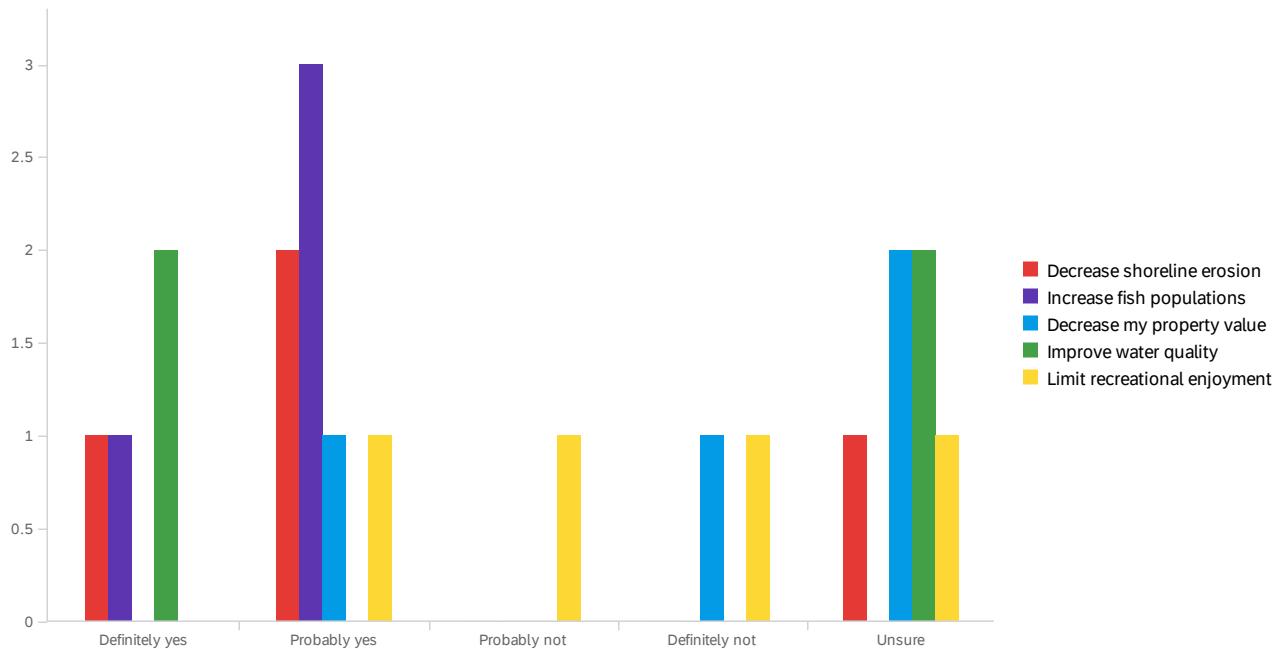
Q35 - What is your level of support for the responsible use of the following techniques to manage aquatic plants on Ucil Lake?



#	Field	Highly supportive	Somewhat supportive	Neutral	Somewhat unsupportive	Unsupportive	Unsure, more info needed	Total
1	Herbicide (chemical) control	0% 0	33% 1	0% 0	0% 0	33% 1	33% 1	3
2	Dredging of bottom sediments	0% 0	0% 0	0% 0	0% 0	0% 0	100% 3	3
3	Hand-removal by professionals	0% 0	0% 0	33% 1	0% 0	0% 0	67% 2	3
4	Manual removal by property owners	33% 1	0% 0	0% 0	0% 0	0% 0	67% 2	3
5	Biological control (milfoil weevil, loosestrife beetle, etc.)	0% 0	0% 0	33% 1	0% 0	33% 1	33% 1	3
6	Mechanical harvesting	0% 0	0% 0	33% 1	0% 0	0% 0	67% 2	3
7	Water level drawdown	0% 0	0% 0	33% 1	0% 0	33% 1	33% 1	3
8	Do nothing (do not manage plants)	25% 1	0% 0	0% 0	0% 0	25% 1	50% 2	4

Showing rows 1 - 8 of 8

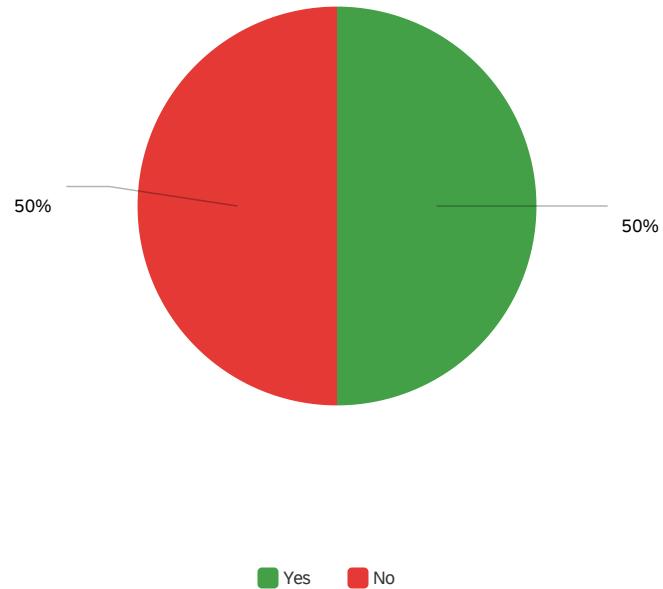
Q36 - In your opinion, does establishing or maintaining native vegetation in the water in the near-shore area...



#	Field	Definitely yes	Probably yes	Probably not	Definitely not	Unsure	Total
1	Decrease shoreline erosion	25% 1	50% 2	0% 0	0% 0	25% 1	4
2	Increase fish populations	25% 1	75% 3	0% 0	0% 0	0% 0	4
3	Decrease my property value	0% 0	25% 1	0% 0	25% 1	50% 2	4
4	Improve water quality	50% 2	0% 0	0% 0	0% 0	50% 2	4
5	Limit recreational enjoyment	0% 0	25% 1	25% 1	25% 1	25% 1	4

Showing rows 1 - 5 of 5

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



#	Field	Choice Count
1	Yes	50% 2
2	No	50% 2
4		

Showing rows 1 - 3 of 3

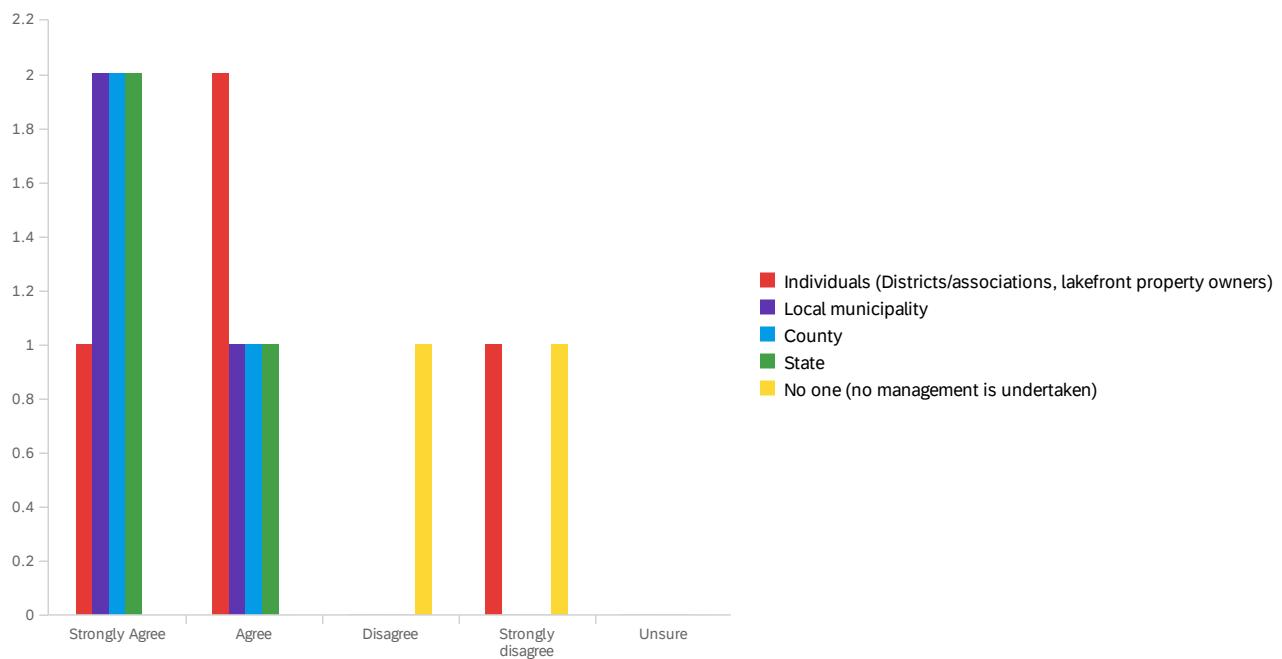
Q39 - After you have been to another lake, do you clean your.... before bringing it back to Ucil Lake?



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

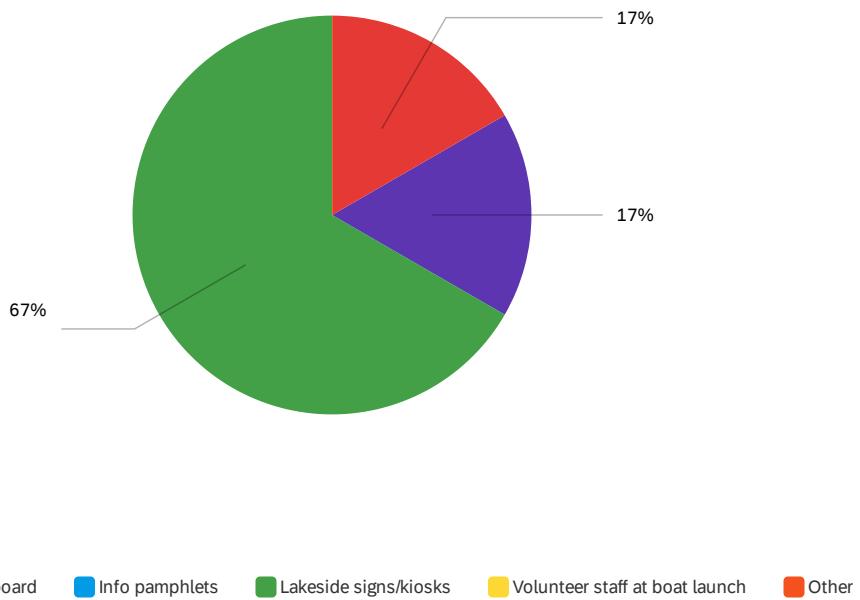
## Q40 - Who should pay the cost of managing invasive aquatic plants?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Individuals (Districts/associations, lakefront property owners)	25% 1	50% 2	0% 0	25% 1	0% 0	4
2	Local municipality	67% 2	33% 1	0% 0	0% 0	0% 0	3
3	County	67% 2	33% 1	0% 0	0% 0	0% 0	3
4	State	67% 2	33% 1	0% 0	0% 0	0% 0	3
5	No one (no management is undertaken)	0% 0	0% 0	50% 1	50% 1	0% 0	2

Showing rows 1 - 5 of 5

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



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

#	Field	Choice Count
1	Newspaper	17% 1
2	Billboard	17% 1
3	Info pamphlets	0% 0
4	Lakeside signs/kiosks	67% 4
5	Volunteer staff at boat launch	0% 0
6	Other	0% 0
		6

Showing rows 1 - 7 of 7

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

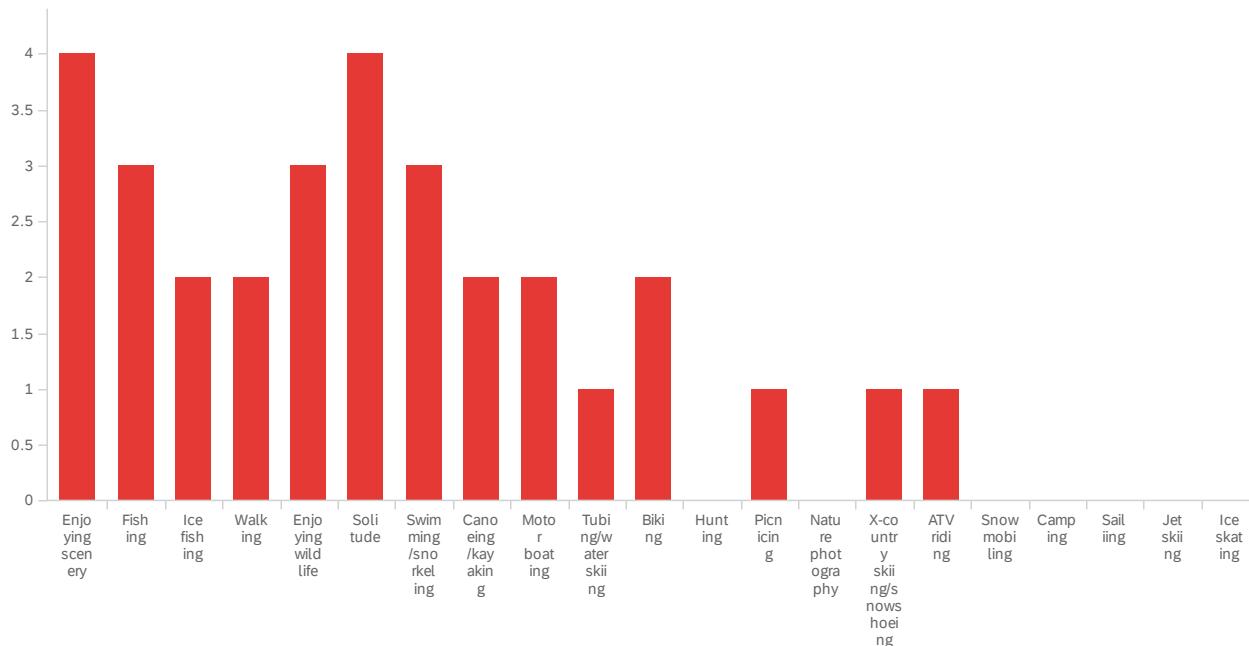
In your opinion, what should be done to restore, maintain or improve Ucil L...

I'm not sure. You are the experts. Weed problem is getting worse over the years I have been on the lake.

Need more education. There is a lot of sediment but do not know if that is a good or bad thing for the ecosystem of the lake.

Catch and release large crappies especially during spring

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



#	Field	Choice Count
1	Enjoying scenery	13% 4
2	Fishing	10% 3
3	Ice fishing	6% 2
4	Walking	6% 2
5	Enjoying wildlife	10% 3
6	Solitude	13% 4
7	Swimming/snorkeling	10% 3
8	Canoeing/kayaking	6% 2
9	Motor boating	6% 2
10	Tubing/water skiing	3% 1
11	Biking	6% 2
12	Hunting	0% 0
13	Picnicing	3% 1
14	Nature photography	0% 0
15	X-country skiing/snowshoeing	3% 1

#	Field	Choice Count
16	ATV riding	3% 1
17	Snowmobiling	0% 0
18	Camping	0% 0
19	Sailing	0% 0
20	Jet skiing	0% 0
21	Ice skating	0% 0
		31

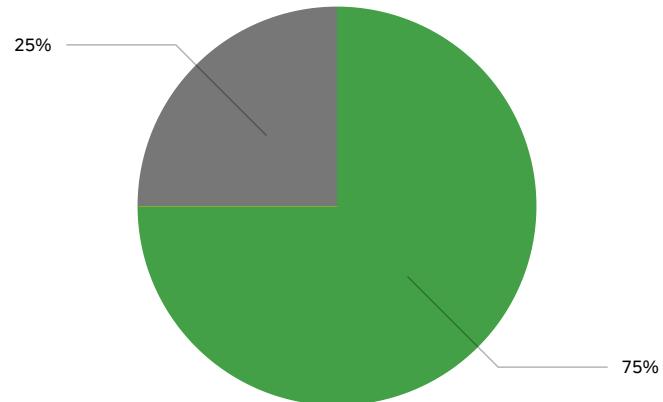
Showing rows 1 - 22 of 22

#### Q46 - Other recreational activities not included above:

Other recreational activities not included above:

---

Q47 - "No Wake" is allowed on Ucili Lake between dusk and dawn. Do you like the current "No Wake" rules as they are?



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

#	Field	Choice Count
1	Definitely Yes	75% 3
2	Yes, most of the time	0% 0
3	No, not most of the time	0% 0
4	Definitely No	0% 0
5	Unsure	25% 1
		4

Showing rows 1 - 6 of 6

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

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

---

The association has ruled boating between 10 am and 4 pm. Otherwise slow speed boating

No wake sign in the channel separating north and south lake basins.

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

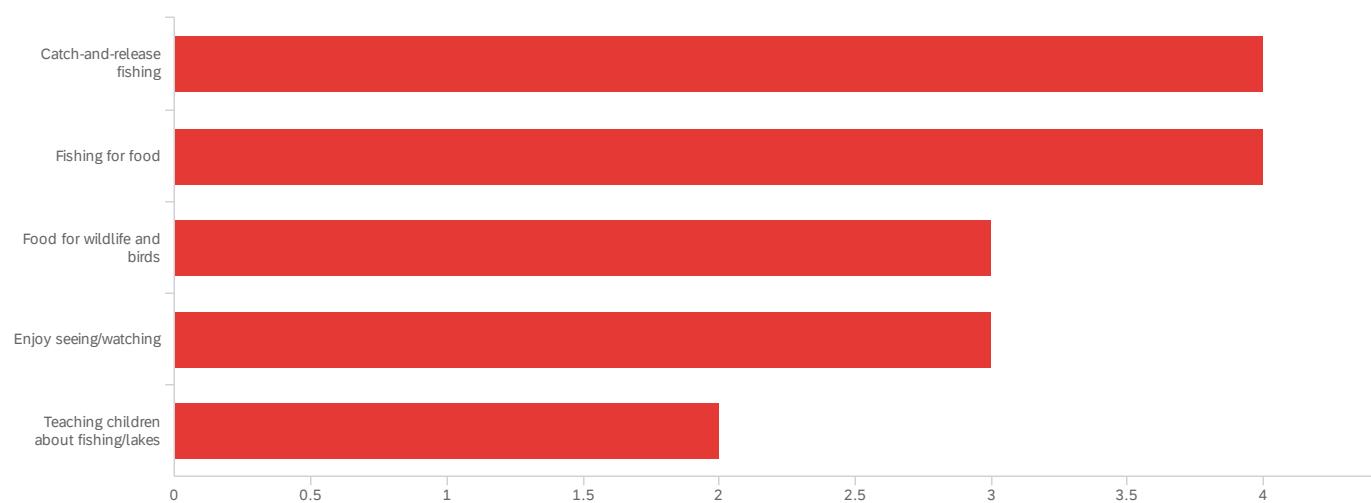
What could be done to improve your recreation experience on Ucil Lake?

Not sure.

better fish management. planting of fish etc. Many stunted fish in the lake.

Inform jet skiers to stay 50 yards from shore.

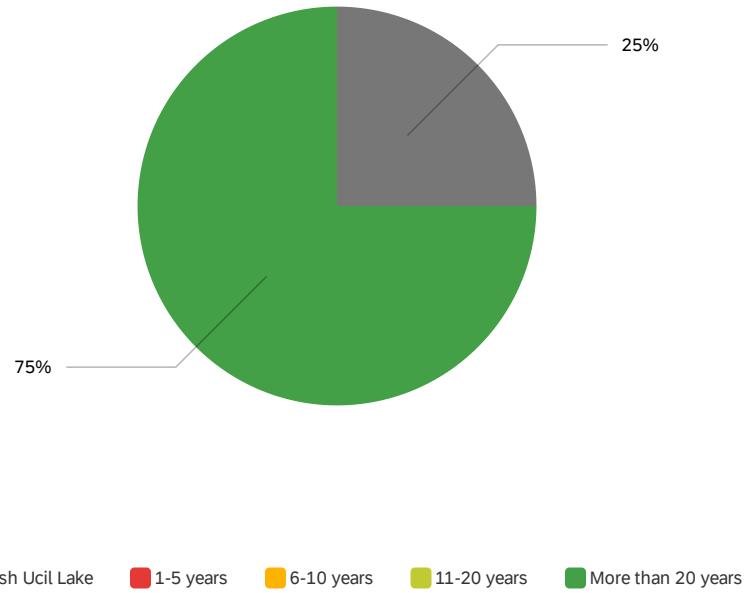
Q51 - For what purposes do you value the fishery in Ucil Lake? (Check all that apply)



#	Field	Choice Count
1	Catch-and-release fishing	25% 4
2	Fishing for food	25% 4
3	Food for wildlife and birds	19% 3
4	Enjoy seeing/watching	19% 3
5	Teaching children about fishing/lakes	13% 2
		16

Showing rows 1 - 6 of 6

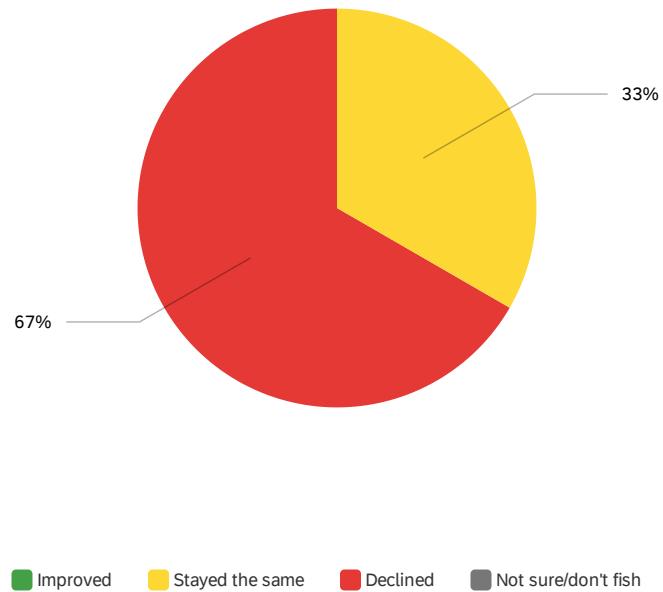
## Q52 - How many years experience do you have fishing Ucil Lake?



#	Field	Choice Count
1	I don't fish Ucil Lake	25% 1
2	1-5 years	0% 0
3	6-10 years	0% 0
4	11-20 years	0% 0
5	More than 20 years	75% 3
		4

Showing rows 1 - 6 of 6

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



#	Field	Choice	Count
1	Improved	0%	0
2	Stayed the same	33%	1
3	Declined	67%	2
4	Not sure/don't fish	0%	0
			3

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?

not sure, small lake possible over harvesting.

Always taking limit of pan fish and not practicing catch and release - especially larger fish.

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



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

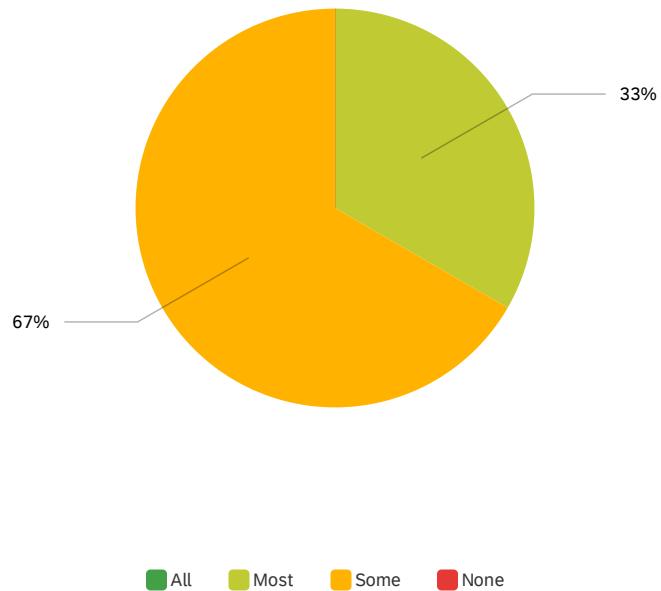
What type of fish do you catch on Ucil Lake?

Pan fish and bass

LMbass, panfish, northern (primarily catch and release.

Crappies, Perch, Bass, A few smaller Northerns and a rare Bluegill or sunfish.

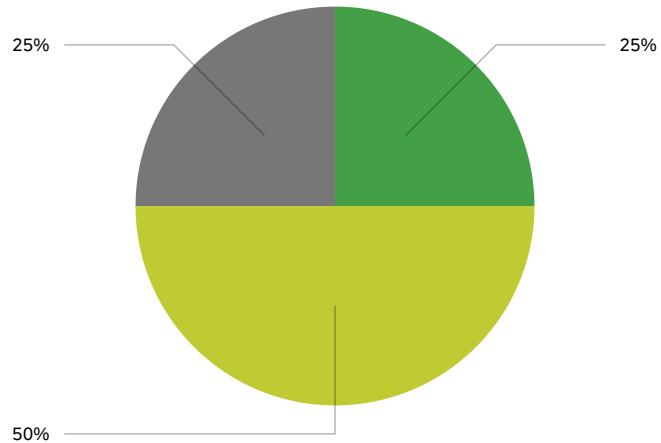
## Q57 - In general, how many of the fish you catch are big enough to keep?



#	Field	Choice Count
1	All	0% 0
2	Most	33% 1
3	Some	67% 2
4	None	0% 0
		3

Showing rows 1 - 5 of 5

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

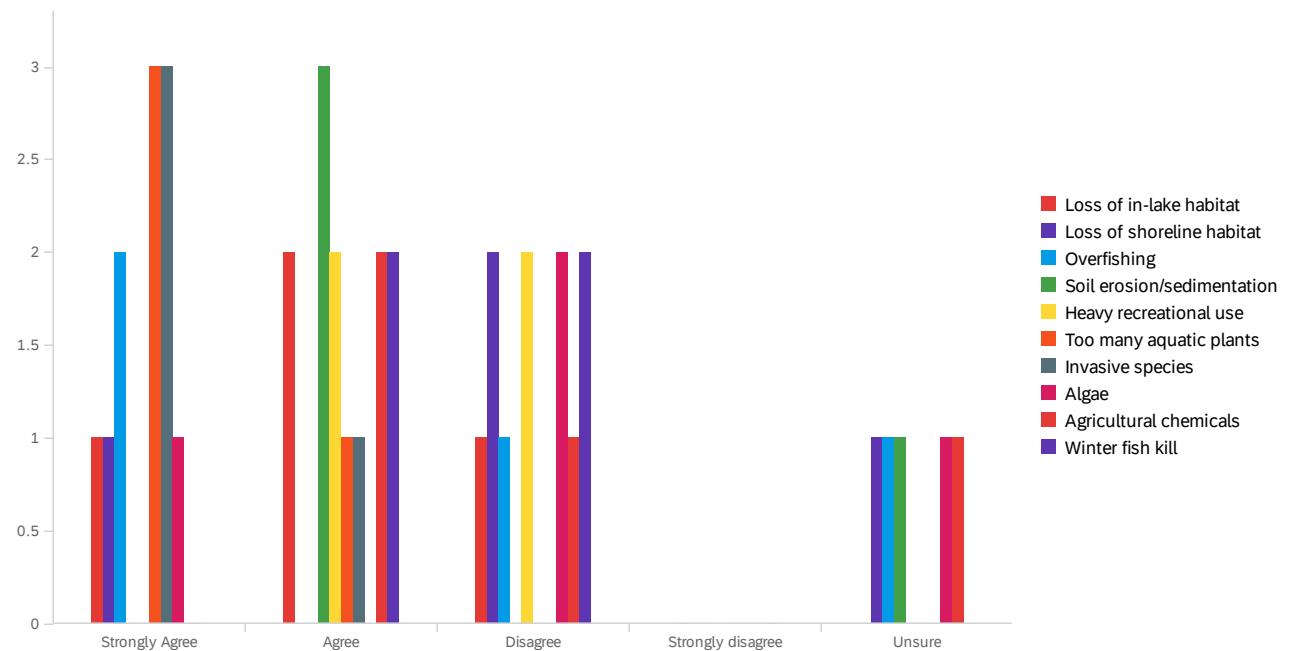


Definitely Yes   Probably Yes   Probably No   Definitely No   Unsure

#	Field	Choice Count
1	Definitely Yes	25% 1
2	Probably Yes	50% 2
3	Probably No	0% 0
4	Definitely No	0% 0
5	Unsure	25% 1
		4

Showing rows 1 - 6 of 6

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



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Loss of in-lake habitat	25% 1	50% 2	25% 1	0% 0	0% 0	4
2	Loss of shoreline habitat	25% 1	0% 0	50% 2	0% 0	25% 1	4
3	Overfishing	50% 2	0% 0	25% 1	0% 0	25% 1	4
4	Soil erosion/sedimentation	0% 0	75% 3	0% 0	0% 0	25% 1	4
5	Heavy recreational use	0% 0	50% 2	50% 2	0% 0	0% 0	4
6	Too many aquatic plants	75% 3	25% 1	0% 0	0% 0	0% 0	4
7	Invasive species	75% 3	25% 1	0% 0	0% 0	0% 0	4
8	Algae	25% 1	0% 0	50% 2	0% 0	25% 1	4
9	Agricultural chemicals	0% 0	50% 2	25% 1	0% 0	25% 1	4
10	Winter fish kill	0% 0	50% 2	50% 2	0% 0	0% 0	4

Showing rows 1 - 10 of 10

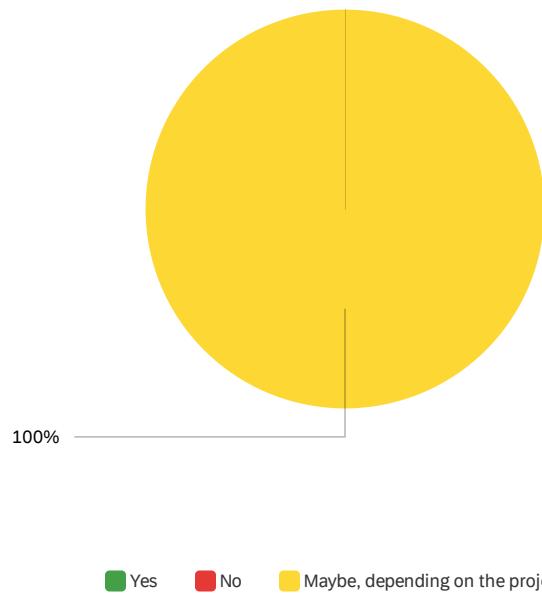
## Q61 - Do you have any additional comments regarding Ucil Lake?

Do you have any additional comments regarding Ucil Lake?

no

Stay away from all loons nesting or visiting the lake. Additional habitat/structure for fish.

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.)?



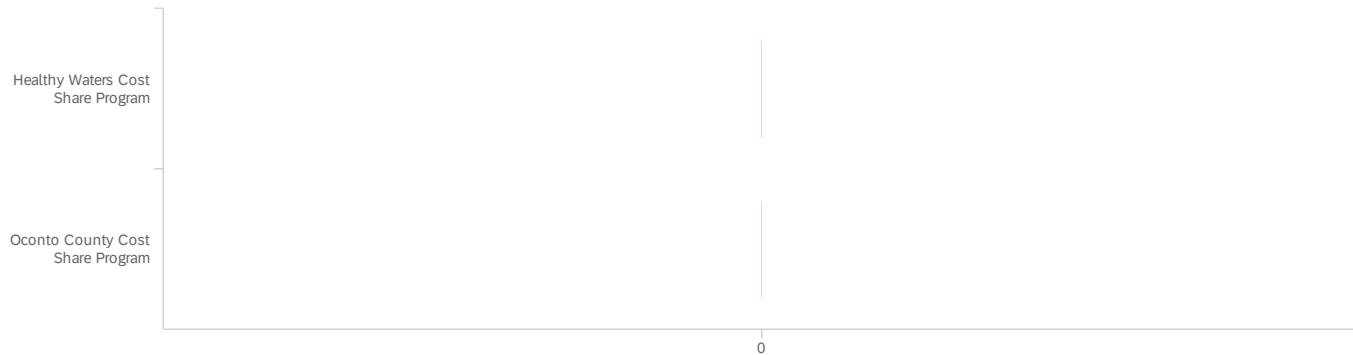
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Would you be interested in volunteering on a project on your lake (such as shoreland restoration planting, invasive species monitoring/removal, water quality monitoring, highway cleanup, etc.)?	3	3	3	0	0	4

#	Field	Choice Count
1	Yes	0% 0
2	No	0% 0
3	Maybe, depending on the project	100% 4
		4

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**