

# 2015

## Deer Lake Management Plan



Prepared by staff from the Center for Watershed Science and Education  
University of Wisconsin-Stevens Point



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



## Deer Lake Management Plan

The Deer Lake Management Plan was developed with input from residents and lake users at a series of four public planning sessions held at the Waushara County Courthouse in Wautoma, Wisconsin in January, March, April and May 2014. The inclusive community sessions were designed to learn about and identify key community concerns, assets, opportunities and priorities. Representatives of state and local agencies, as well as nonprofit organizations, also attended the planning sessions to offer their assistance to the group in developing a strategic lake management plan (LMP).

The plan was adopted by the Deer Lake District on 12/5/2014.  
Date

The plan was adopted by the Town of Marion on 6/9/2016.  
Date

The plan was adopted by Waushara County on 8/5/2015.  
Date

The plan was approved by the Wisconsin Department of Natural Resources on May 8, 2015.  
Date

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Waushara County Watershed Lakes Council

Waushara County Staff and Citizens

Wisconsin Department of Natural Resources Professionals, Mark Sessing and Ted Johnson

Wisconsin Department of Natural Resources Lake Protection Grant Program

UW-Extension

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## Overarching Vision for Deer Lake

***Deer Lake will be a quiet, no-wake lake surrounded by minimally developed land. The natural and vegetated shorelines of the lake will be maintained, and decisions will be made to benefit water quality, wildlife, fish, and people alike. Community members will collaborate to protect the lake from threats to lake health, including aquatic invasive species and pollutants.***

## Introduction

Deer Lake lies amidst the hills and marshes of central Waushara County, Wisconsin. Located just outside of the city of Wautoma, the 15-acre lake is quiet respite from the larger, busier lakes nearby. Land in the town of Marion is included within the Deer Lake watershed. Deer Lake residents value the wildlife that inhabits the lake and the quality of its water. In 2014, these values inspired community members around Deer Lake to come together in partnership with local professionals to learn about Deer Lake and to create a lake management plan to protect and improve their lake for generations to come. This document provides information about Deer Lake while laying out a framework for the protection and improvement of lake features identified as important to the community. This framework, or lake management plan, provides the guidance needed for citizens and others involved in lake or land management to achieve the vision of the Deer Lake community.

The planning process included a series of four public planning sessions held between January and May 2014 at the Waushara County Courthouse. Public participation in these sessions was achieved via letters mailed to Deer Lake waterfront property owners and by press releases in local newspapers. In addition, participants were sent emails about upcoming meetings which could be forwarded to others. In order to involve and collect input from as many people as possible, a survey was conducted prior to each planning session which sought feedback on the upcoming planning session's topic(s). The public was informed about the surveys via postcards (waterfront property owners) and press releases in local newspapers. The surveys could be completed anonymously online or on paper upon request. Survey questions and responses were shared at the planning sessions and can be found in Appendix F.

Guest experts and professionals were invited to attend the planning sessions to assist area residents, Deer Lake District members, lake users, and representatives of local municipalities with the development of the lake management plan. They presented information and participated in discussions with participants to provide context, insight and recommendations for the lake management plan, including environmental and regulatory considerations. Information provided by the professionals was organized into the same discussion topics as the surveys: the fishery and recreation, the aquatic plant community, water quality and land use, shoreland health, and communication. After learning about the current conditions of each topic, participants identified goals, objectives, and actions for the lake management plan that were then recorded by professionals from UW-Stevens Point. Planning session notes and presentations were posted to the Waushara County website.

The Deer Lake Planning Management Committee consisted of Deer Lake residents. Technical assistance during the planning process was provided by the Waushara County Conservationist, the Waushara County Community, Natural Resources and Economic Development Extension Agent, and professionals from the Wisconsin Department of Natural Resources (WDNR), Golden Sands Resource Conservation and Development Council, Inc. (RC&D), University of Wisconsin-Extension (UWEX), and the University of Wisconsin-Stevens Point Center for Watershed Science and Education (CWSE).

This lake management plan (LMP) and the process used to create and update it allow the community to guide the health of its lake. It is a dynamic document that identifies goals and action items for the purpose of maintaining, protecting and/or creating desired conditions in a lake over the next 20 years. It will provide guidance for future boards, lake users, and technical experts by identifying which issues have been addressed and how successful previous efforts were. Each plan is unique, dependent upon the conditions of the lake, its watershed, and the interests of the stakeholders involved. The actions identified in a LMP can serve as a gateway for obtaining resources, including grant funding, to help implement activities outlined in the plan. Because many entities are involved in lake and land management, it can be challenging to navigate the roles, partnerships, and the resources that are available. From the beginning of this plan's development, efforts have been made to identify where key assistance exists and identify opportunities for ensuring that the lake's ecological, aesthetic, and recreational opportunities are plentiful into the future.

*This lake management plan provides the guidance needed for citizens and others involved in lake or land management to achieve the vision of the Deer Lake community.*

Who can use the Deer Lake Management Plan, and how can it be used?

- **Individuals:** Can use this plan to learn about the lake they love and their connection to it. People living near Deer Lake can have the greatest influence on Deer Lake by understanding and choosing lake-friendly options to manage their land and the lake.
- **Deer Lake District:** This plan provides the District with a list of options that can easily be prioritized. Resources and funding opportunities for District management activities are made more available by placement of goals into the lake management plan, and the District can identify partners to help achieve their goals for Deer Lake.
- **Neighboring lake groups, conservation clubs and sporting clubs:** Neighboring groups with similar goals for lake stewardship can combine their efforts and provide each other with support, and improve competitiveness for funding opportunities.
- **The Town of Marion:** The Town can utilize the visions, wishes, and goals documented in this lake management plan when considering town-level management planning or decisions within the watershed that may affect the lake.
- **Waushara 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 Waushara County lakes, rivers, and wetlands.
- **Wisconsin Department of Natural Resources:** Professionals working with Waushara County lakes can use this plan as guidance for management activities and decisions. The WDNR requires a lake management plan to provide funding for certain lake stewardship activities. A plan increases an application's competitiveness for funding from the State.

## Background

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 lake conditions. This was done alongside 32 other lakes as part of the Waushara County Lakes Project. The Waushara County Lakes Project was initiated by citizens in the Waushara County Watershed Lakes Council who encouraged Waushara County to work in partnership with UW-Stevens Point to assess 33 lakes in the county. This effort received funding from the Wisconsin Department of Natural Resources Lake Protection Grant Program. Prior to this project, many of the lakes had insufficient data available to help evaluate current water quality, aquatic plant communities, aquatic invasive species, and shorelands, or had data obtained at differing frequencies or periods of time making it difficult to compare lake conditions. Professionals and students from UW-Stevens Point and the Waushara County Land Conservation Department collected and interpreted data for use in the development of lake management plans. Additional data collected by citizens, consultants, and Wisconsin Department of Natural Resources professionals were also incorporated into the planning process, providing a robust set of information to inform decision-making. Sources of information used in the planning process are listed at the end of this document for ease of reference. The results of this project, including this plan, will assist citizens, municipalities, Waushara County, and State staff to efficiently manage water resources and make informed decisions and policies that will affect lakes now and for future generations.

Several reports from the Deer Lake Study and the materials associated with the planning process and reports can be found on the Waushara County website: <http://www.co.waushara.wi.us/>. Hover over the 'Departments' tab, then 'Zoning and Land Conservation', 'Land Conservation', and finally 'Lake Management Planning'. Unless otherwise noted, the data used in the development of this plan were detailed in the report *Waushara County Lake Study - Deer Lake 2010-2012*, University of Wisconsin-Stevens Point.



## Goals, Objectives and Actions

The following goals, objectives, and associated actions were derived from the values and concerns of citizens interested in Deer Lake and members of the Deer Lake Management Planning Committee, and the known science about Deer Lake, its ecosystem and the landscape within its watershed. Implementing and regularly updating the goals and actions in the Deer Lake Management Plan will ensure that the vision is supported and that changes or new challenges are incorporated into the plan. 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.**

Although each lake is different, to ensure a lake management plan considers the many aspects associated with a lake, the Wisconsin Department of Natural Resources requires that a comprehensive lake management plan address, at a minimum, a list of topics that affect the character of a lake, whether each topic has been identified as a priority or as simply something to preserve. These topics comprise the chapters in this plan. For the purposes of this plan, the chapters have been grouped as follows:

### **In-Lake Habitat and a Healthy Lake**

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

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

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

### **Landscapes and the Lake**

*Water Quality and Quantity—water chemistry, clarity, contaminants, lake levels*

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

*Watershed Land Use—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 and Revisions—continuing the process*

*Governance—protection of the lake, constitution, state, county, local municipalities, Lake District*

Lead organizations and individuals are identified as resources for the actions in this plan. These resources can provide information, suggestions or services to help accomplish objectives and achieve goals. The following table lists acronyms used in this plan. Contact information for organizations and individuals who support lake management in Waushara County can be found in Appendix A. This list should not be considered all-inclusive – assistance may also be provided by other entities, consultants and organizations.

**Table 1. List of organizations and acronyms used in this plan.**

<b>Resource</b>	<b>Acronym</b>
Deer Lake District	<b>DLD</b>
North Central Conservancy Trust	<b>NCCT</b>
USDA Natural Resources Conservation Service	<b>NRCS</b>
Golden Sands Resource Conservation and Development Council, Inc.	<b>RC&amp;D</b>
UW-Extension	<b>UWEX</b>
Waushara County Land Conservation Department	<b>WCLCD</b>
Waushara County Watershed Lakes Council	<b>WCWLC</b>
Wisconsin Department of Natural Resources	<b>WDNR</b>

## Priority Goals

During the development of this plan, the following goals were identified as 'high priority'.

**Goal 3. New aquatic invasive species (AIS) will not become established in Deer Lake and Eurasian watermilfoil (EWM) will be controlled or eliminated. This goal will be achieved when no new aquatic invasive species are identified in the lake through monitoring efforts and EWM is contained or non-existent. (Aquatic Plants)**

**Objective 3.2. Reduce or eliminate populations of Eurasian watermilfoil in Deer Lake.**

Inform property owners to not remove native plants, reevaluate AP routinely to determine next steps, if EWM populations exceed what is manageable, consider herbicide treatment, work with area lakes to apply for grants to hire divers, test existing milfoil for hybrid.

**Goal 4. A healthy sport fishery will exist in Deer Lake. (The Fish Community)**

**Objective 4.1. Develop strategies to create a sport fishery in Deer Lake.**

Explore the installation of an aerator, consider purchasing a dissolved oxygen meter and monitoring concentrations throughout the winter, explore catch and release fishing regulations, work with DNR to survey fish community, coordinate future stocking efforts with DNR if fish kills are alleviated.

**Goal 5. The water quality in Deer Lake will be maintained the same or better than the average measurements observed during the 2010-2012 study. (Water Quality)**

**Objective 5.1. Minimize nutrient and sediment loading to the lake by improving existing land management practices near the lake.**

Refrain from the use of fertilizers on shoreland properties, inform others about the impacts of nutrients to the lake, encourage restoration of unmowed vegetation along shorelands.

## In-Lake Habitat and a Healthy Lake

The plants and animals living in and near Deer Lake are interrelated with the lake and with one another. The types and abundance of plants and animals also vary based on the water quality, shoreland health, and characteristics of the watershed. Because of these important connections, the effects that management actions for one group may have on other groups need to be considered.

Healthy habitat in Deer Lake includes the aquatic plants, branches and tree limbs above and below the water. Many animals that live in the lake are only successful if they have a place to hide from predators. Wetlands along the shoreline and adjacent to the lake provide excellent habitat for safety, spawning and food. Some lake visitors such as birds, frogs and turtles use fallen tree limbs sticking out of the water for perches or to warm themselves in the sun. Aquatic plants also provide oxygen to the water and food for fish, waterfowl and small mammals.

### Critical Habitat

Special areas harbor habitat 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 Wisconsin Department of Natural Resources. Designating areas of the lake as critical habitat enables these areas to be located on maps and information about their importance to aquatic plants, animals and the overall health and integrity of the lake to be shared. Identifying critical habitat areas can help lake groups and landowners plan waterfront projects that will minimize impacts to important habitat and help ensure the long-term health of the lake. Deer Lake does not currently have any officially designated critical habitat areas.

### Guiding Vision for Deer Lake's Critical Habitat

***Sensitive areas on Deer Lake will be enhanced and protected from degradation.***

**Goal 1. Preserve existing high quality habitat in and near Deer Lake for abundant fish and wildlife.**

**Objective 1.1. Identify potentially critical habitat on Deer Lake.**

Actions	Lead person/group	Resources	Start/end dates
Request critical habitat designations from WDNR.	DLD	WDNR Lake Specialists	2016
If critical habitat is designated on Deer Lake, communicate to visitors why these areas are important.	DLD	WDNR Critical Habitat Report	Following CHA designation
Inform property owners about the benefits of refraining from the removal of aquatic plants.	DLD	UWEX Lakes (educational materials)	Ongoing

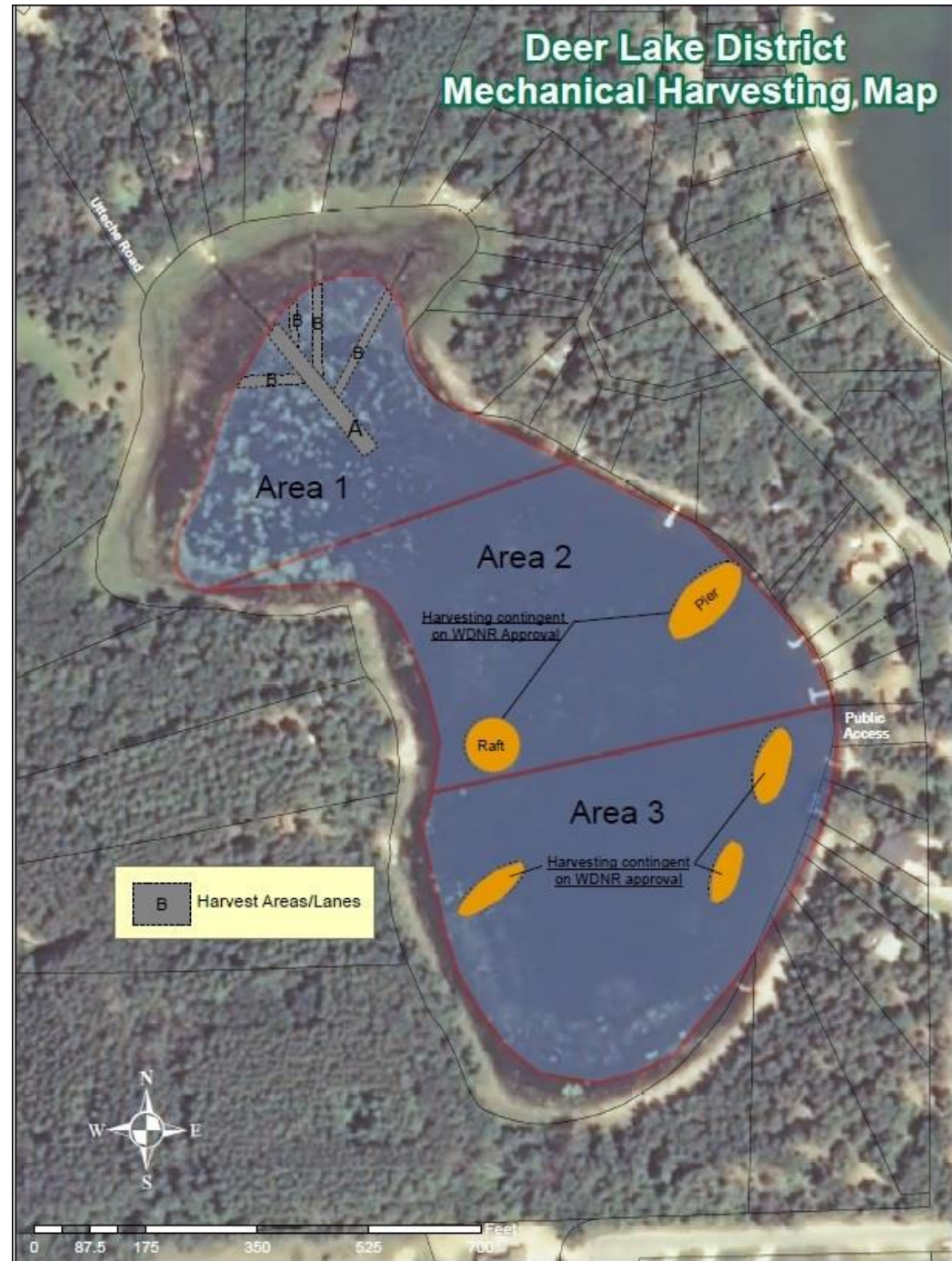
## Aquatic Plants

Aquatic plants provide the forested landscape within Deer Lake. They provide food and habitat for spawning, breeding and survival for a wide range of inhabitants and lake visitors including fish, waterfowl, turtles and 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 create diversity that makes the aquatic plant community more resilient and can help to prevent the establishment of non-native aquatic species.

Aquatic plants near shore and in shallows provide food, shelter and nesting material for shoreland mammals, shorebirds and waterfowl. It is not unusual for otters, beavers, muskrats, weasels and deer to be seen along a shoreline in their search for food, water or nesting material. The aquatic plants that attract the animals to these areas contribute to the beauty of the shoreland and lake.

Fourteen species of aquatic plants were identified in Deer Lake or in the near shore wetlands during the 2011 survey. This is average when compared with the other lakes in the Waushara County Lakes Study. The greatest diversity was located in the northwestern shallows.

The dominant plant species in the survey were slender waterweed, floating-leaf pondweed, and white-stem pondweed. Slender waterweed provides shelter and grazing sites for fish. Muskrats and waterfowl feed on the plant itself or on the numerous invertebrates that use the plant as habitat. The fruit of floating-leaf pondweed is a valuable food source for waterfowl. The submersed plant also offers shade and foraging opportunities to fish. White-stem pondweed provides grazing opportunities to waterfowl, muskrat, beaver and deer. It provides valuable habitat



to muskellunge. More detailed information can be found in the Deer Lake Aquatic Plant Report or the Deer Lake 2010-2012 Lake Study Report.

Overall, the aquatic plant community in Deer Lake can be characterized as having fair species diversity and minimal signs of impact from development. The habitat, food source, and water quality benefits of the plant community within Deer Lake should be focal points in future decision-making concerning lake management strategies.

Due to nuisance levels of aquatic plants that impede recreation, mechanical harvesting has been conducted on Deer Lake for the past few years, primarily just to cut access corridors for docks and piers. The harvesting map above is based on one approved by the WDNR in 2009. During discussions with Ted Johnson, Water Resources Biologist with the WDNR, it was indicated that future harvesting will generally be allowed (with an appropriate permit) in the A and B lanes in Area 1 for access to personal docks. Harvesting in Areas 2 and 3 may be permitted following assessment by WDNR.

- Total acreage harvested is not to exceed 1 acre and cut plant material is raked to shore and disposed of my property owners.
- 'A' lane is not to exceed 30 feet wide; 'B' lanes are not to exceed 15 feet wide.
- Cutting in Areas 2 and 3 are as needed around piers and rafts contingent on WDNR approval.

Eurasian watermilfoil (EWM) was documented in Deer Lake in 2008 according to WDNR records (see AIS section below). The most recent aquatic invasive species survey was conducted in 2013 by Golden Sands RC&D which observed approximately 14 plants scattered along the shore of the south lobe of the lake (in Area 3 on the map). EWM is primarily spread by fragmented stems which can float freely around the lake then take root in viable areas. There is a significant risk of spreading EWM when mechanical harvesters are used. **It is likely that EWM has not spread further in Deer Lake than it has due to the abundance of native plants present.** Once EWM becomes widespread and established, it can form dense beds and floating mats preventing light penetration for native plants and further impeding recreation. Any harvesting conducted on Deer Lake should be done with great caution to avoid the spread of EWM. The following is recommended with respect to mechanical harvesting:

1. Minimize areas where mechanical harvesting is conducted to reduce the risk of EWM fragmentation. Ensure that all cut plant material is raked and removed from the water body completely. Even a small fragment of EWM can result in its spread.
2. Survey areas to be harvested prior to the activity. Be aggressive about appropriate hand removal of any observed plants.
3. Refer to the AIS section of this plan for further guidance in EWM control.



## Guiding Vision for Aquatic Plants in Deer Lake

***The native plant community will support healthy fish and wildlife, but will be balanced such that all may enjoy Deer Lake.***

**Goal 2. Provide balanced uses of Deer Lake that maintain the diversity and quality of native aquatic plants while providing recreational opportunities.**

**Objective 2.1. Reduce dense aquatic plant growth in Deer Lake while minimizing impacts to the native aquatic plant community.**

Actions	Lead person/group	Resources	Start/end dates
Reduce dense aquatic plant growth by encouraging property owners to refrain from using fertilizers on shoreland properties (see Shoreland Section of this plan).	DLD	WCLCD	Ongoing
Continue annual mechanical harvesting for nuisance weed control in accordance with permit guidelines and the recommendations above.	DLD		Ongoing
If plants severely impede recreation, consider hand pulling small areas around personal docks.	Individuals	WDNR Aquatic Plant Biologist RC&D	Ongoing
Keep disturbance to the native plant community to a minimum by informing District members of their importance.	DLD	UWEX Lakes WCWLC	Ongoing

### ***Aquatic Invasive Species (AIS)***

Aquatic invasive species are non-native aquatic plants and animals that are most often unintentionally introduced to the lake by lake users. In some lakes, aquatic invasive plant species can co-exist as part of the plant community, while in other lakes populations explode, creating dense beds that can damage boat motors, make areas non-navigable, inhibit activities like swimming and fishing, and disrupt the lakes' ecosystems.

Eurasian watermilfoil (EWM) was identified in Deer Lake in 2009. While it was not observed during the 2011 UWSP aquatic plant survey, it was observed in 2013 as having hybridized with native northern milfoil in a survey conducted by Golden Sands Resource Conservation and Development



Council, Inc. (Skawinski, 2014). The locations of EWM populations in 2013 are displayed in the map in Appendix D. EWM can produce viable seed, but it often spreads by fragmentation. Just a small stem fragment is enough to start a new plant, so EWM can spread quickly if plants are located near areas of activity, such as beaches and boat launches.

If an invasive plant species not previously documented in Deer Lake is observed by any lake user, the lake user is encouraged to refer to Appendix C for more information on how to report it.

#### Summary of Aquatic Plant Management Planning Session Discussion - April 17, 2014

Various aquatic plant management options to control invasive species (EWM) were discussed at the April 17, 2014 lake management planning session. Attendees included community members and lake residents, the Wisconsin Department of Natural Resources Water Resources Management Specialist, and professionals from the UWSP Center for Watershed Science and Education, Waushara County, and UW-Extension. All of the management options discussed can be found in Appendix D. Attendees indicated that they would like to see results from a study completed by the U.S. Environmental Protection Agency as part of the National Lakes Assessment ([http://water.epa.gov/type/lakes/lakessurvey\\_index.cfm](http://water.epa.gov/type/lakes/lakessurvey_index.cfm)) and the results from an 2014 survey of Deer Lake by Golden Sands Resource Conservation and Development Council, Inc. before making final management decisions.

The following management strategies were determined to be the most practical and effective options that would minimize impacts to the lake as a whole:

- Hand Pulling or Hand Pulling using Suction: Hand pulling is preferable in areas where there are small populations of invasive species. Divers and hand-pullers can more easily target specific plants without causing damage to native species. Hand pulling also removes the plants from the water, lessening the amount of nutrients released by decaying plants.
- No Action: Because of the dense native aquatic plant growth in Deer Lake, waiting to see how EWM populations respond to no action over time is an option. In some cases, EWM has been observed to establish itself as a small population that remains small and becomes a nondestructive component of the ecosystem.

### **Guiding Vision for Aquatic Invasive Species**

***Deer Lake will have limited spread of Eurasian watermilfoil. New aquatic invasive species will be prevented from becoming established in Deer Lake.***

**Goal 3. New aquatic invasive species (AIS) will not become established in Deer Lake. This goal will be achieved when no new aquatic invasive species are identified in the lake through monitoring efforts. Eurasian watermilfoil (EWM) will be controlled or eliminated. This goal will be achieved when no new aquatic invasive species are identified and EWM is nonexistent or limited to scattered plants. Efforts will be made to remove 100% of the EWM plants observed in shallow water.**



**Objective 3.1. Prevent the establishment of new species of AIS in Deer Lake.**

<b>Actions</b>	<b>Lead person/group</b>	<b>Resources</b>	<b>Start/end dates</b>
Use signs, newsletters, and other methods to educate lake visitors about invasives and removing aquatic hitchhikers.	DLD Board or Project Committee	RC&D	Annually
Inform property owners of the importance of aquatic vegetation and to refrain from removing native aquatic vegetation to diminish the possibility of AIS colonization.	Individuals	UWEX Lakes (educational materials)	Ongoing
Learn to identify AIS and routinely look for it.	DLD Board		2015, Ongoing
If new species are identified, work with area lakes to apply jointly for a grant to hire divers to hand pull invasives.	DLD Board	WDNR Aquatic Plant Biologist RC&D	As needed
Consider the possibility of no action if invasives are not causing a nuisance or disrupting the native plant community.	DLD Board	WDNR Aquatic Plant Biologist RC&D	Ongoing
Re-evaluate the aquatic plant community routinely to determine the next steps (or no action) in invasive species management.	DLD Project Committee	WDNR Aquatic Plant Biologist RC&D	2017, Ongoing

**Objective 3.2. Reduce or eliminate populations of Eurasian watermilfoil in Deer Lake.**

<b>Actions</b>	<b>Lead person/group</b>	<b>Resources</b>	<b>Start/end dates</b>
Inform property owners about refraining from removing native aquatic vegetation to diminish the possibility of invasive species colonization.	DLD Project Committee	UWEX Lakes (educational materials)	Ongoing
Test existing milfoil to see if hybrid water milfoil exists in Deer Lake.	DLD Project Committee	WDNR Aquatic Plant Biologist RC&D	2017
Re-evaluate extent of EWM annually to determine the next year's management.	DLD Project Committee	WDNR Aquatic Plant Biologist RC&D Consultants	Biannually
Hand-pull EWM in shallows and/or hire divers to hand pull in less accessible areas.	DLD Project Committee	WDNR Aquatic Plant Biologist RC&D	Ongoing
Consider the possibility of no action if EWM is spreading beyond the stated goal.	DLD Board	WDNR Aquatic Plant Biologist RC&D	Ongoing

Work with area lakes to apply jointly for a grant to hire divers to hand pull EWM.	DLD Project Committee	WDNR Aquatic Plant Biologist RC&D Consultants	2016
Minimize spreading EWM during harvesting by avoiding areas where EWM is observed.	DLD Project Committee	WDNR Aquatic Plant Biologist	Annually as necessary
If beds of EWM become established, work with WDNR Aquatic Plant Biologist and/or consultants to determine options.	DLD Project Committee/Board	WDNR Aquatic Plant Biologist Consultants	Ongoing

## The Fish Community

To date, there is very little historical information on the fish community in Deer Lake, although residents have reported that winter fish kills occur almost annually due to the lake's shallow depths and relatively high amount of decaying plant materials at the bottom. Low dissolved oxygen concentrations were measured in early February 2012 below the upper one-to-two feet of water. If a healthy sport fishery is to be maintained, there is need for management efforts during the winter. Surveys of the fish population will be needed to track success and general fish community health.

### Guiding Vision for the Fish Community

***Deer Lake will have a healthy sport fishery.***

#### Goal 4. A healthy sport fishery will exist in Deer Lake.

##### Objective 4.1. Develop strategies to create a sport fishery in Deer Lake.

Actions	Lead person/group	Resources	Start/end dates
Explore the installation of an aerator. Aerator should run 4-5 months during the winter, depending upon temperature.	DLD Aeration Committee	WDNR Fisheries Biologist	Projected, voted, and installed Fall 2014
Consider the purchase of a dissolved oxygen meter to monitor dissolved oxygen concentrations throughout the winter (using one-foot increments from the top to the bottom of the lake).	DLD Aeration Committee	WDNR Small-scale Planning Grant Fishing Clubs	2015
Coordinate future stocking efforts with WDNR if winter fish kills are alleviated.	DLD Project Committee	WDNR Fisheries Biologist	2015, Ongoing
Work with WDNR fisheries biologist to begin surveying the fish community in Deer Lake.	DLD Project Committee	WDNR Fisheries Biologist	2015, Ongoing

Explore catch and release fishing restrictions.	DLD	WDNR Fisheries Biologist	Annual Meeting 2015
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**Objective 4.2. Protect and enhance the fish habitat in Deer Lake.**

<b>Actions</b>	<b>Lead person/group</b>	<b>Resources</b>	<b>Start/end dates</b>
Inform property owners about refraining from removing sticks, logs, tree trunks, and vegetation from the near-shore shallows.	DLD Board	UWEX Lakes (educational materials)	2015, Ongoing
Consider working with the WDNR to obtain permits for tree drops, fish cribs, woody structure.	DLD Board	WDNR Fisheries Biologist Fishing Clubs	2015

## **Landscapes and the Lake**

Land use and land management practices within a lake's watershed can affect both its water quantity and quality. Forests, grasslands and wetlands allow 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 be sources of pollutants that can impact the lake and its inhabitants. Areas of land with exposed soil can produce soil erosion. Soil entering the lake can make the water cloudy and cover fish spawning beds, and contains nutrients that increase the growth of algae and aquatic plants. Development on the land may result in changes to natural drainage patterns and alterations to vegetation on the landscape, and 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. Land management practices can be put into place that mimic some of the natural processes, and the reduction or elimination of nutrients added to the landscape will help prevent nutrients from reaching the water. In general, the land nearest the lake has the greatest impact on the lake water quality and habitat.

Shoreland vegetation is critical to a healthy lake's ecosystem. It helps improve the quality of the runoff that is flowing across the landscape towards the lake. It also provides habitat for many aquatic and terrestrial animals including birds, frogs, turtles, and many small and large mammals. Healthy shoreland vegetation includes a mix of tall grasses/flowers, shrubs and trees which extend at least 35 feet landward from the water's edge. Shorelands include adjacent wetlands, which serve the lake by reducing contaminants, providing shelter for fish and wildlife, and decreasing shoreline erosion by providing deep roots that hold soil in place and provide a shoreland barrier from waves and wind.

The water quality in Deer Lake is the result of many factors, including the underlying geology, climate, and land management practices. Since we have little control over the climate and cannot change the geology, changes to land management practices are the primary actions that can have positive impacts on the lake's water quality. The water quality in Deer Lake was assessed by measuring different interrelated characteristics including temperature, dissolved oxygen, water clarity, water chemistry and algae. All of these were taken into consideration when management planning decisions were made.

## **Water Quality**

Citizen survey respondents indicated that water quality in Deer Lake had a major impact on their personal enjoyment of the lake. The majority of respondents indicated that they felt the water quality in Deer Lake was fair or good, but had declined since they began visiting the lake. Water quality was assessed during the 2010-2012 lake study and involved a number of measures including temperature, dissolved oxygen, water chemistry and phosphorus.

Dissolved oxygen is an important measure in Deer 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. For much of the year, dissolved oxygen profiles in Deer Lake showed relatively constant concentrations throughout the upper six to eight feet of the water column. Concentrations of dissolved oxygen decreased below those depths. This is typical of many lakes in Wisconsin. Dissolved oxygen concentrations measured in Deer Lake on February 5, 2012 were low throughout

much of the lake. Only the sample point at the lake’s surface had concentrations above 5 mg/L. This low oxygen limits the fish species that are able to survive in the lake. During years with a long period of ice and/or snow cover, fish kills are likely to occur if artificial life support by aeration is not provided.

The water clarity (Secchi disk) measurements collected from Deer Lake during 2010-2012 indicated that the average water clarity was clearest in September and poorest in November. The water clarity measurements during the growing season ranged from 6.7 to 11 feet in depth. Only one water clarity measurement was reported prior to 2010, so changes that may have occurred in Deer Lake could not be evaluated.

Chloride levels, and to a lesser degree sodium and potassium levels, are commonly used as indicators of how strongly a lake is being impacted by human activity. Potassium levels in Deer Lake were low, but chloride levels were somewhat elevated and sodium levels were high. Although these nutrients are not harmful to the aquatic ecosystem, they indicated 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.

Phosphorus is an element that is essential in trace amounts to most living organisms, including aquatic plants and algae. Sources of phosphorus can include naturally-occurring phosphorus in soils, wetlands and groundwater. Common sources from human activities include soil erosion, animal waste, fertilizers and septic systems. Although a variety of compounds are important to biological growth, phosphorus gets the most 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. Total phosphorus concentrations in Deer Lake ranged from a high of 42 µg/L in November 2010 to a low of 15 µg/L in June 2011, with median growing season concentrations of 22 µg/L and 18 ug/L in 2011 and 2012, respectively. This is below Wisconsin’s phosphorus standard for shallow seepage lakes of 40 ug/L, but above the proposed flag value of 15 µg/L.

*One pound of phosphorus entering a lake can result in up to 500 pounds of algal growth!  
(Vallentyne, 1974)*

Managing phosphorus and soil erosion throughout the Deer 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 impervious surfaces. Phosphorus inputs to Deer Lake can be controlled by using lake-friendly land management decisions, such as the restoration of shoreland vegetation, elimination/reduction of fertilizers, and the use of water quality-based best management practices.

### **Guiding Vision for Water Quality in Deer Lake**

***Deer Lake will have good water quality and water clarity.***

**Goal 5. The water quality in Deer Lake will be maintained the same or better than the average measurements observed during the 2010-2012 study.** (*Median summer concentrations of total phosphorus less than 20 ug/L, spring inorganic N less than 0.1 mg/L, average water clarity greater than 8 feet*).

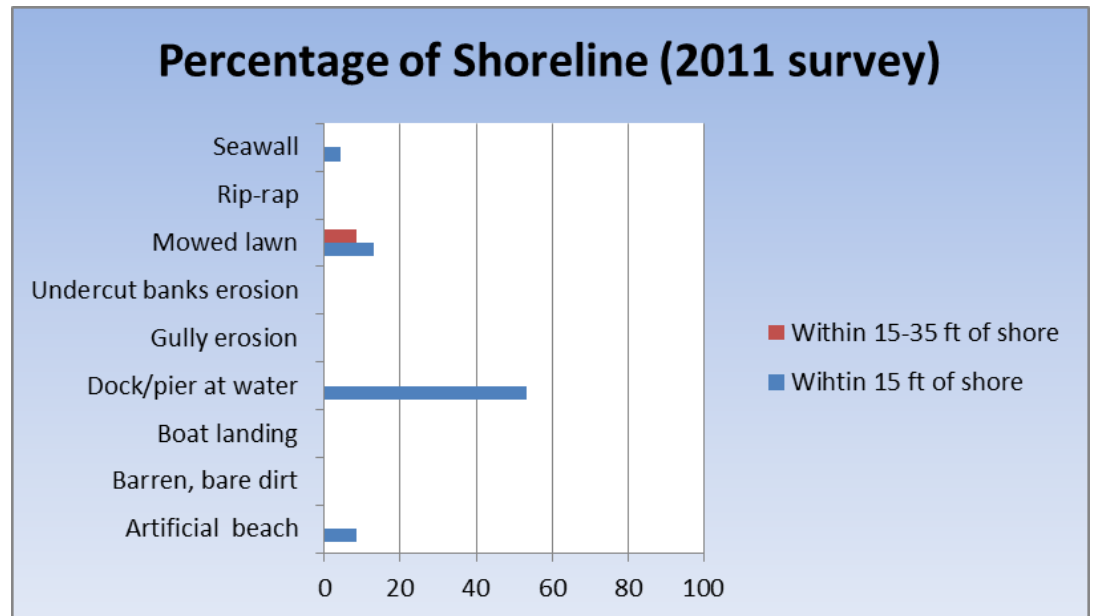
**Objective 5.1. Minimize nutrient and sediment loading to the lake by improving existing land management practices near the lake.**

Actions	Lead person/group	Resources	Start/end dates
Refrain from the use of fertilizers on shoreland properties (see Shorelands section). Consider distributing educational materials around the lake.	DLD Board	UWEX Lakes (educational materials)	2016, Ongoing
Inform others around the lake about the impacts of nutrients and land management on water quality through the distribution of a District newsletter and neighborly discussions. Consider including information on a lake sign.	DLD Board	UWEX Lakes (educational materials)	2016, Ongoing
Encourage the restoration of unmowed vegetation to slow and absorb runoff and pollutants from the road (see Shorelands section).	DLD Board	WCWLC UWEX Lakes (educational materials)	2016, Ongoing

**Shorelands**

Shoreland vegetation is critical to a healthy lake’s ecosystem. It provides habitat for many aquatic and terrestrial animals including birds, frogs, turtles, and many 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 tall grasses/flowers, shrubs and trees which extends at least 35 feet landward from the water’s edge.

To better understand the health of the Waushara County lakes, shorelands were evaluated. The survey inventoried the type and extent of shoreland vegetation. Areas with erosion, rip-rap, barren ground, seawalls, structures and docks were also inventoried. A scoring system was developed for the collected data to provide a more holistic assessment. Areas that are healthy will need strategies to keep them healthy, and areas with potential problem areas and where management and conservation may be warranted may need strategies for improvement. The scoring system is based on the presence/absence and abundance of shoreline features, as well as their proximity to the water’s edge. Values were tallied for each shoreline category and then summed to produce an overall score. Higher scores denote a healthier shoreline with good land



management practices. These are areas where protection and/or conservation should be targeted. On the other hand, lower scores signify an ecologically unhealthy shoreline. These are areas where management and/or mitigation practices may be desirable for improving water quality and habitat.

The summary of scores for shorelands around Deer Lake is displayed on the map in Appendix B. Large stretches of Deer Lake’s shorelands are in good shape, but some portions have challenges that should be addressed. The health of these areas could be improved by the protection or restoration of native grasses, wildflowers, or forbs. Shoreland ordinances were enacted to improve water quality and habitat, and 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 viewing corridor for each shoreland lot. With a total of 12 lakefront lots, 360 feet (8%) of disturbed shoreland is permitted. Based on the 2011 shoreland inventory included, 13% (575 feet) of Deer Lake’s shoreland was mowed lawn. Although some properties have been grandfathered in, compliance will benefit the health of the lake and its inhabitants.

### **Guiding Vision for Deer Lake’s Shorelands**

***Extensive natural shorelands will preserve the sense of tranquility and peacefulness that is found at Deer Lake.***

**Goal 6. Protect and restore healthy, stable shoreland habitats near and around Deer Lake.**

**Objective 6.1. Protect the healthy shorelands around Deer Lake while working to ensure that all shorelands meet the current County/State shoreland zoning ordinances. Over the next five years, 215 linear feet of shoreland will be restored.**

<b>Actions</b>	<b>Lead person/group</b>	<b>Resources</b>	<b>Start/end dates</b>
Provide information to property owners about the importance of maintaining vegetation/trees on the shoreline. Include technical and financial sources.	DLD Board	UWEX Lakes WCLCD WCWLC	2017, Ongoing
Provide information to property owners about proper erosion control methods on steep shorelines during new construction or lake access design.	DLD Board	WCLCD	Ongoing
Contact WCLCD when erosion is observed.	All residents	WCLCD	Ongoing
Explore strengthening buffer language in zoning regulations around Deer Lake.	DLD Board	WCLCD WCWLC Wisconsin Lakes	2017



## Watershed Land Use

It is important to understand where Deer Lake's water originates in order to understand the lake's health. During snowmelt or rainstorms, water moves across the surface of the landscape (runoff) towards lower elevations such as lakes, streams and wetlands. The land area that contributes runoff to a lake is called the surface watershed. Groundwater also feeds Deer Lake; its land area may be slightly different than the surface watershed.

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 ultimately, the lake's water quality and quantity. Essentially, landscapes with greater capacities to hold water during rain events and snowmelt slow the delivery of the water to the lake. 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.

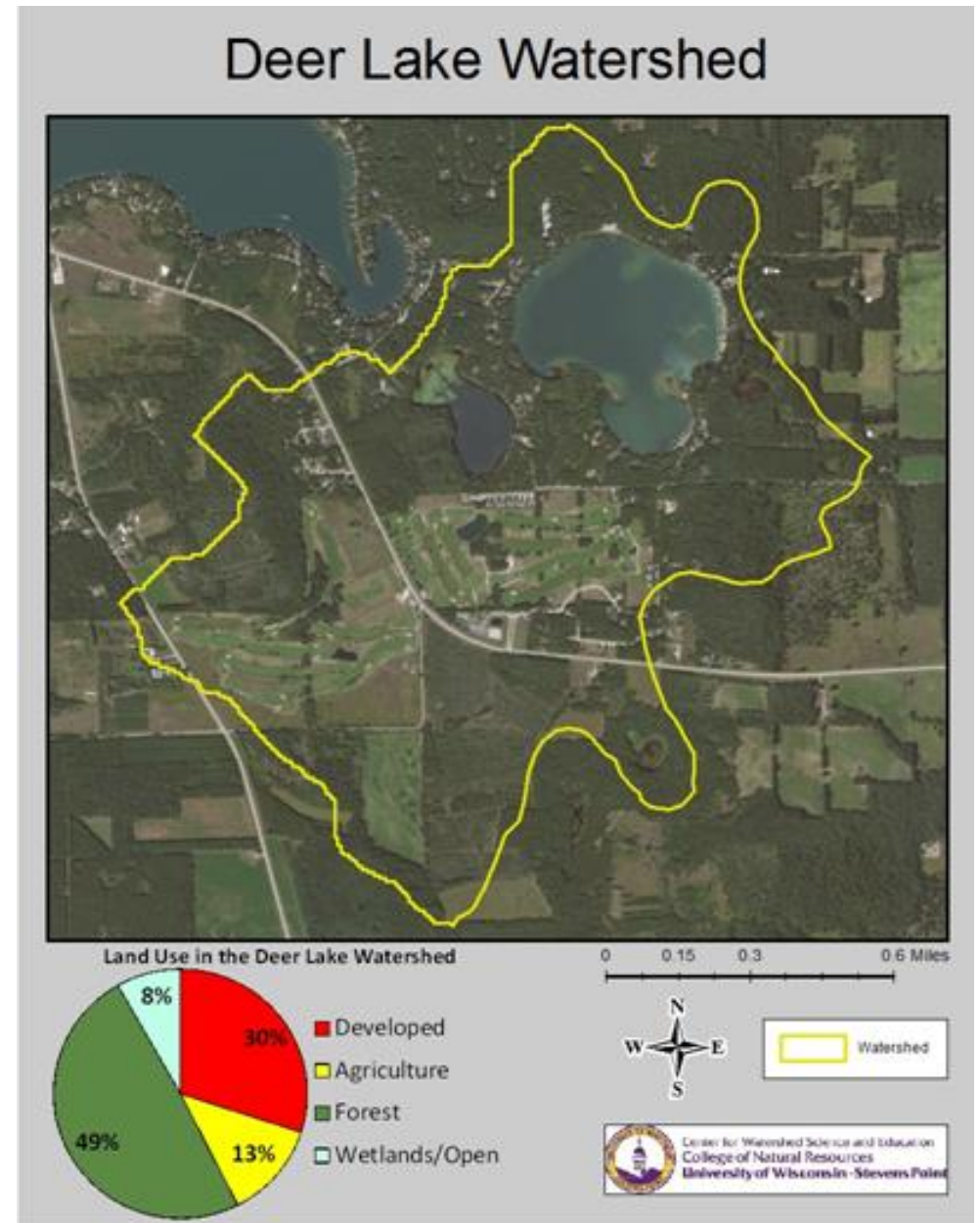
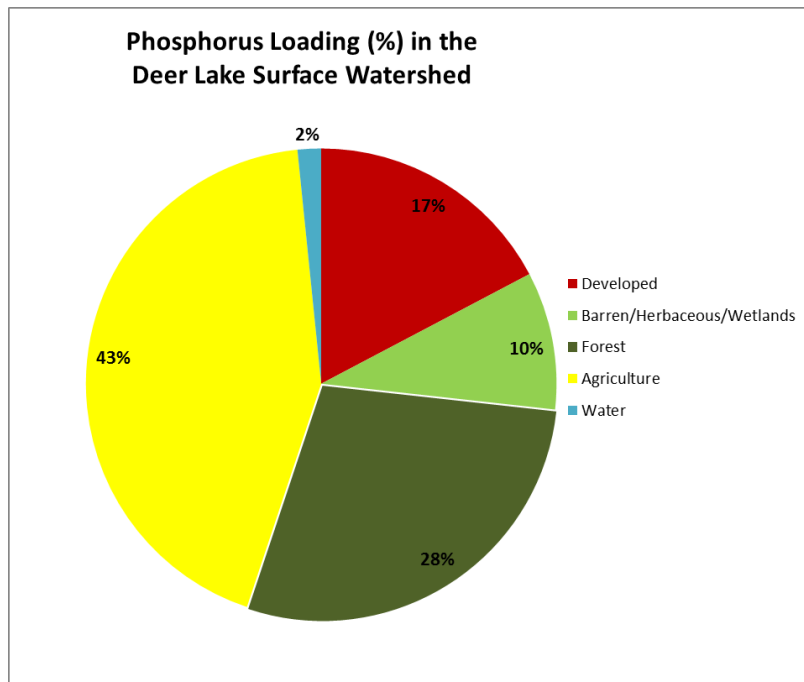


Figure 1. Surface watershed of Deer Lake.



A variety of land management practices can be put in place to help reduce impacts to our lakes. Some practices are designed to reduce runoff. These include protecting/restoring wetlands; installing rain gardens, swales and/or rain barrels; and, and routing drainage from pavement and roofs away from the lake. Other practices help reduce nutrients moving across the landscape towards the lake. Examples for Deer Lake include manure management practices, eliminating/reducing the use of fertilizers, increasing the distance between the lake and a septic drainfield, protecting/restoring native vegetation in the shoreland, and using erosion control practices.

The surface watershed of Deer Lake is 829 acres. Primary land uses are forest with development scattered throughout (Figure 1). The lake’s shoreland is primarily comprised of residential development. In general, the land closest to the lake has the greatest immediate impact on water quality.

Estimates of phosphorus from the landscape can help to understand the phosphorus sources to Bugh 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. Based on modeling results, developed land and agriculture had the greatest percentages of phosphorus contributions from the watershed to Bugh Lake. The phosphorus contributions by land use category, called phosphorus export coefficients, are shown in the appendices. The phosphorus export coefficients have been obtained from studies throughout Wisconsin (Panuska and Lillie, 1995).

### **Guiding Vision for Deer Lake’s Watershed**

***Deer Lake will be protected so it is available for the use of future generations.***

**Goal 7. Land use practices in the watershed will have a positive effect on the water quality in Deer Lake.**

**Objective 7.1. Protect important habitat around Deer Lake and within its watershed by informing landowners of options and opportunities.**

<b>Actions</b>	<b>Lead person/group</b>	<b>Resources</b>	<b>Start/end dates</b>
Explore the purchase of development rights that permanently protect the landscape while retaining private ownership.	DLD Membership	Waushara County Conservationist	2018, Ongoing
Encourage conservation easements to restrict development or uses of land that would impact critical habitat or natural features of the land.	DLD Board	NRCS NCCT Gathering Waters WDNR Lake Protection Grant Knowles-Nelson Stewardship Fund	2018, Ongoing

**Objective 7.2. Reduce runoff to Deer Lake by working with landowners to design acceptable landscapes that sequester water and encourage infiltration.**

<b>Actions</b>	<b>Lead person/group</b>	<b>Resources</b>	<b>Start/end dates</b>
Work with golf course to design a buffer and/or runoff retention structures between the course and the lake.	DLD Board	WCLCD Consultants	2018

## People and the Lake

The people that 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. This plan summarizes the decisions of people to take proactive steps to improve and protect their lake and their community. Good decisions by lake residents and visitors can have a positive impact on the lake and on those who enjoy this common resource. Collaborative efforts can increase the positive impacts; therefore, communication and cooperation between the lake district, community, and suite of lake users are essential to maximize the effects of plan implementation.

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

## Recreation

Deer Lake is a 'No Wake' lake that has two public boat landings, one of which is located on the northern end of the lake with no parking. The lake is enjoyed by people for swimming, boating, fishing and aesthetic appreciation.

### Guiding Vision for Recreation

***Deer Lake will be an ideal setting for quiet recreation and relaxation.***

**Goal 8. Maintain or increase the secluded recreational atmosphere.**

**Objective 8.1. Limit high impact recreational activities.**

Actions	Lead person/group	Resources	Start/end dates
Explore restricting snowmobiles and other motors on the lake, during both summer and winter.	DLD Board	Wisconsin Lakes UWEX Lakes Town of Marion	2015

## Communication and Organization

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

### Guiding Vision for Communication

*Information about Deer Lake will be accessible and effectively distributed to the Deer Lake community.*

**Goal 9. Develop a core group of people interested in the health and well-being of the Deer Lake ecosystem, and continue activities that develop knowledge.**

**Objective 9.1. Provide information to current residents regarding Deer Lake.**

Actions	Lead person/group	Resources	Start/end dates
Provide lake info packets to current and future residents.	DLD Board	Waushara County WCWLC	2018, Ongoing
Work with Lake District board to develop a water quality committee.	DLD	Waushara County Conservationist	2018

## 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.

### Guiding Vision for Updates and Revisions

***The lake management plan for Deer Lake will be reviewed and updated annually.***

**Goal 10. Deer Lake will have an up-to-date, accurate and comprehensive lake management plan that is reviewed annually and documents all management activities and effects.**

**Objective 10.1. Communicate updates to community members.**

Actions	Lead person/group	Resources	Start/end dates
The plan will be reviewed by the DLD Board, incorporating updates by the membership.	DLD Board	Membership	Annually

## Governance

*Written by Patrick Nehring, Community Agent, UW-Extension Waushara County.*

### *Lake Management Plan Approval*

The draft lake management plan will be completed by the lake association/district board, a committee, or a committee of the whole. The final draft of the lake management plan will be approved through a vote of the lake association/district membership or board. The final draft will be approved by the Wisconsin Department of Natural Resources (DNR) to have met the lake management plan requirements and grant requirements. If the DNR requires modifications or additional information before approving the plan, the plan will be changed to meet DNR requirements that are acceptable to the lake association/district. The completed plan that has been approved by the lake association/district and the DNR will be presented to the municipalities containing the lake and Waushara County. The municipality may reference the lake management plan or parts of the plan in their comprehensive plan to guide municipal or county decisions.

### *Lake Assistance*

The lake management plan will enhance the ability of the lake to apply for financial assistance. The lake management plan will be considered as part of the application for grants through the Wisconsin Department of Natural Resources. Current listings of grants available from the DNR can be found at <http://dnr.wi.gov/aid/>. Waushara County offers technical and financial assistance through the Land Conservation and Zoning Department and University

of Wisconsin-Extension Department. Additional assistance may be available from other agencies and organizations, including DNR, UW-Extension Lakes Program, Golden Sands Resource Conservation and Development Council, Inc., Wisconsin Wetlands Association, and Wisconsin Trout Unlimited.

### ***Lake Regulations***

The lake management plan is superseded by federal, state, county, and municipal laws and court rulings. However, the lake management plan may influence county and municipal ordinances and enforcement, which is why the lake management plan will be reviewed and included or referenced in the county and related municipal comprehensive plans. Federal laws contain regulations related to water quality, wetlands, dredging, and filling. State laws contain regulations related to water quality, water and lake use, aquatic plants and animals, shoreline vegetation, safety, and development. County laws contain regulations related to development, safety, use, and aquatic plants and animals. Municipal laws contain regulation of use and safety. The court system interprets these rules and regulations. The rules and regulations are primarily enforced by the US Army Corps of Engineers, the Wisconsin Department of Natural Resources, the Waushara County Sheriff Department, and the Waushara County Land Conservation and Zoning Office. If considering development near or on a lake, addressing problem plants or animals, or changing the lake bottom contact the Waushara County Land Conservation & Zoning Department at the Waushara County Courthouse (920) 787-0443 and/or the Wisconsin Department of Natural Resources (888) 936-7463.

### ***Comprehensive Plans***

The lake management plan and changes to the plan will be presented to the County and the Municipality for review and possible incorporation into their comprehensive plans. The comprehensive plan is intended to be used to guide future decision. Zoning, subdivision, and official mapping decisions must be consistent with the comprehensive plan.

### ***Process for Inclusion in the Municipal Comprehensive Plan***

The Municipal Plan Commission will review the lake management plan to determine if it is consistent with the municipality's comprehensive plan. If the lake management plan is found by the Municipal Plan Commission to not be consistent with the municipality's comprehensive plan, the plan commission may (a) recommend changes to the comprehensive plan or (b) ask that an aspect of the lake management plan be revisited. When the Municipal Plan Commission has reached a consensus that the lake management plan aligns with the municipality's vision, the Municipal Plan Commission will develop an amendment to the comprehensive plan referencing the lake management plan. This could include a reference to the lake management plan under local policies in the agricultural, natural and cultural resources background information and the addition of a recommendation to support the lake management plan and to implement the applicable recommendations contained in the lake management. The Municipal Plan Commission will recommend by resolution that the amendment to the comprehensive plan be adopted by the Municipal Board. A public hearing on the changes to the comprehensive plan will be held with a thirty-day class one notice. The Municipal Board will consider the recommendations from the Municipal Plan Commission. The Municipal Board may (a) adopt the recommendations to the comprehensive plan by ordinance, (b) adopt by ordinance the recommendations with changes, or (c) request the plan commission revisit the changes to the comprehensive plan.

### *Process for Inclusion in the County Comprehensive Plan*

Waushara County Land Use Committee will review the updates to the municipality's comprehensive plan and the lake management plan as referenced by the municipality's comprehensive plan to determine if they are consistent with the County's comprehensive plan. If they are found by the land use committee to not be consistent with the municipality's comprehensive plan, the land use committee may (a) recommend changes to the County's comprehensive plan or (b) ask that an aspect of the lake management plan or municipality's comprehensive plan be revisited. When the Land Use Committee has reached a consensus that the updates to the municipality's comprehensive plan and the lake management plan aligns with the county's vision, and if it is not already consistent, it will develop an amendment to the County's comprehensive plan. The amendment may include a reference to the lake management plan under local policies in the agricultural, natural and cultural resources background information and the addition of a recommendation to support the lake management plan and to implement the applicable recommendations contained in the lake management. The Land Use Committee will recommend the amendment to the comprehensive plan to the Land, Water, and Education Committee.

The Land, Water, and Education Committee will review the amendment and if it concurs with the recommendation from the Land Use Committee, it will make a recommendation to the Planning & Zoning Committee. The Planning & Zoning Committee will hold a public hearing with a thirty-day class one notice. The Planning & Zoning Committee will recommend by resolution the amendment to the comprehensive plan or the amendment with changes be adopted by the County Board.

The County Board will consider the recommendations from the Planning & Zoning Committee. The County Board may (a) adopt the amendment to the comprehensive plan by ordinance, (b) adopt the amendment with changes, or (c) request the Land Use Committee or Planning & Zoning Committee revisit the changes to the comprehensive plan.

### *Use of the Comprehensive Plan*

The lake management plans as referenced in the comprehensive plans will be used by the County and the Municipality to consider certain actions or in the implementation of zoning and other applicable regulations. The County Board of Adjustments and the County Planning and Zoning Committee may reference the lake management plans as referenced in the comprehensive plan when considering zone changes, variances, conditional uses, and suitable mitigation measures. The Municipality and County may take action as called for in the lake management plan as referenced in the comprehensive plan, including changes to zoning and other applicable regulations, shortly after the County's comprehensive plan has been updated or may take action as needed.

The lake organization, lake residents, riparian property owners, or other citizens may request that the Municipality or County take a specific action to implement aspects of the lake management plan as referenced in the comprehensive plan. The lake organization lake residents, riparian property owners, or other citizens may provide written or oral support to encourage the Municipality and County to reference the lake management plan when considering regulation or action that may impact the lake. The lake organization will inform the Municipality and the County when the lake management plan is updated and allow the Municipality and County an opportunity to participate in the update process.

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- Haney, Ryan, 2014. Water Quality in Deer, Lucerne, and Spring Lakes. Presentation given at the Waushara County Courthouse on May 8, 2014.
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- Skawinski, P. and K. Stushek, 2014. Aquatic Invasive Species in Deer, Lucerne and Spring Lakes. Planning Session for Deer, Lucerne, and Spring Lakes, April 17, 2014, Waushara County Courthouse.
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- Wetzel, R.G., 2001. Limnology, Lake and River Ecosystems, Third Edition. Academic Press. San Diego, California.



# Appendices

## Appendix A: Waushara County Lakes Information Directory

### Algae - Blue-Green

Contact: Ted Johnson  
Wisconsin Department of Natural Resources  
Phone: 920-424-2104  
E-mail: [TedM.Johnson@wisconsin.gov](mailto:TedM.Johnson@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:  
<http://www.dhs.wisconsin.gov/eh/bluegreenalgae/contactus.htm>

### Aquatic Invasive Species/Clean Boats Clean Water

Contact: Golden Sands RC&D  
1100 Main St., Suite 150, Stevens Point, WI 54481  
Phone: 715-343-6215  
Websites: [www.goldensandsrcd.org](http://www.goldensandsrcd.org)  
<http://dnr.wi.gov/invasives/>

### Aquatic Plant Management (Native and Invasive)

Contact: Ted Johnson  
Wisconsin Department of Natural Resources  
Phone: 920-424-2104  
E-mail: [TedM.Johnson@wisconsin.gov](mailto:TedM.Johnson@wisconsin.gov)  
Website: <http://dnr.wi.gov/lakes/plants/>

### Aquatic Plant Identification

Contact: Golden Sands RC&D  
1100 Main St., Suite 150, Stevens Point, WI 54481  
Phone: 715-343-6215  
Website: [www.goldensandsrcd.org](http://www.goldensandsrcd.org)

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: Ted Johnson  
Wisconsin Department of Natural Resources  
Phone: 920-424-2104  
E-mail: [TedM.Johnson@wisconsin.gov](mailto:TedM.Johnson@wisconsin.gov)

### Aquatic Plant Surveys/Management

Contact: Ted Johnson  
Wisconsin Department of Natural Resources  
Phone: 920-424-2104  
E-mail: [TedM.Johnson@wisconsin.gov](mailto:TedM.Johnson@wisconsin.gov)  
Website: <http://dnr.wi.gov/lakes/plants/>

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

Contact: Ed Hernandez  
Waushara County Land Conservation Department  
PO Box 1109, Wautoma, WI 54982  
Phone: 920-787-0453  
E-mail: [lcdzoning.courthouse@co.waushara.wi.us](mailto:lcdzoning.courthouse@co.waushara.wi.us)  
Website: <http://www.co.waushara.wi.us/zoning.htm>

### Boat Landings, Signage, Permissions (County)

Contact: Scott Schuman  
Waushara County Parks  
PO Box 300, Wautoma, WI 54982  
Phone: 920-787-7037  
E-mail: [wcparks.parks@co.waushara.wi.us](mailto:wcparks.parks@co.waushara.wi.us)  
Website: <http://www.co.waushara.wi.us/parks.htm>

### Boat Landings (State)

Contact: Dave Bartz  
Wisconsin Department of Natural Resources  
Hwy 22N, Box 430, Montello, WI 53949  
Phone: 608-635-4989  
E-mail: [David.Bartz@wisconsin.gov](mailto:David.Bartz@wisconsin.gov)  
Website:  
<http://dnr.wi.gov/org/land/facilities/boataccess/>

### Boat Landings (Town)

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

### Conservation Easements

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

### **Conservation Easements (cont'd)**

Contact: Ted Johnson  
Wisconsin Department of Natural Resources  
Phone: 920-424-2104  
E-mail: [TedM.Johnson@wisconsin.gov](mailto:TedM.Johnson@wisconsin.gov)

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

Contact: North Central Conservancy Trust  
PO Box 124, Stevens Point, WI 54481  
Phone: 715-344-1910  
E-mail: [info@ncctwi.org](mailto:info@ncctwi.org)  
Website: <http://www.ncctwi.org/>

Contact: NRCS Stevens Point Service Center  
1462 Strongs Ave., Stevens Point, WI 54481  
Phone: 715-346-1325

### **Critical Habitat and Sensitive Areas**

Contact: Ted Johnson  
Wisconsin Department of Natural Resources  
Phone: 920-424-2104  
E-mail: [TedM.Johnson@wisconsin.gov](mailto:TedM.Johnson@wisconsin.gov)  
Website: <http://dnr.wi.gov/lakes/criticalhabitat/>

### **Dams**

Contact: Joe Behlen  
Wisconsin Department of Natural Resources  
473 Griffith Ave., Wisconsin Rapids, WI 54494  
Phone: 715-421-9940  
E-mail: [joseph.behlen@wisconsin.gov](mailto:joseph.behlen@wisconsin.gov)  
Website: <http://dnr.wi.gov/org/water/wm/dsfm/dams/>

### **Fertilizers/Soil Testing**

Contact: Ken Williams  
Waushara County UW-Extension  
209 S St. Marie Street, PO Box 487, Wautoma, WI 54982  
Phone: 920-787-0416  
E-mail: [ken.williams@ces.uwex.edu](mailto:ken.williams@ces.uwex.edu)  
Website: <http://waushara.uwex.edu/agriculture/services>

### **Fisheries Biologist (management, habitat)**

Contact: Dave Bartz  
Wisconsin Department of Natural Resources  
Hwy 22N, Box 430, Montello, WI 53949  
Phone: 608-635-4989  
E-mail: [David.Bartz@wisconsin.gov](mailto:David.Bartz@wisconsin.gov)  
Website: <http://dnr.wi.gov/fish/>

### **Frog Monitoring—Citizen Based**

Contact: Andrew Badje  
Wisconsin Department of Natural Resources  
Phone: 608-266-3336  
E-mail: [Andrew.badje@wisconsin.gov](mailto:Andrew.badje@wisconsin.gov)  
E-mail: [WFTS@wisconsin.gov](mailto:WFTS@wisconsin.gov)

### **Grants**

Contact: Ted Johnson  
Wisconsin Department of Natural Resources  
Phone: 920-424-2104  
E-mail: [TedM.Johnson@wisconsin.gov](mailto:TedM.Johnson@wisconsin.gov)  
Website: <http://dnr.wi.gov/Aid/Grants.html#tabx8>

Contact: Ed Hernandez  
Waushara County Land Conservation Department  
PO Box 1109, Wautoma, WI 54982  
Phone: 920-787-0453  
E-mail: [lcdzoning.courthouse@co.waushara.wi.us](mailto:lcdzoning.courthouse@co.waushara.wi.us)  
Website: <http://www.co.waushara.wi.us/zoning.htm>

### **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: Ed Hernandez  
Waushara County Land Conservation Department  
Address: PO Box 1109 Wautoma, WI 54982  
Phone: 920-787-0453  
E-mail: [lcdzoning.courthouse@co.waushara.wi.us](mailto:lcdzoning.courthouse@co.waushara.wi.us)

### **Groundwater Levels/Quantity (cont'd)**

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)

Contact: Scott Provost  
Wisconsin Department of Natural Resources  
473 Griffith Ave., Wisconsin Rapids, WI 54494  
Phone: 715-421-7881  
E-mail: [scott.provost@wisconsin.gov](mailto:scott.provost@wisconsin.gov)  
Website:  
[http://prodoasext.dnr.wi.gov/inter1/hicap\\$.st](http://prodoasext.dnr.wi.gov/inter1/hicap$.st)  
[artup](http://artup)

### **Informational Packets**

Contact: UWSP Center for Watershed Science & Education  
TNR 224, 800 Reserve St. Stevens Point, WI 54481  
Phone: 715-346-2497  
E-mail: [pclakes@uwsp.edu](mailto:pclakes@uwsp.edu)

### **Lake Groups – Friends, Associations, Districts**

Contact: Patrick Nehring  
UWEX Economic Resource Development Agent  
PO Box 487, Wautoma, WI 54982  
Phone: 920-787-0416  
E-mail: [Patrick.nehring@ces.uwex.edu](mailto:Patrick.nehring@ces.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/uwexlake/organizations/>

### **Lake Groups (cont'd)**

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/>

### **Land Use Plans and Zoning Ordinances**

Contact: Terri Dopp-Paukstat  
Waushara County Planning and Zoning  
PO Box 1109, Wautoma, WI 54982  
Phone: 920-787-0453  
E-mail: [lcdzoning.courthouse@co.waushara.wi.us](mailto:lcdzoning.courthouse@co.waushara.wi.us)  
Website: <http://www.co.waushara.wi.us/zoning.htm>

### **Land Use Plans and Zoning Ordinances (cont'd)**

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: Ed Hernandez  
Waushara County Land Conservation Department  
PO Box 1109, Wautoma, WI 54982  
Phone: 920-787-0453  
E-mail: [lcdzoning.courthouse@co.waushara.wi.us](mailto:lcdzoning.courthouse@co.waushara.wi.us)  
Website: <http://www.co.waushara.wi.us/zoning.htm>

Contact: NRCS Stevens Point Service Center  
1462 Strongs Ave., Stevens Point, WI 54481  
Phone: 715-346-1325

## **Parks (County)**

Contact: Scott Schuman  
Waushara County Parks  
PO Box 300, Wautoma, WI 54982  
Phone: 920-787-7037  
E-mail: [wcparks.parks@co.waushara.wi.us](mailto:wcparks.parks@co.waushara.wi.us)  
Website: <http://www.co.waushara.wi.us/parks.htm>

## **Purchase of Development Rights**

Contact: North Central Conservancy Trust  
PO Box 124, Stevens Point, WI 54481  
Phone: 715-341-7741  
E-mail: [info@ncctwi.org](mailto:info@ncctwi.org)  
Website: <http://www.ncctwi.org/>

## **Purchase of Land**

Contact: Ted Johnson  
Wisconsin Department of Natural Resources  
Phone: 920-424-2104  
E-mail: [TedM.Johnson@wisconsin.gov](mailto:TedM.Johnson@wisconsin.gov)  
Website: <http://dnr.wi.gov/topic/stewardship/>

## **Rain Barrels – Order**

Contact: Golden Sands RC&D  
1100 Main St., Suite 150, Stevens Point, WI 54481  
Phone: 715-343-6215  
Website: <http://www.goldensandsrcd.org/store>

## **Rain Gardens and Stormwater Runoff**

Contact: Ed Hernandez  
Waushara County Land Conservation Department  
PO Box 1109, Wautoma, WI 54982  
Phone: 920-787-0453  
E-mail: [lcdzoning.courthouse@co.waushara.wi.us](mailto:lcdzoning.courthouse@co.waushara.wi.us)  
Website: <http://www.co.waushara.wi.us/zoning.htm>

## **Septic Systems/Onsite Waste**

Contact: Terri Dopp-Paukstat  
Waushara County Planning and Zoning  
PO Box 1109, Wautoma, WI 54982  
Phone: 920-787-0453  
E-mail: [lcdzoning.courthouse@co.waushara.wi.us](mailto:lcdzoning.courthouse@co.waushara.wi.us)  
Website: <http://www.co.waushara.wi.us/zoning.htm>

## **Shoreland Management**

Contact: Ed Hernandez  
Waushara County Land Conservation Department  
PO Box 1109, Wautoma, WI 54982  
Phone: 920-787-0453  
E-mail: [lcdzoning.courthouse@co.waushara.wi.us](mailto:lcdzoning.courthouse@co.waushara.wi.us)  
Website: <http://www.co.waushara.wi.us/zoning.htm>

## **Shoreland Vegetation**

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

## **Shoreland Zoning Ordinances**

See: Land Use Plans and Zoning Ordinances

## **Soil Fertility Testing**

Contact: Ken Williams  
Waushara County UW-Extension  
209 S St. Marie Street, PO Box 487, Wautoma, WI 54982  
Phone: 920-787-0416  
E-mail: [Ken.williams@ces.uwex.edu](mailto:Ken.williams@ces.uwex.edu)  
Website: <http://waushara.uwex.edu/index.html>

## **Water Quality Monitoring**

Contact: Ted Johnson  
Wisconsin Department of Natural Resources  
Phone: 920-424-2104  
E-mail: [TedM.Johnson@wisconsin.gov](mailto:TedM.Johnson@wisconsin.gov)

Contact: UWSP Wisconsin Environmental Analysis Laboratory  
TNR 200, 800 Reserve St., Stevens Point, WI 54481  
Stevens Point, WI 54481  
Phone: 715-346-3209  
E-mail: [weal@uwsp.edu](mailto:weal@uwsp.edu)  
Website: <http://www.uwsp.edu/cnr-ap/weal/Pages/default.aspx>

## **Water Quality Problems**

Contact: Ted Johnson  
Wisconsin Department of Natural Resources  
Phone: 920-424-2104  
E-mail: [TedM.Johnson@wisconsin.gov](mailto:TedM.Johnson@wisconsin.gov)

Contact: Nancy Turyk  
UWSP Center for Watershed Science and Education  
TNR 216, 800 Reserve St., Stevens Point, WI 54481  
Phone: 715-346-4155  
E-mail: [nturyk@uwsp.edu](mailto:nturyk@uwsp.edu)

## **Wetlands**

Contact: Keith Patrick  
Wisconsin Department of Natural Resources  
5301 Rib Mountain Drive, Wausau, WI 54401  
Phone: 715-241-7502  
E-mail: [keith.patrick@wisconsin.gov](mailto:keith.patrick@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  
E-mail: [ejudziew@uwsp.edu](mailto:ejudziew@uwsp.edu)

## **Woody Habitat**

Contact: Dave Bartz  
Wisconsin Department of Natural Resources  
Phone: 608-635-4989  
Address: Hwy 22N Box 430, Montello, WI 53949  
E-mail: [David.Bartz@wisconsin.gov](mailto:David.Bartz@wisconsin.gov)

If you are looking for any information that is not listed in this directory, please contact:  
Ryan Haney ([wclakes@uwsp.edu](mailto:wclakes@uwsp.edu))  
UWSP Center for Watershed Science and Education  
TNR 224, 800 Reserve St., Stevens Point, WI 54481  
Phone: 715-346-2497



## Appendix B: Shoreland Survey – 2011

A scoring system was developed for the collected data to provide a more holistic assessment. Areas that are healthy will need strategies to keep them healthy, and areas with potential problem areas and where management and conservation may be warranted may need a different set of strategies for improvement. The scoring system is based on the presence/absence and abundance of shoreline features, as well as their proximity to the water's edge. Values were tallied for each shoreline category and then summed to produce an overall score. Higher scores denote a healthier shoreline with good land management practices. These are areas where protection and/or conservation should be targeted. On the other hand, lower scores signify an ecologically unhealthy shoreline. These are areas where management and/or mitigation practices may be desirable for improving water quality.

The summary of scores for shorelands around Deer Lake is displayed to the right. The shorelands were color-coded to show their overall health based on natural and physical characteristics. Blue shorelands identify healthy shorelands with sufficient vegetation and few disturbances. Red shorelands indicate locations where changes in management or mitigation may be warranted. Large stretches of Deer Lake's shorelands are in good shape, but some portions have challenges that should be addressed. There were no stretches of Deer Lake shoreland ranked as poor.

### Waushara County Shoreline Assessment *DEER LAKE*

Map Date -- July, 2011  
Aerial Date -- April, 2010



#### Summary

Shorelines are color-coded to show their overall health based on natural and physical characteristics. For example, shorelines shown in red indicate locations where management or mitigation may be warranted. Blue shorelines mark healthy riparian areas with natural vegetation and few human influences.

#### Calculating Shoreline Scores

Scores are based on the presence/absence of:

- + Natural vegetation
- + Human influences (docks, boathouses, etc)
- + Erosion
- + Structures



Map created by Dan McFarlane  
Center for Land Use Education

# Deer Lake Shoreland Vegetation

Waushara Co. Wisconsin

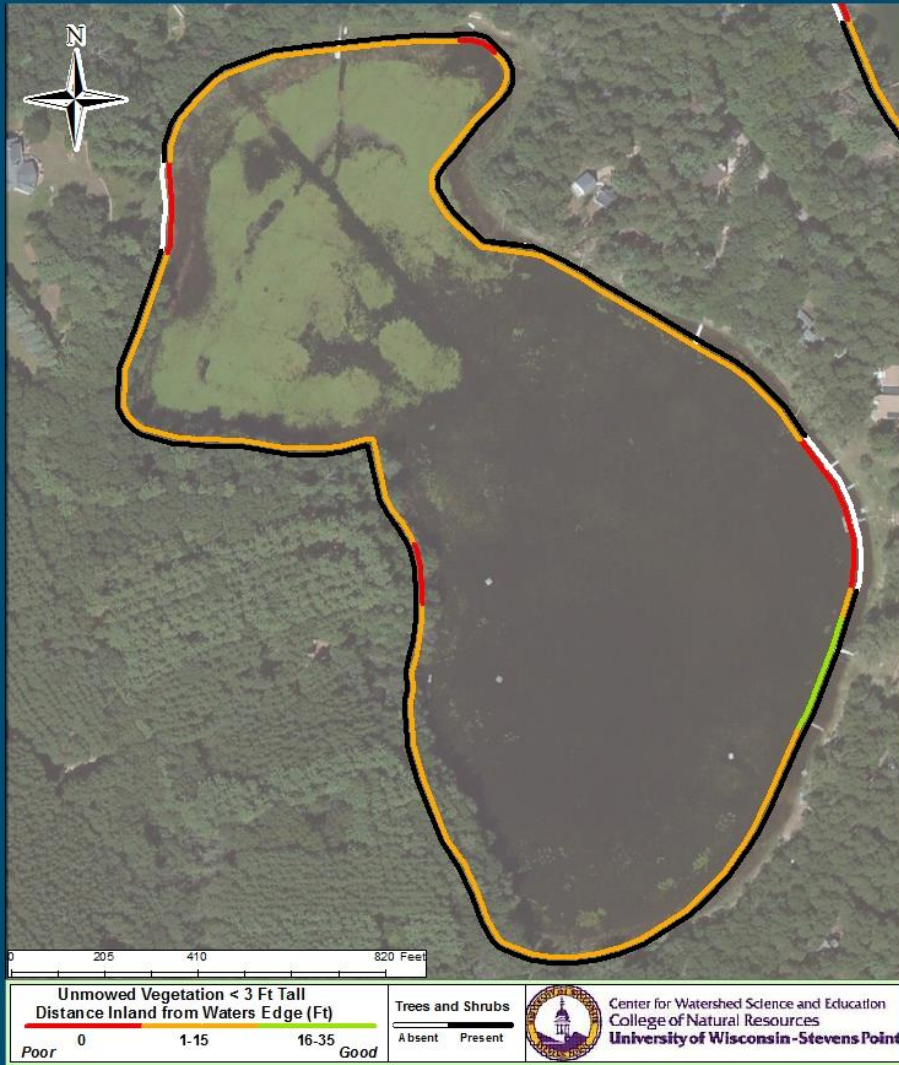


Figure at left shows vegetation observed during the 2011 shoreland survey. The outer, black or white line represents trees and shrubs either present or not present. The inner multicolored line shows the distance of unmowed vegetation extending inland.



## Appendix C: Rapid Response Plan

### SURVEY/MONITOR

<b>1. Learn how to survey/monitor the lake.</b>	<b>Contacts:</b>  <b>Water Resource Management Specialist</b> Wisconsin Department of Natural Resources Phone: 920-424-2104 E-Mail: <a href="mailto:TedM.Johnson@wisconsin.gov">TedM.Johnson@wisconsin.gov</a>  <b>Regional Aquatic Invasive Species (AIS) Coordinator</b> Golden Sands RC&D 1100 Main St., Suite #150 Stevens Point, WI 54481 Phone: 715-343-6278 E-Mail: <a href="mailto:info@goldensandsrccd.org">info@goldensandsrccd.org</a>
<b>2. Survey/monitor the lake monthly/seasonally/annually.</b>	If you find a suspected invasive species, report it as soon as possible using the procedure below.

### REPORTING A SUSPECTED INVASIVE SPECIES

<b>1. Collect specimens or take photos.</b>  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.  <b>-OR-</b>  Collect a fresh sample. Enclose in a plastic bag with a moist paper towel and refrigerate.  <b>-OR-</b>  Take detailed photos (digital or film).
<b>2. Note the location where the specimen was found.</b>  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. You can use <a href="http://TopoZone.com">TopoZone.com</a> to find the precise location on a digital topographic map. Click the cursor on the exact collection site and note the coordinates (choose UTM or Latitude/Longitude).	Provide one or more of the following: <ul style="list-style-type: none"><li>• Latitude &amp; Longitude</li><li>• UTM (Universal Transverse Mercator) coordinates</li><li>• County, Township, Range, Section, Part-section</li><li>• Precise written site description, noting nearest city &amp; road names, landmarks, local topography</li></ul>

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

- Collection date and county
- Your name, address, phone, email
- Exact location (Latitude/Longitude or UTM preferred, or Township/Range/Section)
- Plant name (common or scientific)
- Land ownership (if known)
- Population description (estimated number of plants and area covered)
- Habitat type(s) where found (forest, field, prairie, wetland, open water)

**4. Mail or bring specimens and information to any of the following locations:**

Digital photos may be emailed.

**Wisconsin Dept. Natural Resources**

427 E. Tower Drive, Suite 100  
Wautoma, WI 54982  
Phone: (920) 787-4686

**Regional AIS Coordinator**

Golden Sands RC&D  
1100 Main St., Suite #150  
Stevens Point, WI 54481  
Phone: 715-343-6214  
E-Mail : [info@goldensandsrcd.org](mailto:info@goldensandsrcd.org)

**UW-Stevens Point Herbarium**

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

**5. Once the specimen is dropped off or sent for positive identification, be sure to contact:**

**Regional AIS Coordinator**

Golden Sands RC&D  
1100 Main St., Suite #150  
Stevens Point, WI 54481  
Phone: 715-343-6214  
E-Mail : [info@goldensandsrcd.org](mailto:info@goldensandsrcd.org)

**If an invasive species is confirmed, the Regional AIS Coordinator will make the following public information contacts:**

- **Wisconsin Department of Natural Resources**  
427 E. Tower Drive, Suite 100  
Wautoma, WI 54982  
Phone: (920) 787-4686

**The town board(s)** in which the water body is located

Town of: Marion

- **The Lake District** in which the waterbody is located.  
Contact: Tom Schuster  
Phone: (920) 647-0184

- **University of Wisconsin-Stevens Point**  
Water Resource Scientist  
Nancy Turyk  
Trainer Natural Resources Building  
800 Reserve Street  
Stevens Point, WI 54481 Telephone: 715-346-4155  
E-mail: [nturyk@uwsp.edu](mailto:nturyk@uwsp.edu)

- **Local Residents**
- **Deer Lake District**

**If an invasive species is confirmed the secretary of the Deer Lake District will make the following public information contacts:**

- **Newspapers:** The Argus, The Resorter

**Contact the WDNR to post notice(s) at the access point(s) to the water body.**

## Appendix D: Aquatic Plant Management Strategies

### General recommendations:

- \* Reduce nutrients traveling to the lake from the landscape.
- \* Avoid increasing algal blooms by maintaining a healthy amount of aquatic plants.
- \* Don't denude the lakebed.
  - \* Increases potential for aquatic invasive species establishment.
  - \* Sediments can add phosphorus to the water which may lead to increased algal growth.
- \* Choose options that are appropriate for your lake's situation.
- \* Monitor and adjust your strategies if you are not making headway!

### List of Aquatic Plant Management Options (selection of options varies with situation):

#### No Action

---

##### ADVANTAGES

- \* No associated cost.
- \* Least disruptive to lake ecosystem.

##### LIMITATIONS

- \* May not be effective in achieving aquatic plant management objectives.

#### Hand Pulling

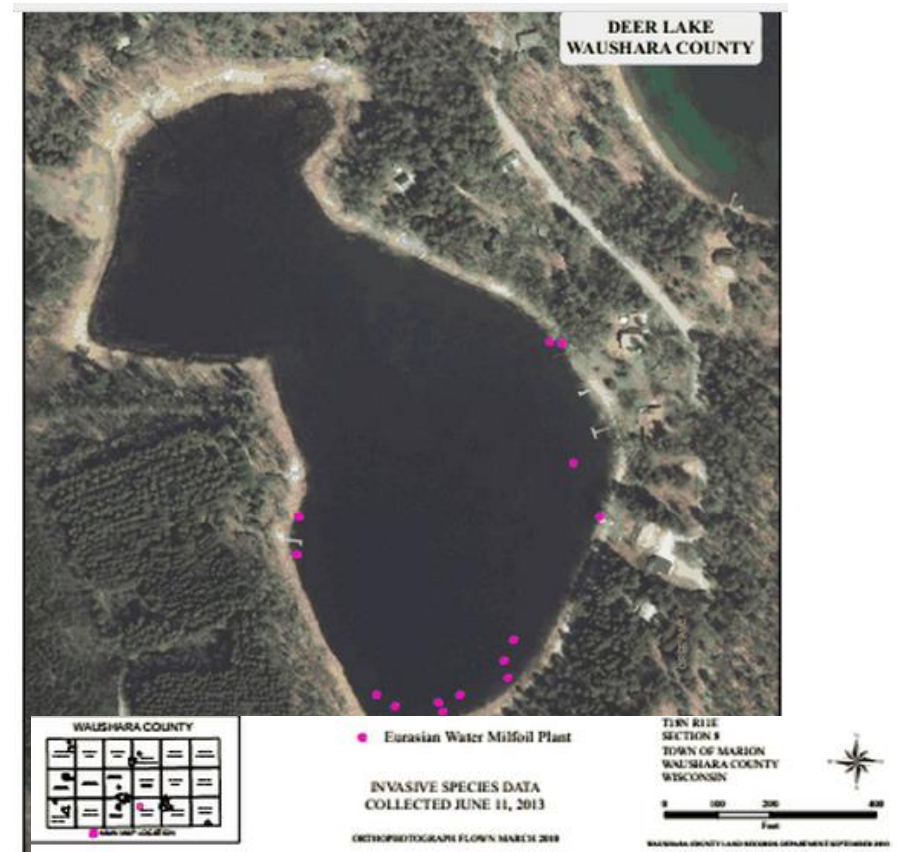
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##### ADVANTAGES

- \* Can be used for thinning aquatic plants around docks.
- \* Can target specific plants - with proper training.
- \* Can be effective in controlling small infestations of aquatic invasive species.
- \* No associated cost.

##### LIMITATIONS

- \* Removes near-shore wildlife and fish habitat.
- \* Opens up areas where invasives can become established.
- \* If aquatic invasive species are not pulled properly, could worsen the problem.



## Hand Pulling Using Suction

---

### ADVANTAGES

- \* Can be used for thinning plants around docks.
- \* Can be used in deeper areas (with divers).
- \* Can target specific plants with proper training.
- \* Can be effective in controlling small infestations of aquatic invasive species.
- \* May be useful in helping to remove upper root mass of aquatic invasive species.

### LIMITATIONS

- \* Costs associated with hiring a diver may be comparable to chemical treatment expenses.
- \* Currently an experimental treatment – not readily available.
- \* If aquatic invasive species are not pulled properly, could worsen the problem.

## Mechanical Harvesting

---

### ADVANTAGES

- \* Removes plant material and nutrients.
- \* Can target specific locations.
- \* Used to manage larger areas for recreational access or fishery management.

### LIMITATIONS

- \* Not used in water depths less than 3 feet.
- \* Some harm to aquatic organisms.
- \* Is a temporary control.
- \* Risk of introduction of new aquatic invasive species (on a hired harvester) or spread of some existing invasive species.
- \* Hired cost at least \$150/hr.

## Water Level Manipulation

---

### ADVANTAGES

- \* Controls aquatic plants in shallower, near-shore areas.
- \* Can be low cost.

### LIMITATIONS

- \* Requires a controlling structure on the lake.
- \* May cause undesired stress on ecosystem.
- \* Cannot be used frequently.

## Milfoil Weevils

---

### ADVANTAGES

- \* Natural, native maintenance of native and exotic milfoils.
- \* Prefers the aquatic invasive Eurasian Watermilfoil.
- \* Some lakes may already have a native populations; need a professional stem count and assessment of shoreland health, structure of fishery, etc.
- \* Doesn't harm lake ecosystem.

### LIMITATIONS

- \* Require healthy shoreline habitat for overwintering.
- \* Cannot survive in areas of mechanical harvesting or herbicide use.
- \* Effectiveness highly variable between lakes (only works well for some lakes).
- \* Limited access to weevils for purchase in WI.
- \* Still considered experimental.

### **Chemical Treatment: Spot**

---

#### *ADVANTAGES*

- \* May be less destructive to lake ecosystem than lake-wide treatment.

#### *LIMITATIONS*

- \* Only considered in lakes with aquatic invasive plants.
- \* Usually not fully effective in eradicating target species.
- \* Contaminants may remain in sediment.
- \* Effects on lake ecosystem not fully understood.
- \* Does not remove dead vegetation, which depletes oxygen and releases nutrients, adds to build-up of muck.
- \* Extra nutrients may spur additional aquatic plant and algae growth.

### **Chemical Treatment: Lake-wide**

---

#### *ADVANTAGES*

- \* May reduce aquatic invasives for a time.
- \* Treatment not needed as frequently.

#### *LIMITATIONS*

- \* Only considered in lakes with aquatic invasive plants.
- \* Usually not fully effective in eradicating target species.
- \* Contaminants may remain in sediment.
- \* Does not remove dead vegetation, which depletes oxygen and releases nutrients, adds to build-up of muck.
- \* Extra nutrients may spur additional aquatic plant and algae growth.
- \* Negatively affects native vegetation.
- \* Effects on lake ecosystem not fully understood.
- \* Opens up space once taken up by natives for invasive species to colonize once again.
- \* ~\$4000 per 5 acres.

## Appendix E: By-Laws of the Deer Lake Protection and Rehabilitation District

### PREFACE

In keeping with the resolution of the Marion Town Board that created the Deer Lake Protection and Rehabilitation District, the electors of the said Deer Lake District do adopt these By-Laws. The purpose of these By-Laws is to define and regulate the activities of the Lake District, its officers and committees. These By-Laws shall at all times be interpreted in a manner consistent with the laws of the State of Wisconsin and Chapter 33 of the Wisconsin Statutes under which the District was created and operates. Sections of the Statutes are cited in brackets throughout these By-Laws.

### ARTICLE I - ELECTORS

**Section 1. Residents.** Every resident of the District who is eligible to vote in general elections shall be an eligible elector of the District. [Sec. 33.30(2)]

**Section 2. Non-Resident Property Owners.** Every person 18 years of age or older who owns real property in the District shall be an eligible elector of the district and may vote in accordance with Section 2 of Article II. Any corporation, partnership, or association that owns real property in the District may appoint an official representative who shall be an eligible elector of the District. [Sec. 33.30(2)] Real property owner is defined as a holder of a fee simple title or land contract on land or the owner of buildings on land which is leased for 20 years or more. [Sec. 33.30(3)(g)]

### ARTICLE II – VOTING

**Section 1. Multiple Voting.** Any elector may cast only one vote on any question called to a vote.

**Section 2. Non-Resident Multiple Owners.** Each spouse of a married couple may cast one vote if one or both of them own real property within the District. Other joint tenants or tenants-in-common shall select no more than two of the co-owners who shall represent them and shall each cast one vote. [Sec. 33.30(3)(g)]

**Section 3. Casting Ballots.** An elector must be present at the meeting at the time the vote is called in order to vote. No elector may vote by proxy or absentee ballot or referendum. All votes shall be counted by a show of hands, unless otherwise specified by Statute or in these By-Laws. [Sec. 19.88(1)]

### ARTICLE III – ANNUAL MEETING AND BUDGET HEARING

**Section 1. Time and Place.** The annual meeting and budget hearing of the District shall be held between May 22 and September 8 at a time and place selected by the District Board of



Commissioners, hereinafter referred to as the Board, unless the date has been set by vote of the previous annual meeting. [Sec. 33.30(1) and 65.90(1)]

**Section 2. Notice.** A written notice of the annual meeting and budget hearing shall be mailed at least 10 days in advance of the meeting to all property owners whose names appear on the tax roll and to the Department of Natural Resources and the University of Wisconsin Extension. A summary of the proposed budget and notice of the place where such budget in detail is available for public inspection and notice of the time and place of the annual meeting and budget hearing shall be published once in a paper of general circulation in the area at least 15 days before the meeting (Class 1 notice). [Sec. 33.30(2)]

**Section 3. Eligibility of Commissioners.** The Board shall nominate candidates to fill all vacancies on the Board. If none of the commissioners, whose terms do not expire, are resident electors, then two of the candidates shall be resident electors. The minimum number of candidates nominated by the Board shall be equal to the number of vacancies plus one. Any three electors may nominate additional candidates by submitting written nomination papers to the secretary at least 45 days prior to the annual meeting. The names of all nominated candidates shall appear on the written and published notice of the annual meeting.

**Section 4. Eligibility of Commissioners.** The annual meeting can elect to the office of commissioner any elector. [Sec. 33.28(2) and 33.285]

**Section 5. Electing Commissioners.** At the first annual meeting, the electors shall elect three commissioners to the Board. The candidate receiving the greatest number of votes shall be elected to a three-year term. The candidate receiving the second greatest number of votes shall be elected to a two year term. The candidate receiving the third greatest number of votes shall be elected to a one-year term. At subsequent annual meetings, the electors shall elect one commissioner to fill each vacancy on the Board. [Sec. 33.30(3)(a)] When a commissioner's term of office has expired, his successor shall be elected to a three-year term. [Sec. 33.28(2)] If a commissioner leaves office before the expiration of his term, his elected successor shall serve only for the remainder of the unexpired term. In any year in which more than one vacancy exists, the candidate receiving the greatest number of votes shall be elected to the three year term; the candidate receiving the second greatest number of votes shall be elected to the next longest; and the candidate receiving the third greatest number of votes shall be elected to the shortest term vacancy, if any. One of the three elected commissioners must be a resident of the District. [Sec. 33.28(2)] If none of the commissioners, whose terms do not expire, is a resident elector, then the resident elector receiving the greatest number of votes shall be elected to the three year term. All elections for the office of commissioner shall be conducted by secret, written ballot. Commissioners shall assume their office immediately following the annual meeting at which they are elected.

**Section 6. Annual Budget and Tax.** At the annual meeting and budget hearing, the Board shall present a proposed budget and tax for the coming calendar year. The electors of the District shall approve the budget and vote the tax as proposed or modify the budget and change the tax accordingly. The property tax levy of the District shall not exceed a rate 2.5 mills of equalized valuation. [Sec. 33.30(3)] [Sec. 65.90(2)]



**Section 7. Project Approval.** The annual meeting shall approve or disapprove all proposed projects by the District having a cost to the District in excess of \$5,000 by special vote of the electors. The annual meeting may also authorize the Board, during the succeeding year until the next annual meeting, to approve or disapprove projects having a cost to the District in excess of \$5,000, and to enter into contracts accordingly, subject to the limitations provided in the authorizing resolution. [Sec. 33.30(3)(d)]

**Section 8. Other Business.** The annual meeting shall take up and consider such other business as comes before it. [Sec. 33.30(2)(e)]

#### ARTICLE IV – POWERS OF THE DISTRICT

**Section 1. General Powers of a Body Corporate.** The District may sue and be sued, make contracts, accept gifts, purchase, lease, devise or otherwise acquire, hold or dispose of real or personal property, disburse money, contract debt and do such other acts as are necessary to carry out a program of lake protection and rehabilitation. [Sec. 33.22(1)]

**Section 2. Specific Lake Management Powers.** The District may conduct a feasibility study, adopt a plan, and carry out implementation work including but not limited to aeration, nutrient diversion, nutrient removal or inactivation, erosion control, sediment manipulation including dredging, and bottom treatments. [Sec. 33.13-15]

#### ARTICLE V – DISTRICT BOARD OF COMMISSIONERS

**Section 1. Composition.** The affairs of the District shall be managed by the Board of Commissioners which shall consist of five persons. Three shall be elected as provided in Article III, Section 5, and one each shall be appointed by the County Board and by the local municipality with the largest portion of valuation within the District. [Sec. 33.28(1), (2) and Sec. 33.33(1)]

**Section 2. Open Meetings.** The Board shall meet at least quarterly, and at other times on the call of the chairman or the petition of three of the commissioners. [Sec. 33.28(6)] Meetings shall be open and proper notice given in accordance with legislation governing meetings of public bodies. [Sec. 19.81-98]

**Section 3. Quorum and Vacancies.** Three commissioners shall constitute a quorum for the transaction of business. A majority of the commissioners plus one shall be present to borrow money. The chairman shall appoint an elector to fill any vacancies until the next annual meeting.

**Section 4. Function.** The Board shall conduct all business of the District not specifically reserved to the electors of the District, and shall carry out the provisions of these By-Laws and Chapter 33 of the Wisconsin Statute, and shall carry out the mandates of the annual meeting.

**Section 5. Officers.** At the first Board meeting, immediately following each annual meeting of the District, the Board shall elect a chairman, a secretary, and a treasurer from among its members. [Sec. 33.29 (3)]

1. The chairman shall preside at the annual and special meetings, all meetings of the Board and all public hearings held by the Board. [Sec. 33.29 (3) (a)]
2. The secretary shall keep minutes of all meetings of the District and the Board and hearings held by it, shall annually provide the University of Wisconsin Extension with names and addresses of commissioners, and by copy of said list shall annually notify the Department of Natural Resources of the continued existence of the District. [Sec. 33.29 (3)(b)]
3. The treasurer shall receive and take charge of all moneys of the District, and pay out the same only on order of the Board. [Sec. 33.29 (c)]

**Section 6. Compensation.** The commissioners shall receive no remuneration for their service in office, but a commissioner shall be paid for actual and necessary expenses incurred while conducting the business of the District.

**Section 7. Powers and Duties.** The Board shall be responsible for:

1. Initiating and coordinating research and surveys for the purpose of gathering data on the lake, related shorelands and the drainage basin. [Sec. 33.29 (1)(a)]
2. Planning lake rehabilitation projects. [Sec. 33.29 (1)(b)]
3. Contacting and attempting to secure the cooperation of officials of units of general purpose government in the area for the purpose of enacting ordinances deemed necessary by the Board as furthering the objectives of the District. [Sec. 33.29 (1)(c)]
4. Adopting and carrying out lake protection and rehabilitation plans and obtaining any necessary permits therefor. [Sec. 33.29 (1)(d)]
5. Maintaining liaison with those officials of state government involved in lake protection and rehabilitation. [Sec. 33.29 (1)(e)]

The Board shall have control over the fiscal matters of the District, subject to the powers and directives of the annual meeting. The Board shall annually, at the close of the fiscal year, cause an audit to be made of the financial transactions of the District, which shall be submitted to the annual meeting. [Sec. 33.29 (2)] A majority of the commissioners plus one must be present when a resolution is passed to commit the District to borrowing money or to using any other financing method prescribed by law.

The Board may use special assessment or charges for the purpose of carrying out District protection and rehabilitation projects, or for other lake management activities undertaken by the District. [Sec. 33.32] The Board may exercise its authority to borrow money when in temporary need. [Sec. 33.31 (5)]

## ARTICLE VI – PUBLIC BIDDING

**Section 1. Low Bid.** All contracts exceeding \$2,500 for work or materials shall be let by the Board to the lowest responsible bidder. [Sec. 33.22 (1)] The manner of soliciting bids and the determination of the responsibility of the bidder shall be at the discretion of the Board. If a bid is accepted which exceeds any other bid by more than 20 percent, the Board must provide a written justification for its action to the next annual meeting.

**Section 2. Security Bond.** The Board shall require that every contracting party in contracts in excess of \$5,000 give adequate performance and liability security at the time the party submits his bid. [Sec. 33.22 (2)]

**Section 3. Conflict of Interest.** Any commissioner shall abstain from voting on any matter before the Board in which he, as a private person or in which any member of his immediate family (spouse, parents, or child), has a financial interest.

## ARTICLE VII – COMMITTEES

**Section 1. Elections.** The chairman shall appoint three electors who are not running for the office of commissioner to serve as the elections committee. The committee shall distribute, collect, and count the ballots at the annual meeting and report the results to the annual meeting.

**Section 2. Auditing.** The Marion Town Board shall serve as the auditing committee. The committee shall examine all financial records of the District and report its conclusions to the annual meeting.

**Section 3. Other Committees.** The chairman may appoint other committees as he deems necessary to further the interests of the District.

**Section 4. Reporting.** All committees shall report to the chairman at his request and to the annual meeting.

**Section 5. Compensation.** Committee members shall receive no remuneration for service to the District. With prior approval from the Board, committee members may submit vouchers for actual and necessary expenses incurred while conducting the business of the District.

**Section 6. Terms of Members.** All committee members shall serve at the pleasure of the chairman and may be replaced by him on an annual basis following the Board meeting immediately following the annual meeting.

## ARTICLE VIII – MISCELLANEOUS PROVISIONS

**Section 1. Special Meetings.** Special meetings of the District may be held for the purpose of transacting any lawful business which might be done at the annual meeting. The meeting may be called by the Board or upon a written request to the secretary signed by 12 qualified electors of the District. The annual meeting notice requirements under Article III shall be followed and the

purpose of the meeting shall be stated. A matter voted upon at any special meeting may not be reconsidered at another special meeting prior to the next annual meeting.

**Section 2. Conduct of Meetings.** All meetings of the District shall be conducted according to Roberts Revised Rules of Order unless contrary to the requirements of these By-Laws. The chairman shall serve as parliamentarian.

**Section 3. Adoption of By-Laws.** These By-Laws may be adopted at any legal annual meeting of the District. Adoption shall require a two-thirds vote of the voting electors, as defined herein, present at the meeting. The By-Laws shall become effective immediately upon passage.

**Section 4. Amending By-Laws.** These By-Laws may be amended at any legal annual meeting of the District. Amendments shall require a two-thirds vote of the electors present and voting at the meeting.

**Certification:**

These By-Laws were adopted by vote of 12 yes and 0 no at the annual meeting on this 16th day of June, 1979.

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Secretary

**Addendum to:**

**ARTICLE II - VOTING**

**Section 4. Non-Wisconsin Residents.** Non Wisconsin members of the Deer Lake District have the same voting privileges and rights as Wisconsin members. (See Resolution No. 4 from June 16, 1979 annual meeting).

## **Appendix F: Lake User Survey Results (Combined)**



# Waushara County Lakes Project - Deer Lake Survey #1

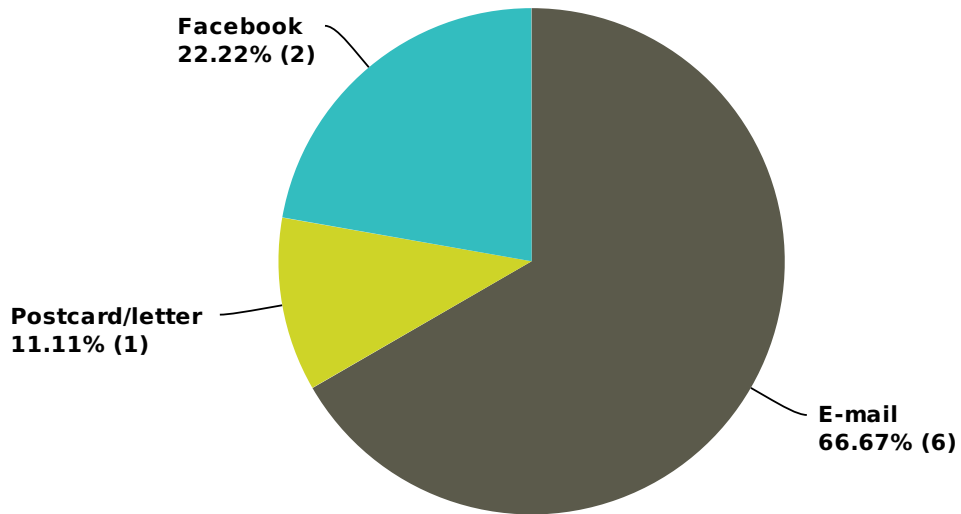
## Q1 What is your Waushara County Lakes Survey ID?

Answered: 9 Skipped: 0

#	Responses	Date
1	██████	2/18/2014 8:22 PM
2	██████	2/9/2014 4:00 PM
3	██████	2/8/2014 8:20 AM
4	██████	2/8/2014 8:13 AM
5	████	2/7/2014 4:52 PM
6	██████	2/7/2014 11:11 AM
7	██████	1/30/2014 1:23 PM
8	██████	1/23/2014 2:38 PM
9	██████	1/15/2014 3:50 PM

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

Answered: 9 Skipped: 0



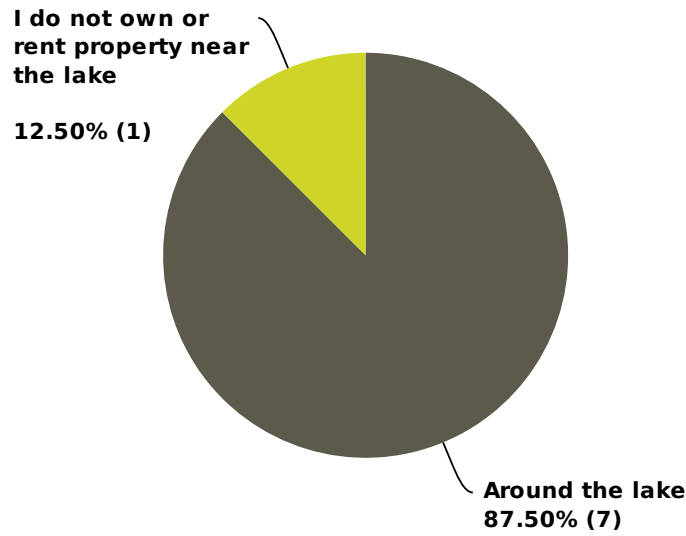
Answer Choices	Responses	
E-mail	66.67%	6
Newspaper	0%	0
Postcard/letter	11.11%	1
Facebook	22.22%	2
Radio	0%	0
<b>Total</b>		<b>9</b>

#	Other (please specify)	Date
1	nieghbor	2/8/2014 8:20 AM
2	nieghbor	2/8/2014 8:13 AM



**Q3 Do you own or rent property...**

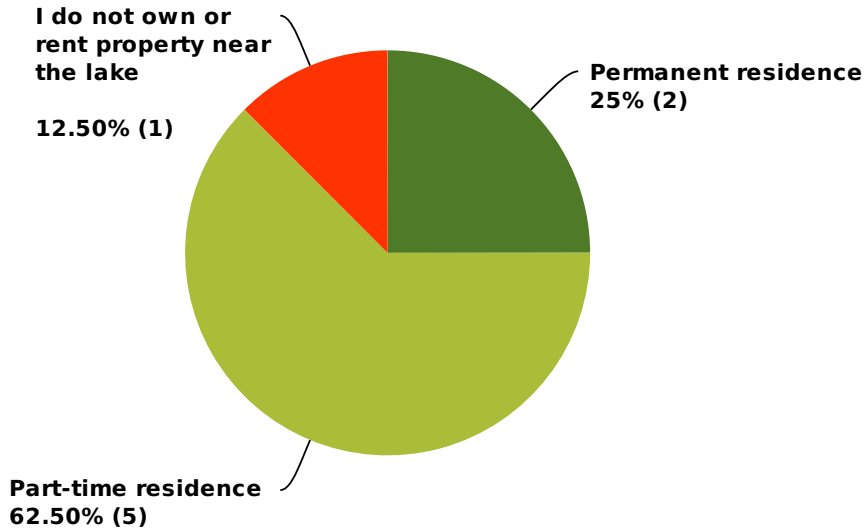
Answered: 8 Skipped: 1



Answer Choices	Responses	
Around the lake	87.50%	7
Less than 1/2 mile from the lake	0%	0
1/2 mile to 1 mile of the lake	0%	0
More than 1 mile from the lake	0%	0
I do not own or rent property near the lake	12.50%	1
<b>Total</b>		<b>8</b>

**Q4 If you own or rent property near the lake, is this property your permanent residence, a part-time residence (such as a vacation home, rental, etc.), or other?**

Answered: 8 Skipped: 1

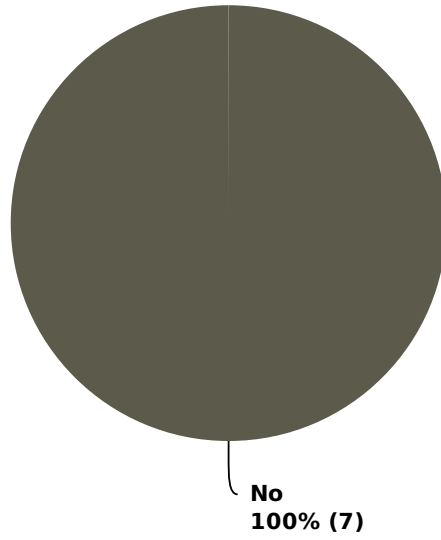


Answer Choices	Responses
Permanent residence	25% 2
Part-time residence	62.50% 5
I do not own or rent property near the lake	12.50% 1
<b>Total</b>	<b>8</b>

#	Other (please specify)	Date
	There are no responses.	

**Q5 I own property on or near the lake because I inherited it.**

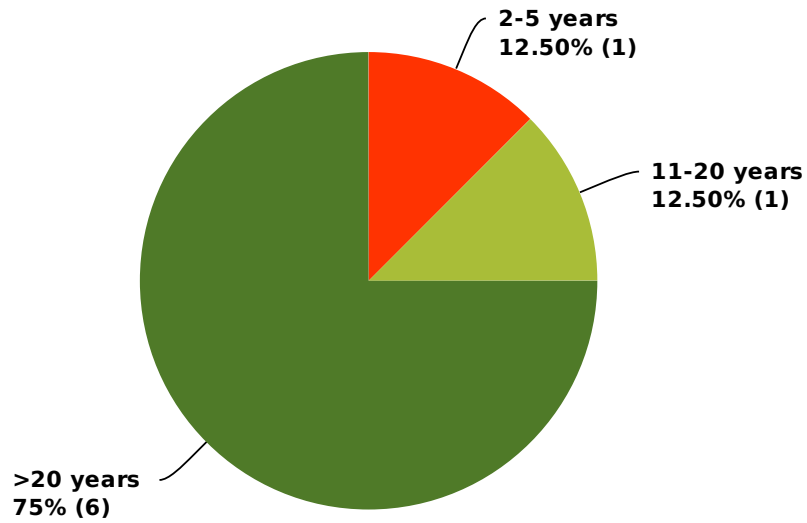
Answered: 7 Skipped: 2



Answer Choices	Responses
Yes	0% 0
No	100% 7
Total	7

**Q6 How long have you lived on, visited or  
recreated on the lake?**

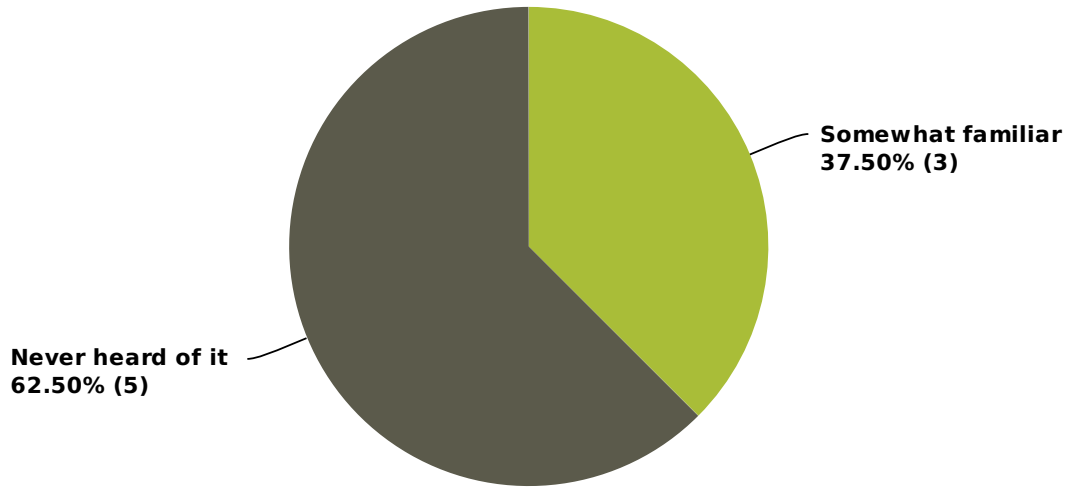
Answered: 8 Skipped: 1



Answer Choices	Responses
<2 years	0% 0
2-5 years	12.50% 1
6-10 years	0% 0
11-20 years	12.50% 1
>20 years	75% 6
<b>Total</b>	<b>8</b>

### Q7 Are you familiar with the Deer Lake Rehabilitation District (DLRD)?

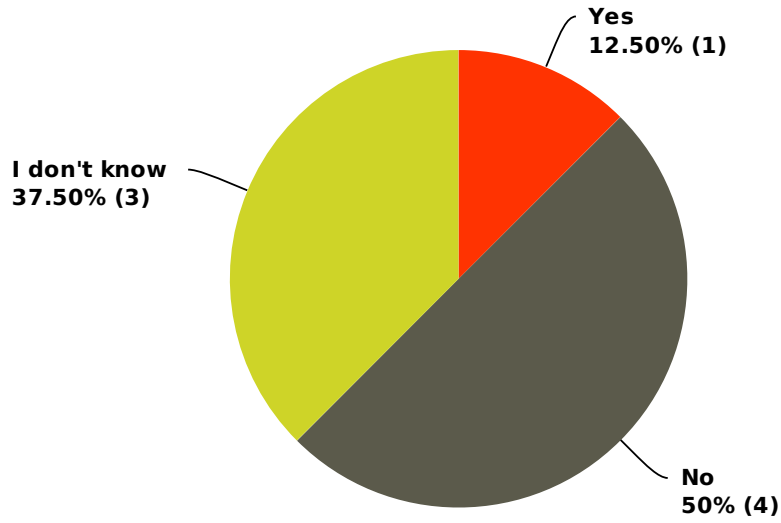
Answered: 8 Skipped: 1



Answer Choices	Responses	
Very familiar	0%	0
Somewhat familiar	37.50%	3
I've heard of it	0%	0
Never heard of it	62.50%	5
<b>Total</b>		<b>8</b>

### Q8 Are you a member of the Deer Lake Rehabilitation District?

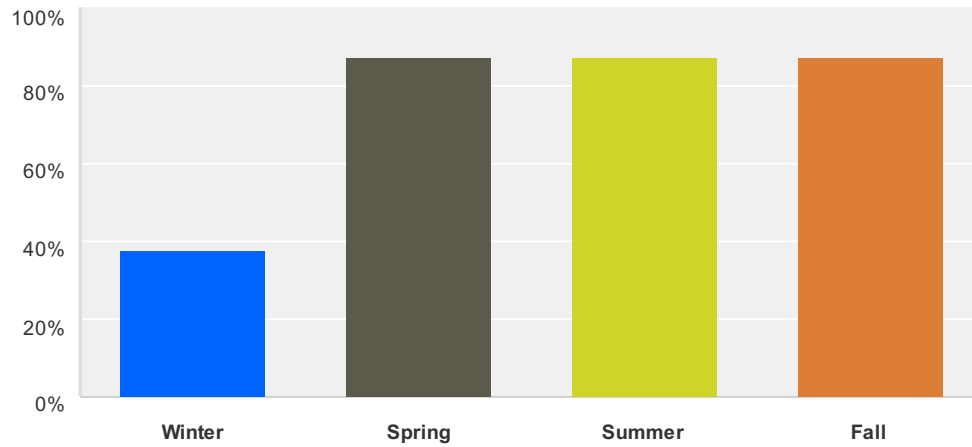
Answered: 8 Skipped: 1



Answer Choices	Responses	
Yes	12.50%	1
No	50%	4
I don't know	37.50%	3
<b>Total</b>		<b>8</b>

**Q9 What time of year do you generally use the lake? Select all that apply.**

Answered: 8 Skipped: 1

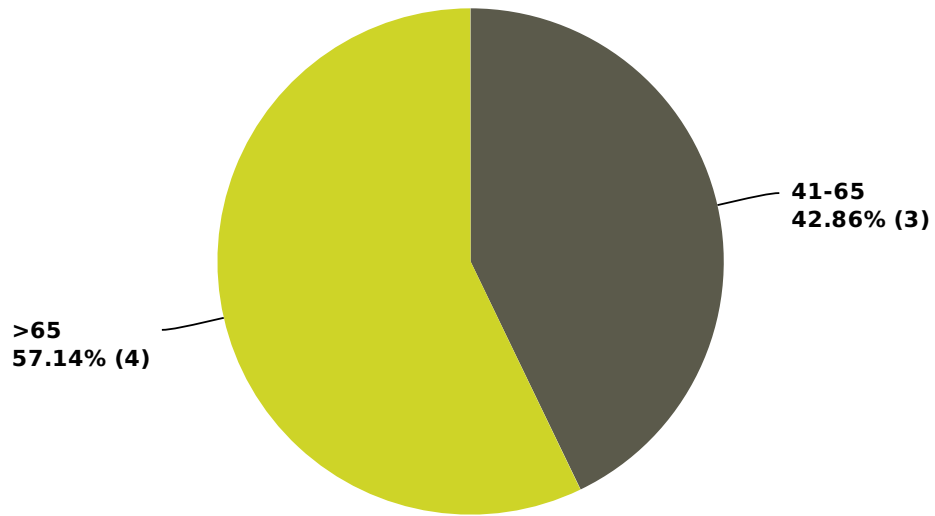


Answer Choices	Responses
Winter	37.50% 3
Spring	87.50% 7
Summer	87.50% 7
Fall	87.50% 7
<b>Total Respondents: 8</b>	



### Q10 Which category below includes your age?

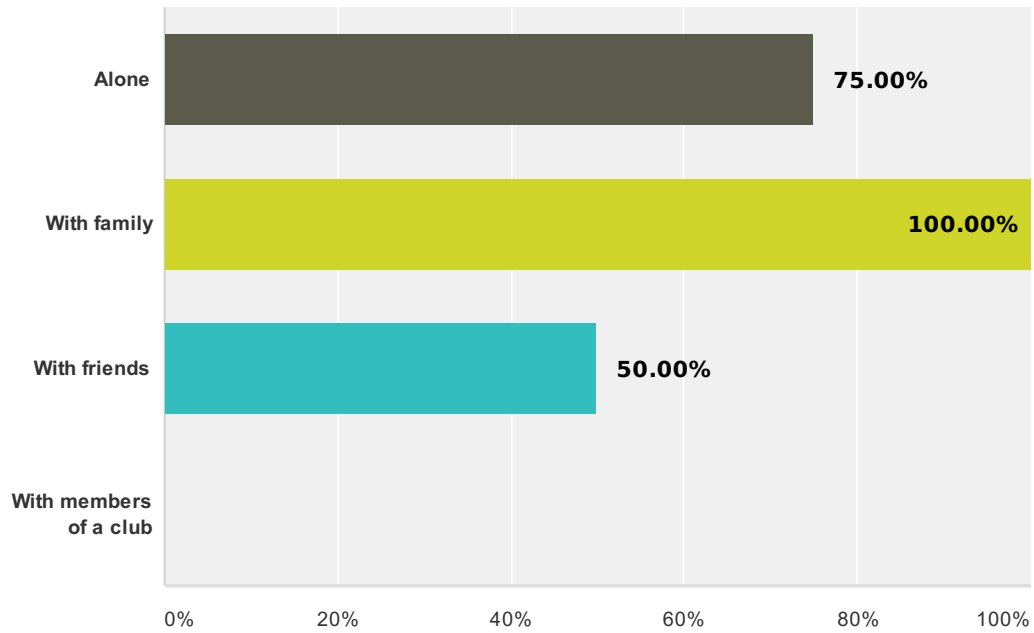
Answered: 7 Skipped: 2



Answer Choices	Responses
Under 18	0% 0
18-40	0% 0
41-65	42.86% 3
>65	57.14% 4
<b>Total</b>	<b>7</b>

**Q11 When you visit Deer Lake, are you typically...(check all that apply)**

Answered: 4 Skipped: 5



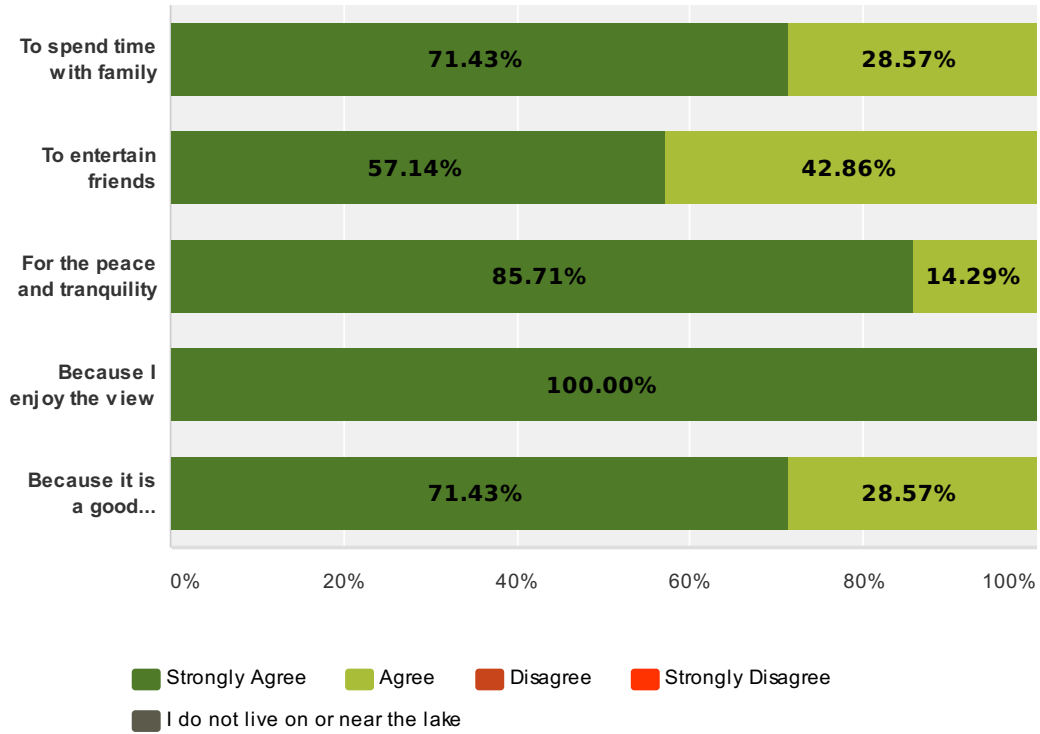
Answer Choices	Responses
Alone	75% 3
With family	100% 4
With friends	50% 2
With members of a club	0% 0
<b>Total Respondents: 4</b>	

#	Other (please specify)	Date
1	Permanent resident	2/7/2014 5:00 PM

# Waushara County Lakes Project - Deer Lake Survey #1

## Q12 I live on or near the lake...

Answered: 7 Skipped: 2



	Strongly Agree	Agree	Disagree	Strongly Disagree	I do not live on or near the lake	Total
To spend time with family	71.43% 5	28.57% 2	0% 0	0% 0	0% 0	7
To entertain friends	57.14% 4	42.86% 3	0% 0	0% 0	0% 0	7
For the peace and tranquility	85.71% 6	14.29% 1	0% 0	0% 0	0% 0	7
Because I enjoy the view	100% 7	0% 0	0% 0	0% 0	0% 0	7
Because it is a good investment	71.43% 5	28.57% 2	0% 0	0% 0	0% 0	7

**Q13 What do you value most about Deer Lake?**

Answered: 7 Skipped: 2

#	Responses	Date
1	swimming, boating, and the view, peace and quiet	2/18/2014 8:25 PM
2	No wake lake-grandkids can use row boats, pedal boats and swim in lake	2/9/2014 4:05 PM
3	swimming, boating and the view.	2/8/2014 8:23 AM
4	Peace and quiet	2/7/2014 5:00 PM
5	PEACEFULNESS, CALMNESS, VIEW	2/7/2014 11:14 AM
6	Peace and Tranquility	1/30/2014 1:24 PM
7	its mostly natural shoreline	1/15/2014 3:53 PM

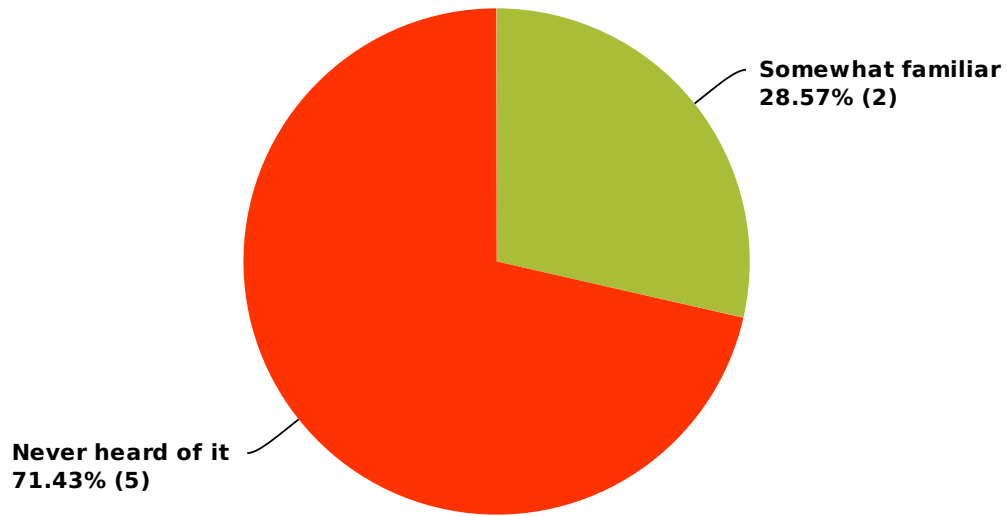
**Q14 In your opinion, what should be done to restore, maintain, or improve Deer Lake?**

Answered: 7 Skipped: 2

#	Responses	Date
1	get rid of the weeds and cat tails, can't fish cause weeds catch hook, can't use pedal boat cause weeds catch the rudder	2/18/2014 8:25 PM
2	Cut most of the weeds-can't swim, use pedal boats-weeds catch in rudder-can't fish because weeds get hook	2/9/2014 4:05 PM
3	eradicate the weeds, possibly dredging.	2/8/2014 8:23 AM
4	Dredge shallow part of lake	2/7/2014 5:00 PM
5	Return the lake from the being a swamp - needs dredging - needs to get the muck off the bottom so that the lake can return to the beauty it has been in the past. Too many weeds in the lake as well as muck and decaying vegetation, etc.	2/7/2014 11:14 AM
6	Cut the weeds	1/30/2014 1:24 PM
7	aerators- the lake has a tendency to freeze	1/15/2014 3:53 PM

### Q15 How familiar are you with Wisconsin's Public Trust Doctrine?

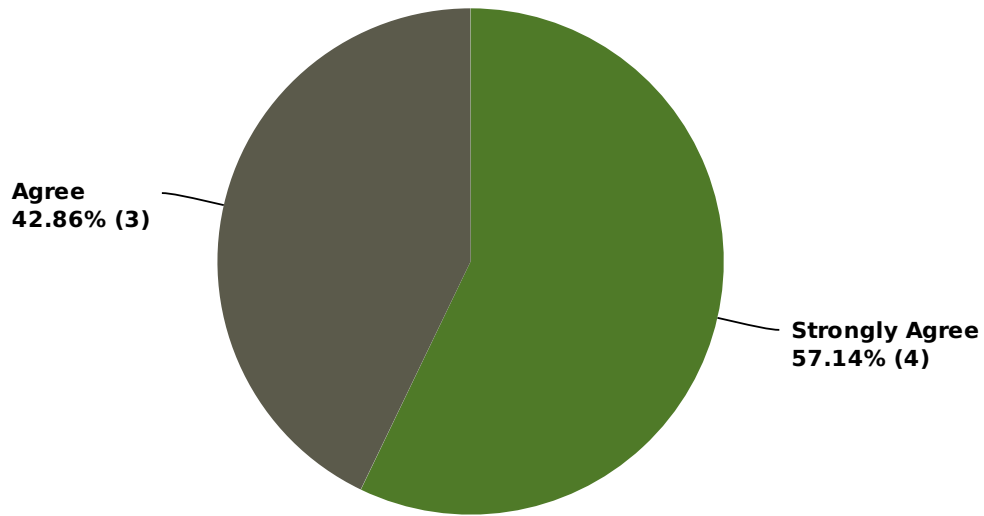
Answered: 7 Skipped: 2



Answer Choices	Responses	
Very familiar	0%	0
Somewhat familiar	28.57%	2
I've heard of it	0%	0
Never heard of it	71.43%	5
<b>Total</b>		<b>7</b>

**Q16 How I recreate in and around the lake can affect other lake users.**

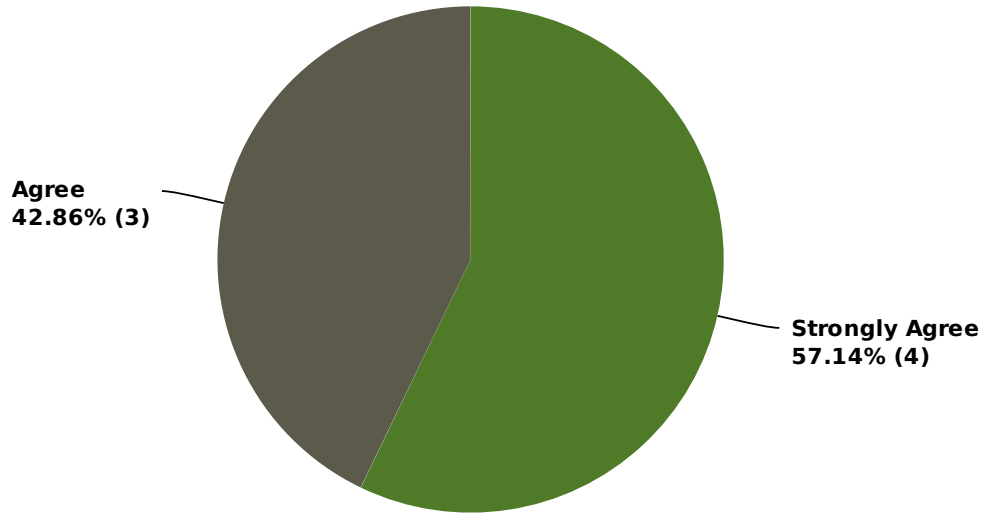
Answered: 7 Skipped: 2



Answer Choices	Responses	
Strongly Agree	57.14%	4
Agree	42.86%	3
Disagree	0%	0
Strongly Disagree	0%	0
<b>Total</b>		<b>7</b>

**Q17 How I manage my land can affect other lake users.**

Answered: 7 Skipped: 2

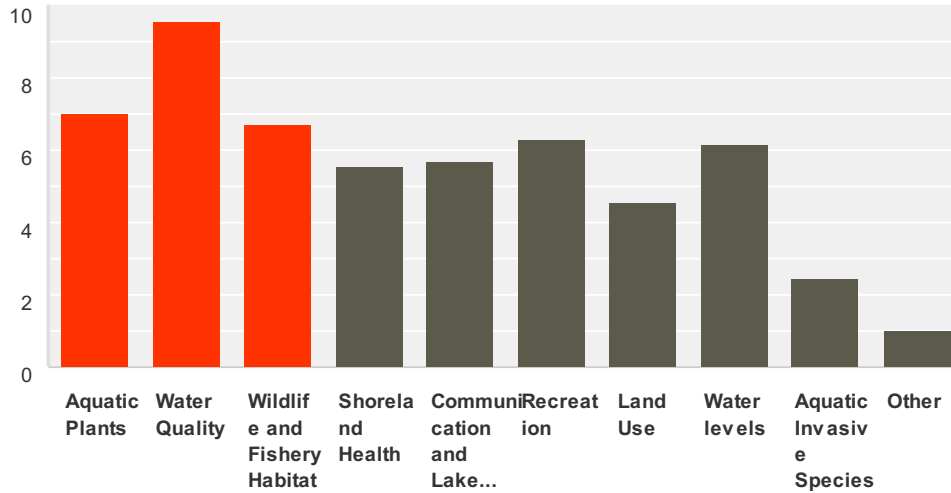


Answer Choices	Responses	
Strongly Agree	57.14%	4
Agree	42.86%	3
Disagree	0%	0
Strongly Disagree	0%	0
<b>Total</b>		<b>7</b>



**Q18 Which of the following meeting topics, in your opinion, are the most important to talk about regarding Deer Lake? (Please rank at least your top three.)**

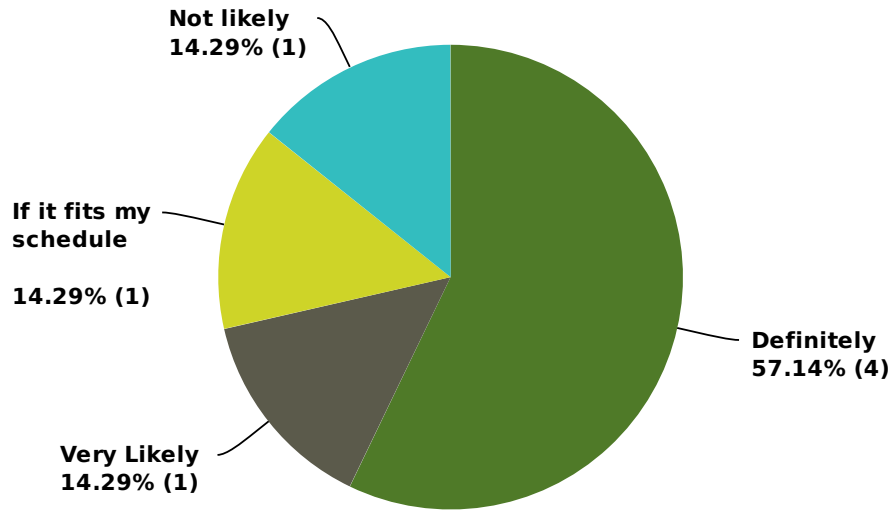
Answered: 7 Skipped: 2



	1	2	3	4	5	6	7	8	9	10	Total	Average Ranking
Aquatic Plants	0% 0	28.57% 2	14.29% 1	28.57% 2	0% 0	14.29% 1	14.29% 1	0% 0	0% 0	0% 0	7	7.00
Water Quality	71.43% 5	14.29% 1	14.29% 1	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	7	9.57
Wildlife and Fishery Habitat	14.29% 1	0% 0	28.57% 2	28.57% 2	0% 0	0% 0	14.29% 1	14.29% 1	0% 0	0% 0	7	6.71
Shoreland Health	0% 0	14.29% 1	0% 0	14.29% 1	28.57% 2	14.29% 1	14.29% 1	0% 0	14.29% 1	0% 0	7	5.57
Communication and Lake Group Support	0% 0	0% 0	14.29% 1	0% 0	57.14% 4	14.29% 1	0% 0	14.29% 1	0% 0	0% 0	7	5.71
Recreation	0% 0	28.57% 2	0% 0	14.29% 1	0% 0	42.86% 3	14.29% 1	0% 0	0% 0	0% 0	7	6.29
Land Use	0% 0	0% 0	14.29% 1	0% 0	14.29% 1	0% 0	42.86% 3	28.57% 2	0% 0	0% 0	7	4.57
Water levels	14.29% 1	14.29% 1	14.29% 1	14.29% 1	0% 0	0% 0	0% 0	42.86% 3	0% 0	0% 0	7	6.14
Aquatic Invasive Species	0% 0	0% 0	0% 0	0% 0	0% 0	14.29% 1	0% 0	0% 0	85.71% 6	0% 0	7	2.43
Other	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	100% 7	7	1.00

**Q19 Many of the decisions determining the final lake management plan will be made at the planning sessions. Sessions will typically take place monthly on weeknights. How likely is it that you will attend one or more of the planning sessions?**

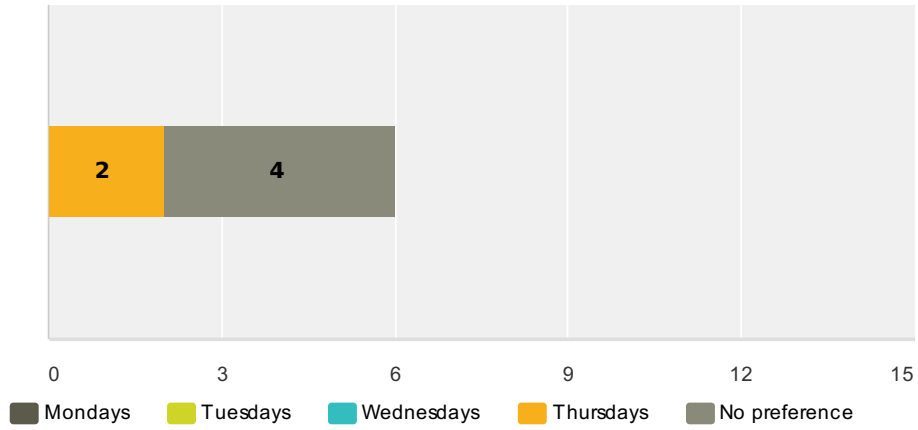
Answered: 7 Skipped: 2



Answer Choices	Responses
Definitely	57.14% 4
Very Likely	14.29% 1
If it fits my schedule	14.29% 1
Not likely	14.29% 1
I won't attend any	0% 0
<b>Total</b>	<b>7</b>

**Q20 Previous experience has shown that weekday evenings work best for most people. If you will attend the planning sessions, which weeknights do you prefer?**

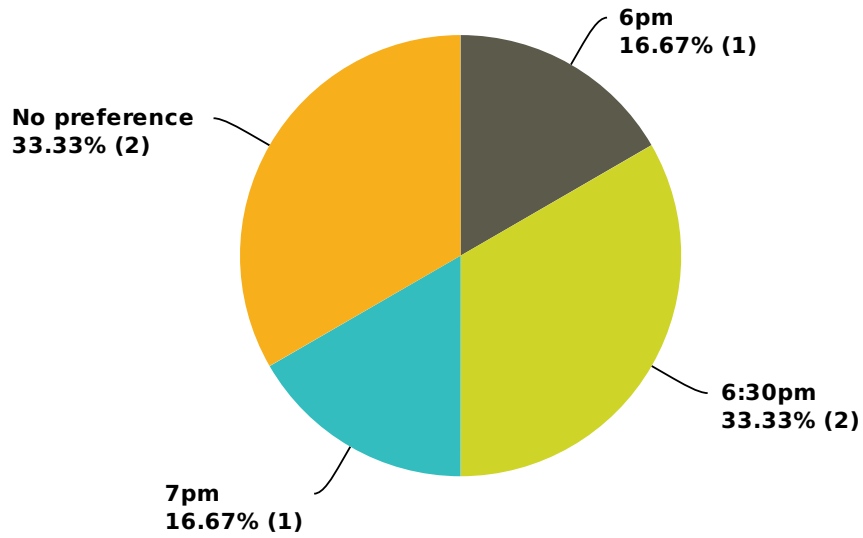
Answered: 6 Skipped: 3



Answer Choices	Responses
Mondays	0% 0
Tuesdays	0% 0
Wednesdays	0% 0
Thursdays	33.33% 2
No preference	66.67% 4
<b>Total Respondents: 6</b>	

**Q21 Most sessions will last around 2 hours.  
If you will attend the planning sessions,  
which times do you prefer to start?**

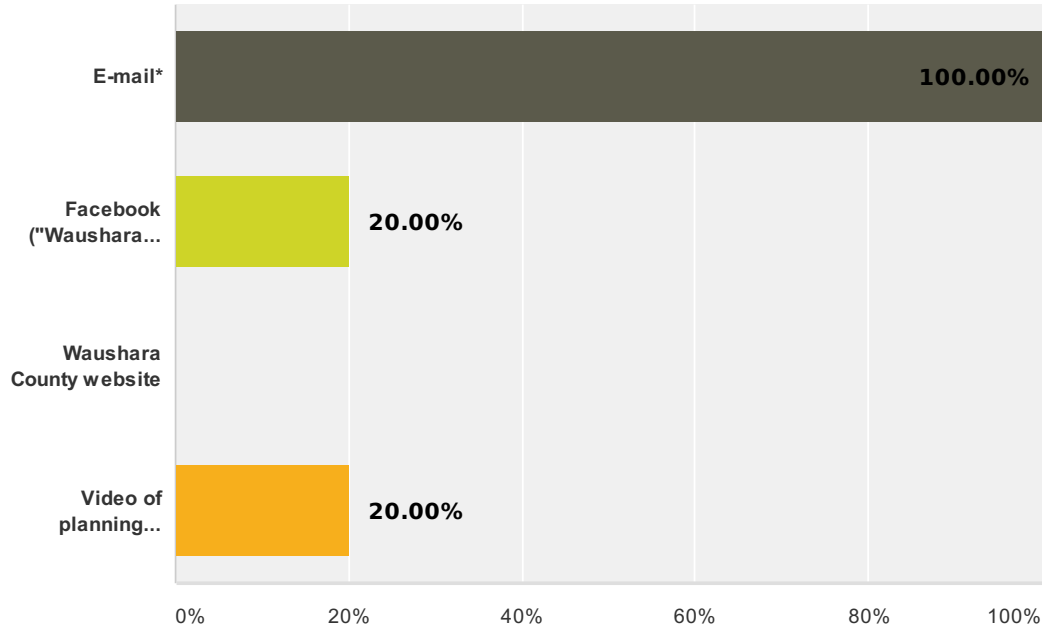
Answered: 6 Skipped: 3



Answer Choices	Responses	
6pm	16.67%	1
6:30pm	33.33%	2
7pm	16.67%	1
7:30pm	0%	0
No preference	33.33%	2
<b>Total</b>		<b>6</b>

**Q22 How would you like to receive information about meetings (agendas, minutes), the planning process, and updates? (Select all that apply)**

Answered: 5 Skipped: 4



Answer Choices	Responses
E-mail*	100% 5
Facebook ("Waushara County Lakes Project")	20% 1
Waushara County website	0% 0
Video of planning meeting posted on the web	20% 1
<b>Total Respondents: 5</b>	

#	Other (please specify)	Date
1	Regular postal service mail	1/30/2014 1:25 PM

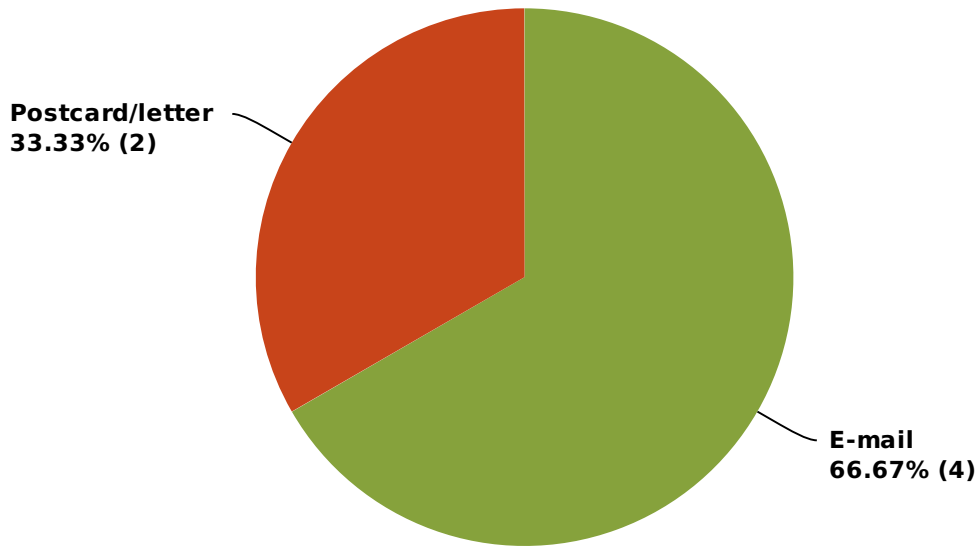
**Q1 Enter your Waushara County Lakes Survey ID. If you've forgotten your ID or haven't created one yet, follow the instructions below.**

Answered: 7 Skipped: 0

#	Responses	Date
1	██████	2/27/2014 11:18 AM
2	██████	2/27/2014 11:12 AM
3	██████	2/26/2014 9:39 PM
4	██████	2/26/2014 3:29 PM
5	████	2/26/2014 3:17 PM
6	██████	2/22/2014 12:34 PM
7	██████	2/19/2014 12:46 PM

## Q2 How did you hear about this survey?

Answered: 6 Skipped: 1

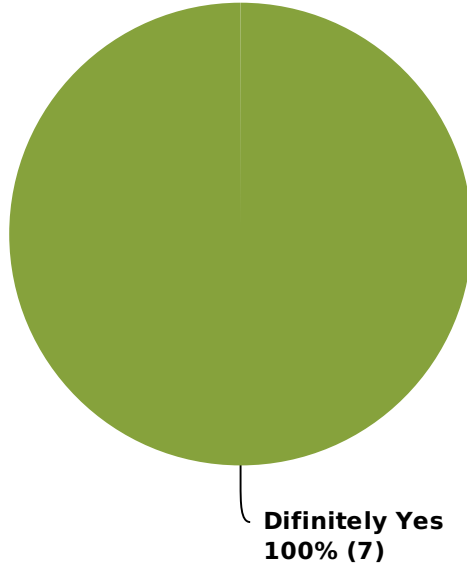


Answer Choices	Responses
E-mail	66.67% 4
Newspaper	0% 0
Postcard/letter	33.33% 2
Facebook	0% 0
Radio	0% 0
<b>Total</b>	<b>6</b>

#	Other (please specify)	Date
	There are no responses.	

**Q3 Does a desire to provide better habitat for fish and wildlife motivate you to support (morally) efforts to improve Deer Lake?**

Answered: 7 Skipped: 0

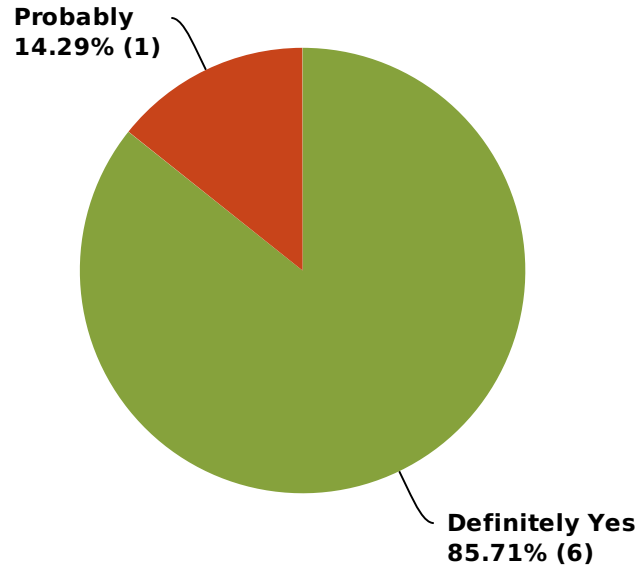


Answer Choices	Responses
Definitely Yes	100% 7
Probably	0% 0
Not Likely	0% 0
Definitely No	0% 0
Unsure	0% 0
<b>Total</b>	<b>7</b>



**Q4 Does a desire to provide better habitat for fish and wildlife motivate you to support (by direct action) efforts to improve Deer Lake?**

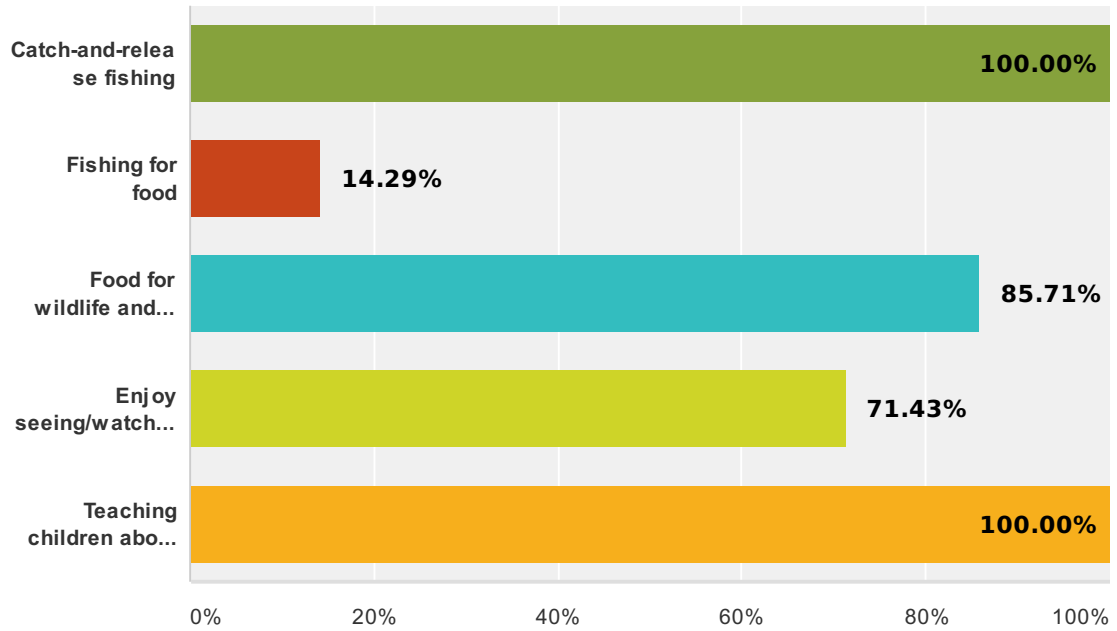
Answered: 7 Skipped: 0



Answer Choices	Responses
Definitely Yes	85.71% 6
Probably	14.29% 1
Not Likely	0% 0
Definitely No	0% 0
Unsure	0% 0
<b>Total</b>	<b>7</b>

**Q5 For what purposes do you value the fishery in Deer Lake? (Check all that apply.)**

Answered: 7 Skipped: 0

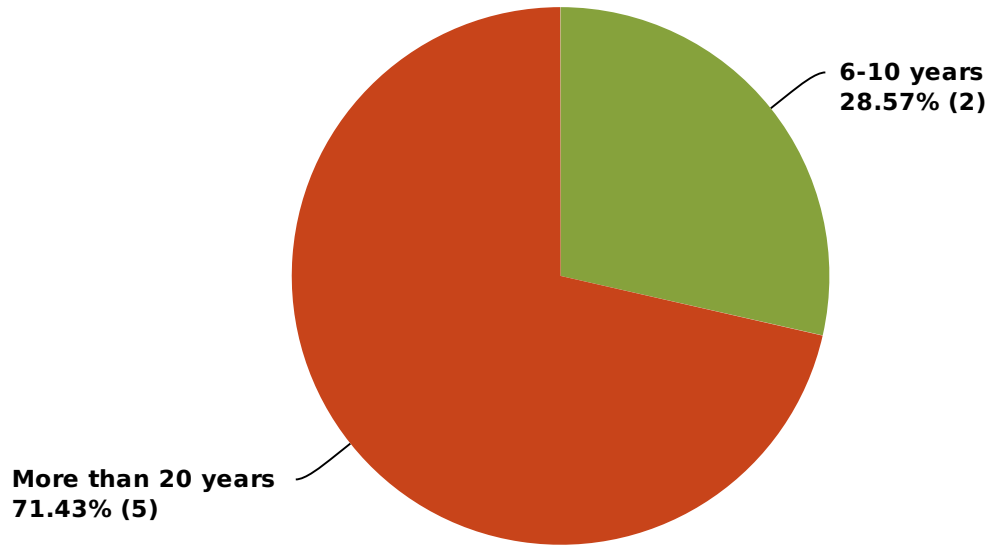


Answer Choices	Responses
Catch-and-release fishing	100% 7
Fishing for food	14.29% 1
Food for wildlife and birds	85.71% 6
Enjoy seeing/watching fish	71.43% 5
Teaching children about fishing/lakes	100% 7
<b>Total Respondents: 7</b>	

#	Other (please specify)	Date
1	Ripples on the water on a calm summer night.	2/26/2014 3:19 PM

### Q6 How many years of fishing experience do you have on Deer Lake?

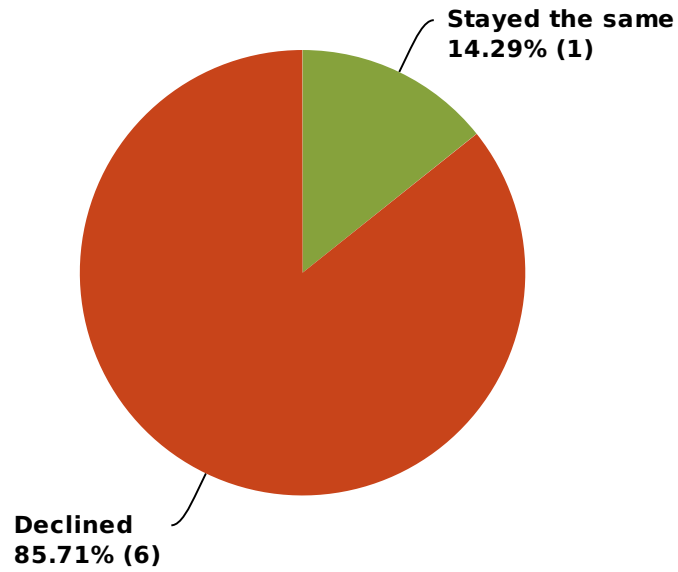
Answered: 7 Skipped: 0



Answer Choices	Responses	Count
I don't fish Deer Lake	0%	0
1-5 years	0%	0
6-10 years	28.57%	2
11-20 years	0%	0
More than 20 years	71.43%	5
<b>Total</b>		<b>7</b>

**Q7 In the years you have been fishing Deer Lake, would you say the quality of fishing has...**

Answered: 7 Skipped: 0



Answer Choices	Responses
Improved	0% 0
Stayed the same	14.29% 1
Declined	85.71% 6
Not sure	0% 0
<b>Total</b>	<b>7</b>

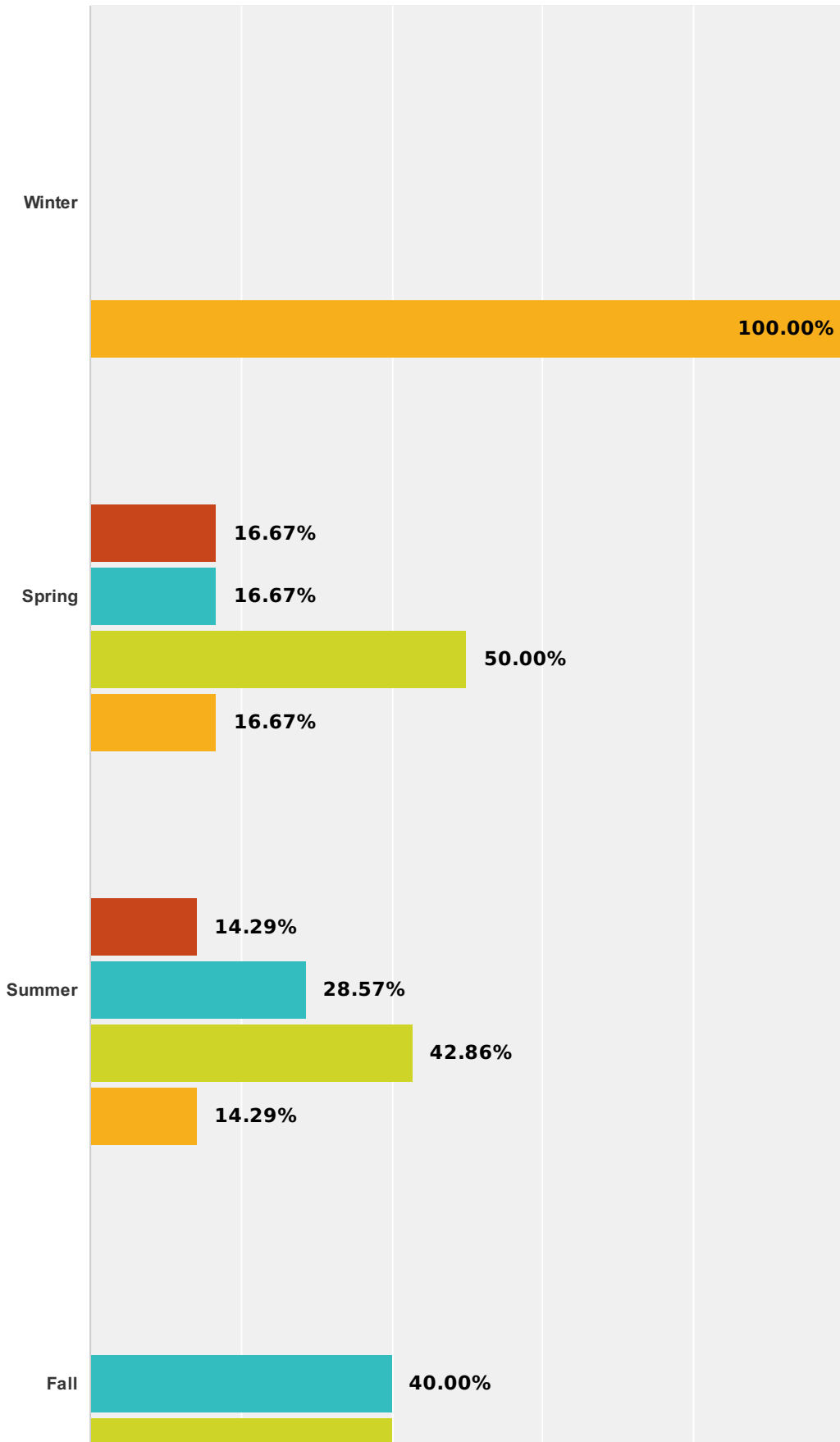
**Q8 What factors do you feel have contributed to the change in fishing?**

Answered: 2 Skipped: 5

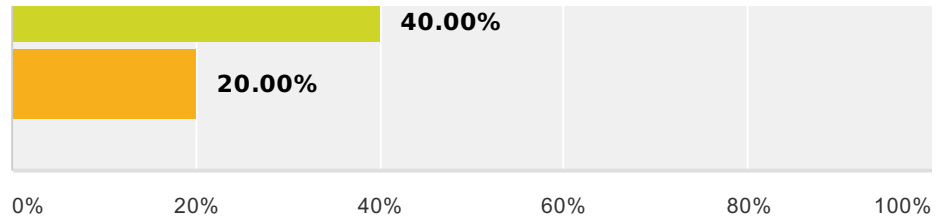
#	Responses	Date
1	fish kill - over fishing - swampy lake	2/26/2014 9:40 PM
2	Low water levels in 2007 led to a massive die off the following winter and the fishery again had a die off in 2010. Water levels are back but the fishery has not come back to anything close to what it used to be.	2/26/2014 3:22 PM

### Q9 When and how often do you typically fish Deer Lake? (Please answer a-e)

Answered: 7 Skipped: 0



## Waushara County Lakes Project - Deer Lake Survey #2

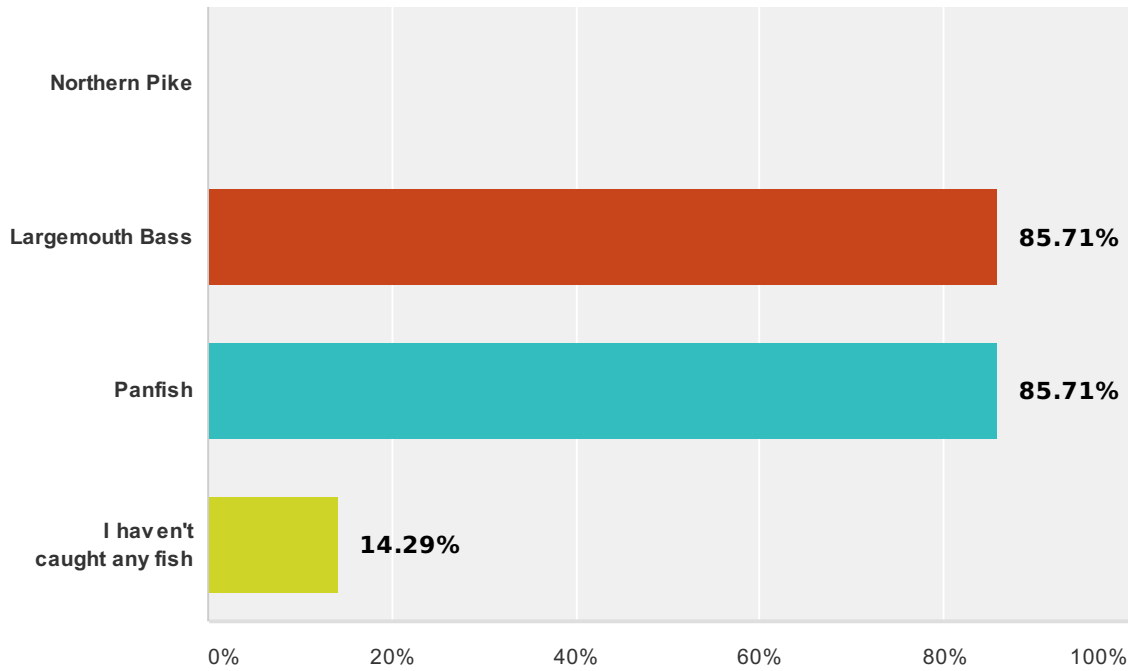


- a) Daily   
 ■ b) Weekly   
 ■ c) Once or twice a month   
 ■ d) A few times a year  
■ e) Not at all

	a) Daily	b) Weekly	c) Once or twice a month	d) A few times a year	e) Not at all	Total Respondents
Winter	0% 0	0% 0	0% 0	0% 0	100% 4	4
Spring	0% 0	16.67% 1	16.67% 1	50% 3	16.67% 1	6
Summer	0% 0	14.29% 1	28.57% 2	42.86% 3	14.29% 1	7
Fall	0% 0	0% 0	40% 2	40% 2	20% 1	5

### Q10 What fish do you typically catch at Deer Lake? Check all that apply.

Answered: 7 Skipped: 0



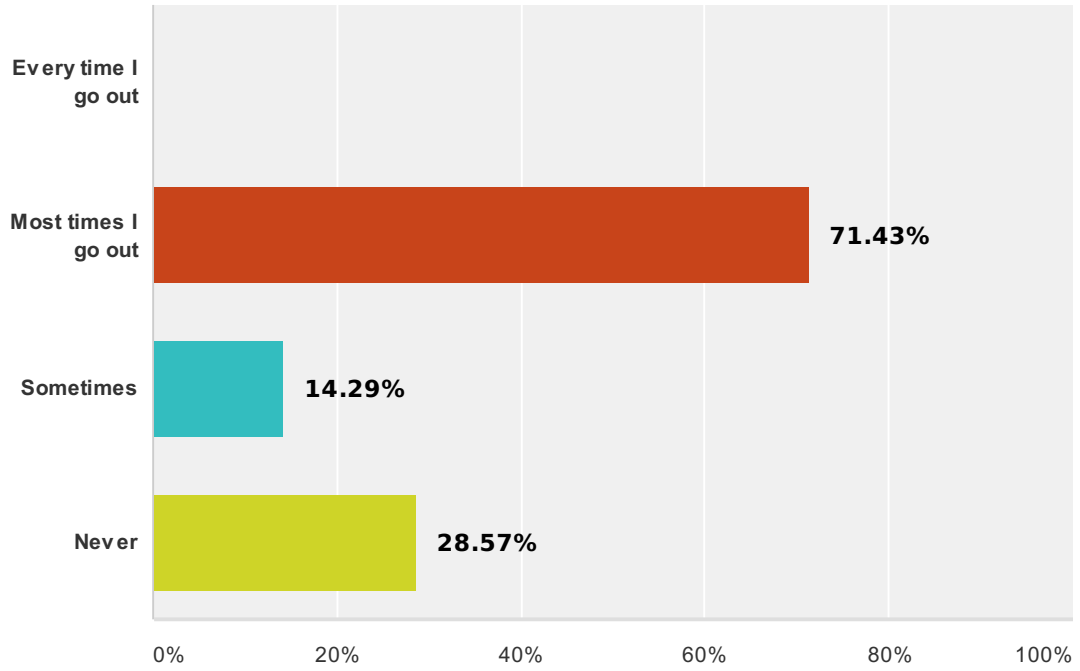
Answer Choices	Responses
Northern Pike	0% 0
Largemouth Bass	85.71% 6
Panfish	85.71% 6
I haven't caught any fish	14.29% 1
<b>Total Respondents: 7</b>	

#	Other (please specify)	Date
	There are no responses.	



### Q11 In general, how often do you catch fish at Deer Lake?

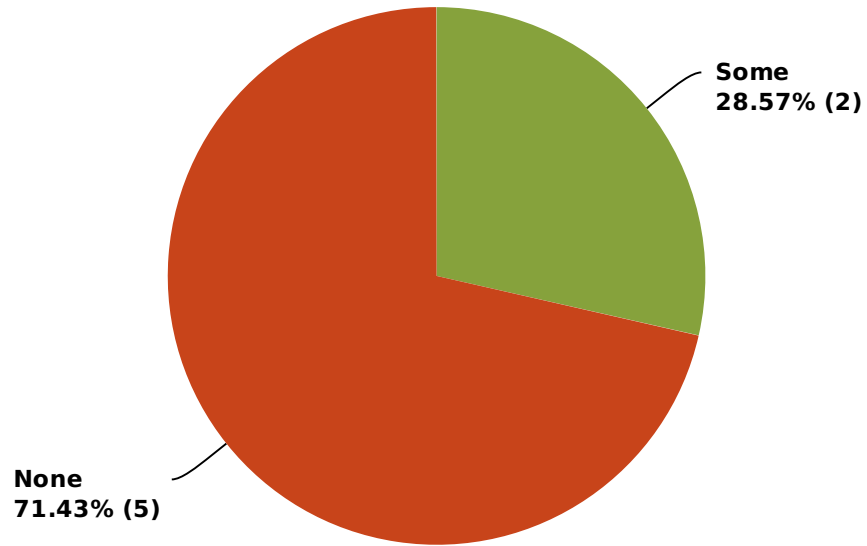
Answered: 7 Skipped: 0



Answer Choices	Responses
Every time I go out	0% 0
Most times I go out	71.43% 5
Sometimes	14.29% 1
Never	28.57% 2
<b>Total Respondents: 7</b>	

### Q12 In general, how many of the fish are big enough to keep?

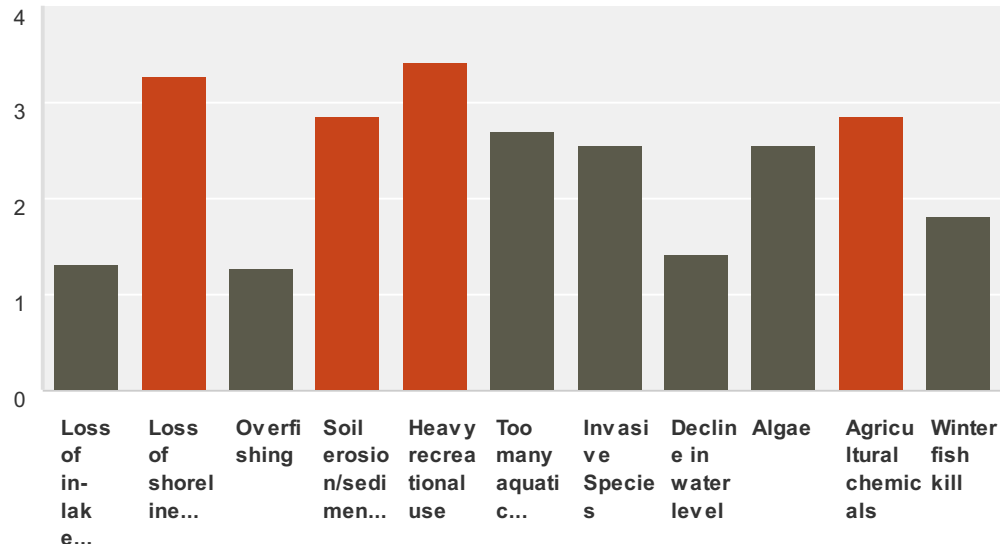
Answered: 7 Skipped: 0



Answer Choices	Responses	
All	0%	0
Most	0%	0
Some	28.57%	2
None	71.43%	5
<b>Total</b>		<b>7</b>

### Q13 What do you believe is the greatest threat to the fishery in Deer Lake in the next 10 years?

Answered: 7 Skipped: 0

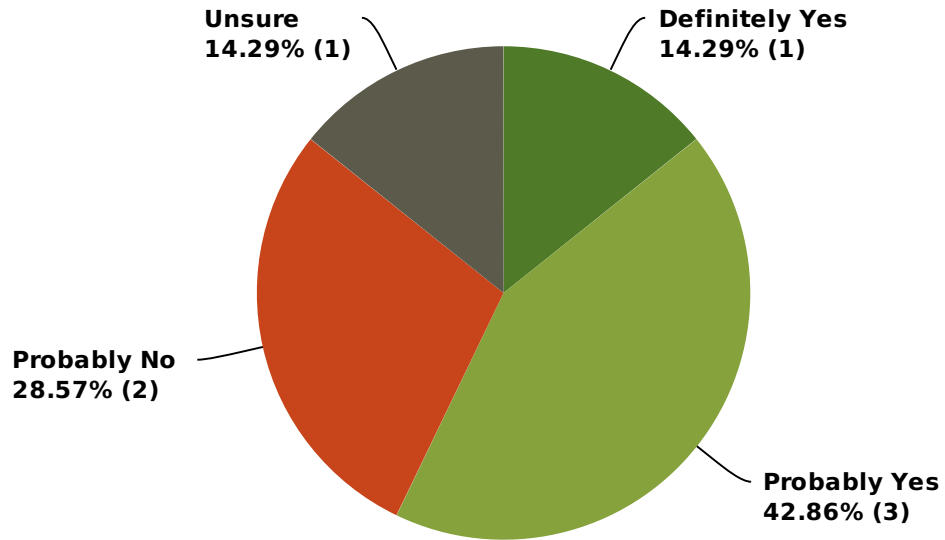


	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know	Total Respondents
Loss of in-lake habitat	66.67% 4	33.33% 2	0% 0	0% 0	0% 0	6
Loss of shoreline habitat	14.29% 1	0% 0	57.14% 4	0% 0	28.57% 2	7
Overfishing	71.43% 5	28.57% 2	0% 0	0% 0	0% 0	7
Soil erosion/sedimentation	28.57% 2	14.29% 1	28.57% 2	0% 0	28.57% 2	7
Heavy recreational use	0% 0	14.29% 1	57.14% 4	0% 0	28.57% 2	7
Too many aquatic plants	28.57% 2	28.57% 2	14.29% 1	0% 0	28.57% 2	7
Invasive Species	42.86% 3	14.29% 1	14.29% 1	0% 0	28.57% 2	7
Decline in water level	71.43% 5	14.29% 1	14.29% 1	0% 0	0% 0	7
Algae	42.86% 3	14.29% 1	14.29% 1	0% 0	28.57% 2	7
Agricultural chemicals	42.86% 3	14.29% 1	0% 0	0% 0	42.86% 3	7
Winter fish kill	66.67% 4	16.67% 1	0% 0	0% 0	16.67% 1	6

#	Other (please specify)	Date
	There are no responses.	

### Q14 Do you believe fish from Deer Lake are safe to eat?

Answered: 7 Skipped: 0



Answer Choices	Responses
Definitely Yes	14.29% 1
Probably Yes	42.86% 3
Probably No	28.57% 2
Definitely No	0% 0
Unsure	14.29% 1
<b>Total</b>	<b>7</b>

## Waushara County Lakes Project - Deer Lake Survey #2

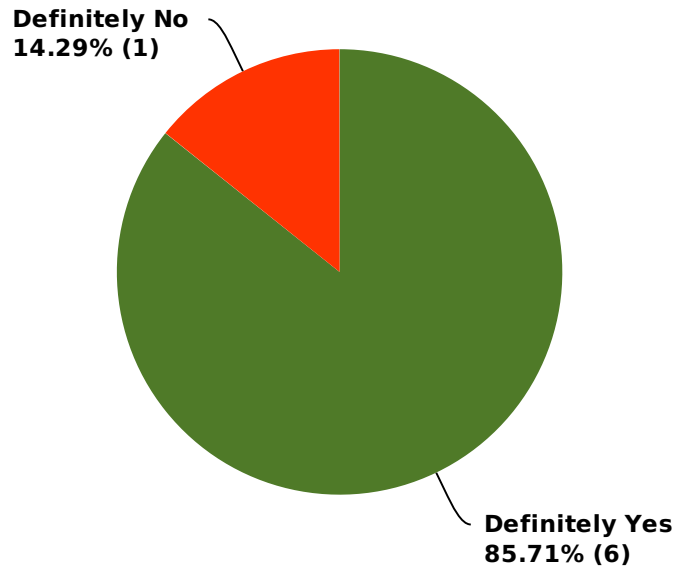
### Q15 Do you have any additional comments regarding the fishery in Deer Lake?

Answered: 1 Skipped: 6

#	Responses	Date
1	The old large perch population was known around the area and on a winter weekend day you could count up to 18 anglers here fishing through the ice. Since the die offs there has been no restocking by the DNR only the lake association. A spring stocking of fish is scheduled for spring 2014.	2/26/2014 3:26 PM

### Q16 Deer Lake is a 'No Wake' lake. Do you like this rule?

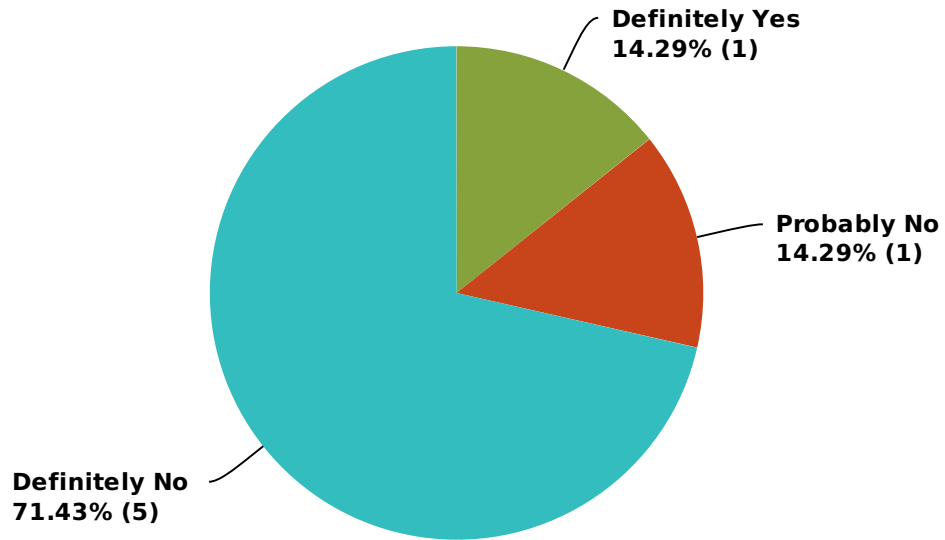
Answered: 7 Skipped: 0



Answer Choices	Responses	
Definitely Yes	85.71%	6
Yes, mostly	0%	0
Not most of the time	0%	0
Definitely No	14.29%	1
Unsure	0%	0
<b>Total</b>		<b>7</b>

### Q17 Do you think there should be times when a wake is permitted on Deer Lake?

Answered: 7 Skipped: 0



Answer Choices	Responses
Definitely Yes	14.29% 1
Probably Yes	0% 0
Probably No	14.29% 1
Definitely No	71.43% 5
Unsure	0% 0
<b>Total</b>	<b>7</b>

**Q18 What could be done to improve your recreation experience on Deer Lake?**

Answered: 3 Skipped: 4

#	Responses	Date
1	dredge the lake - get rid of the swamp	2/26/2014 9:42 PM
2	Its beautiful the way it is. No motor boat traffic only canoes and paddle boats.	2/26/2014 3:26 PM
3	get control of water quality. Weed control.	2/22/2014 12:39 PM

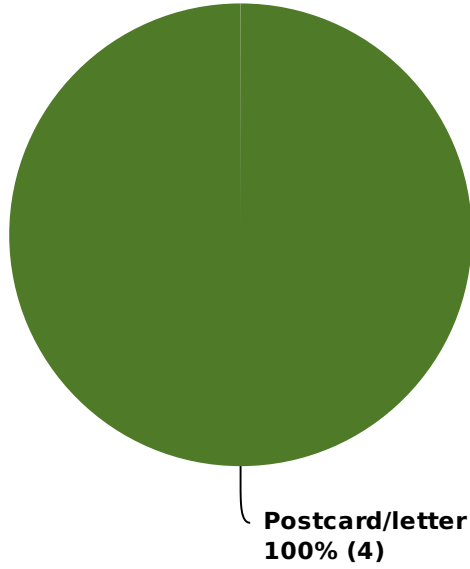


**Q1 Enter your Waushara County Lakes Survey ID. If you've forgotten your ID or haven't created one yet, follow the instructions below.**

Answered: 4 Skipped: 0

## Q2 How did you hear about this survey?

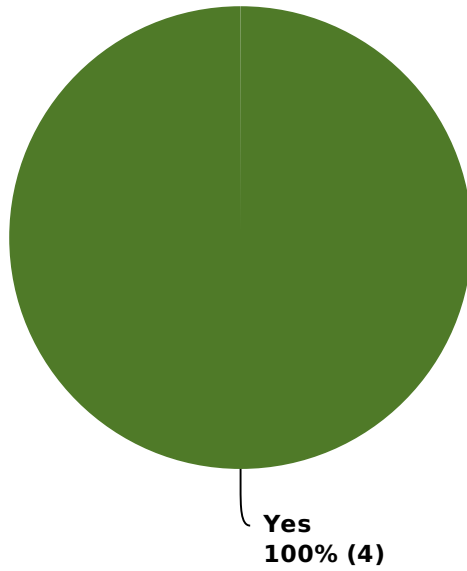
Answered: 4 Skipped: 0



Answer Choices	Responses	
E-mail	0%	0
Newspaper	0%	0
Postcard/letter	100%	4
Facebook	0%	0
Radio	0%	0
<b>Total</b>		<b>4</b>

### Q3 Were you aware of the importance of aquatic plants?

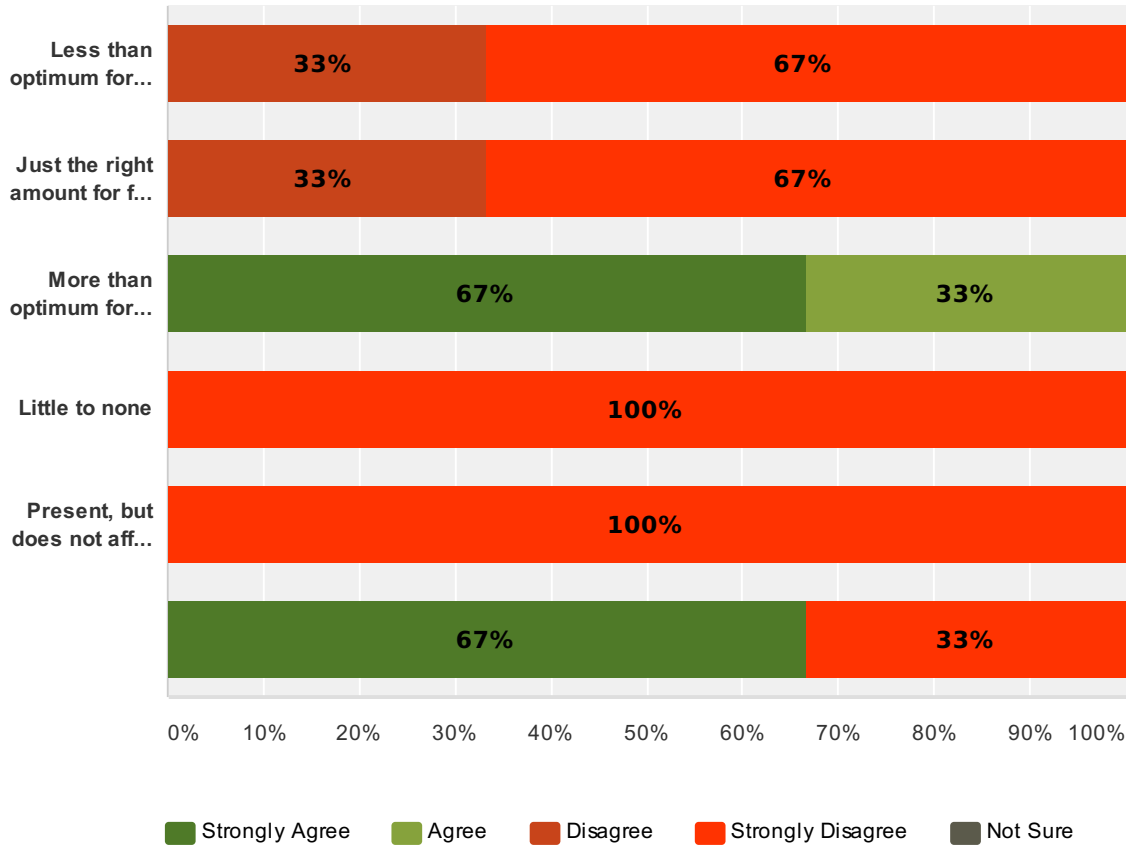
Answered: 4 Skipped: 0



Answer Choices	Responses	
Yes	100%	4
No	0%	0
Unsure	0%	0
<b>Total</b>		<b>4</b>

### Q4 In your opinion, which statement best describes the amount of aquatic plant growth in Deer Lake?

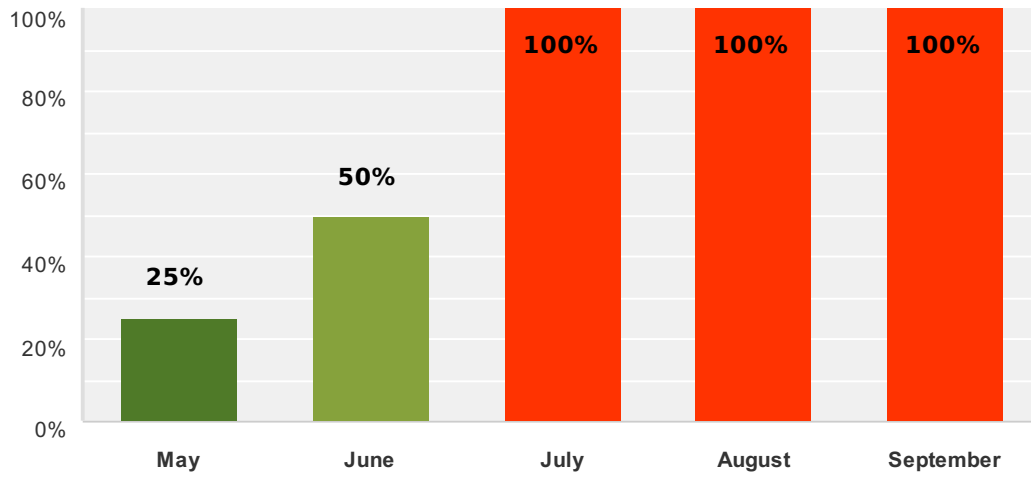
Answered: 4 Skipped: 0



	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure	Total
Less than optimum for fish and wildlife	0% 0	0% 0	33% 1	67% 2	0% 0	3
Just the right amount for fish and wildlife	0% 0	0% 0	33% 1	67% 2	0% 0	3
More than optimum for fish and wildlife	67% 2	33% 1	0% 0	0% 0	0% 0	3
Little to none	0% 0	0% 0	0% 0	100% 3	0% 0	3
Present, but does not affect my use of the lake	0% 0	0% 0	0% 0	100% 3	0% 0	3
Dense, affects my use of the lake	67% 2	0% 0	0% 0	33% 1	0% 0	3

**Q5 If you selected dense or choked, what month(s) do the problems occur? Check all that apply.**

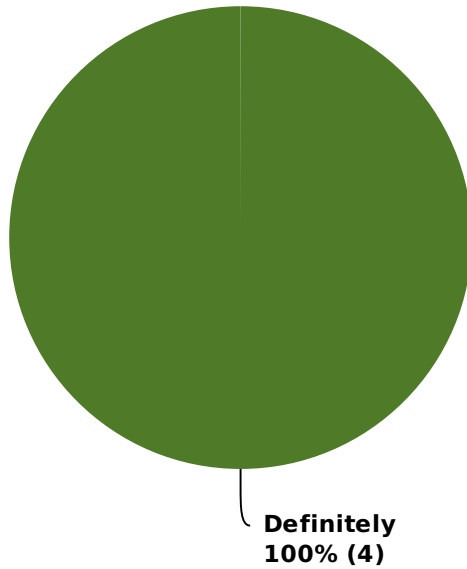
Answered: 4 Skipped: 0



Answer Choices	Responses	
May	25%	1
June	50%	2
July	100%	4
August	100%	4
September	100%	4
<b>Total Respondents: 4</b>		

### Q6 Do you believe aquatic plant control is needed on Deer Lake?

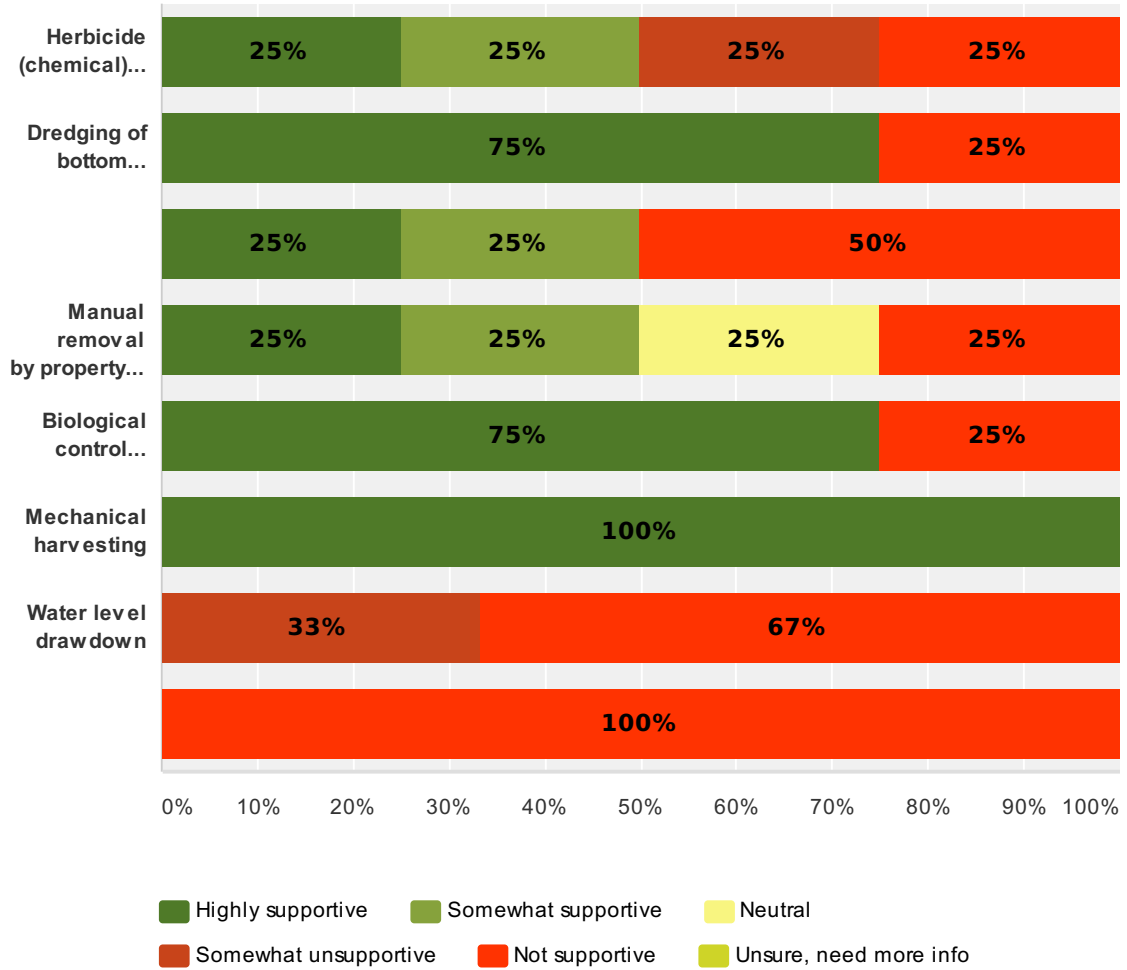
Answered: 4 Skipped: 0



Answer Choices	Responses	
Definitely	100%	4
Probably	0%	0
Unsure	0%	0
Probably not	0%	0
Definitely not	0%	0
<b>Total</b>		<b>4</b>

### Q7 What is your level of support for the responsible use of the following techniques TO MANAGE AQUATIC PLANTS on Deer Lake?

Answered: 4 Skipped: 0



	Highly supportive	Somewhat supportive	Neutral	Somewhat unsupportive	Not supportive	Unsure, need more info	Total	Average Rating
Herbicide (chemical) control	25% 1	25% 1	0% 0	25% 1	25% 1	0% 0	4	3.00
Dredging of bottom sediments	75% 3	0% 0	0% 0	0% 0	25% 1	0% 0	4	2.00
Hand-removal by divers	25% 1	25% 1	0% 0	0% 0	50% 2	0% 0	4	3.25
Manual removal by property owners	25% 1	25% 1	25% 1	0% 0	25% 1	0% 0	4	2.75
Biological control (milfoil weevil, loosestrife beetle, etc.)	75% 3	0% 0	0% 0	0% 0	25% 1	0% 0	4	2.00

Mechanical harvesting	100%	0%	0%	0%	0%	0%		
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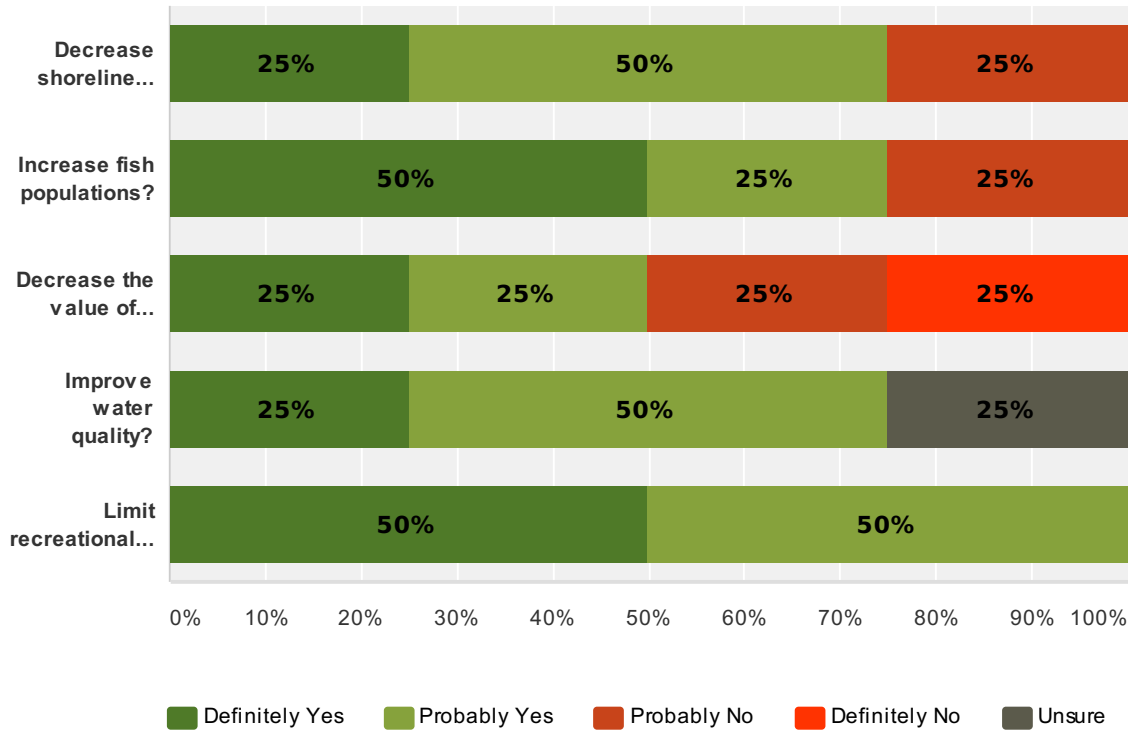
## Waushara County Lakes Project - Deer Lake Survey #3

mechanical harvesting	100% 4	0% 0	0% 0	0% 0	0% 0	0% 0	4	1.00
Water level drawdown	0% 0	0% 0	0% 0	33% 1	67% 2	0% 0	3	4.67
Do nothing (do not manage plants)	0% 0	0% 0	0% 0	0% 0	100% 3	0% 0	3	5.00



### Q8 In your opinion, does establishing or maintaining native vegetation IN THE WATER in the near-shore area...

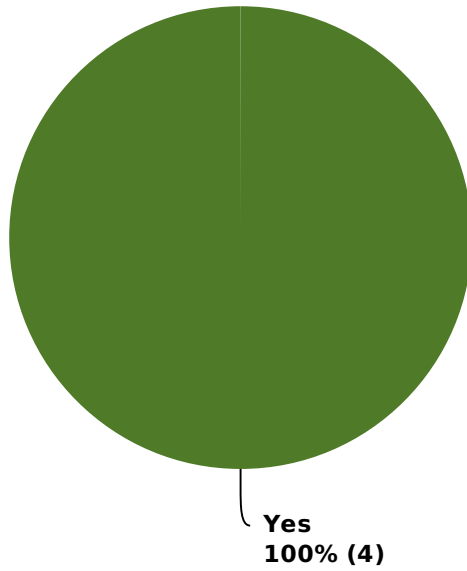
Answered: 4 Skipped: 0



	Definitely Yes	Probably Yes	Probably No	Definitely No	Unsure	Total
Decrease shoreline erosion?	25% 1	50% 2	25% 1	0% 0	0% 0	4
Increase fish populations?	50% 2	25% 1	25% 1	0% 0	0% 0	4
Decrease the value of shoreline property?	25% 1	25% 1	25% 1	25% 1	0% 0	4
Improve water quality?	25% 1	50% 2	0% 0	0% 0	25% 1	4
Limit recreational enjoyment?	50% 2	50% 2	0% 0	0% 0	0% 0	4

### Q9 Have you ever heard of aquatic invasive species?

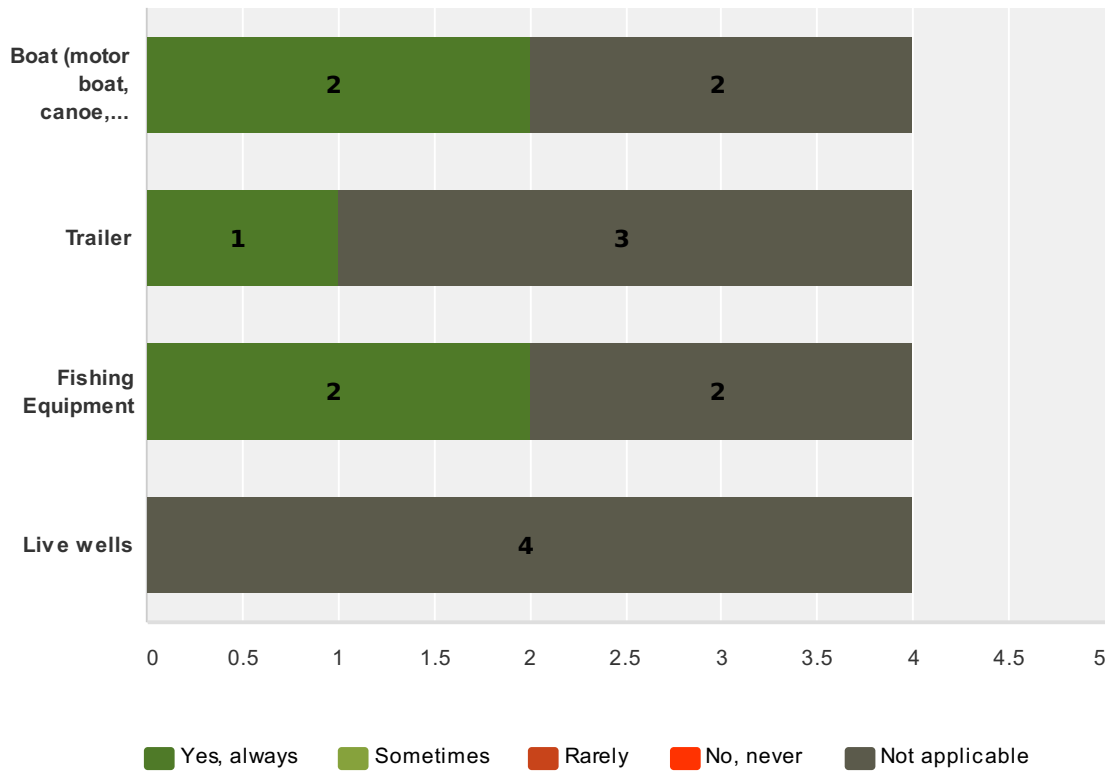
Answered: 4 Skipped: 0



Answer Choices	Responses
Yes	100% 4
No	0% 0
<b>Total</b>	<b>4</b>

### Q10 After you have been to another lake, do you clean your ... before bringing it back to Deer Lake?

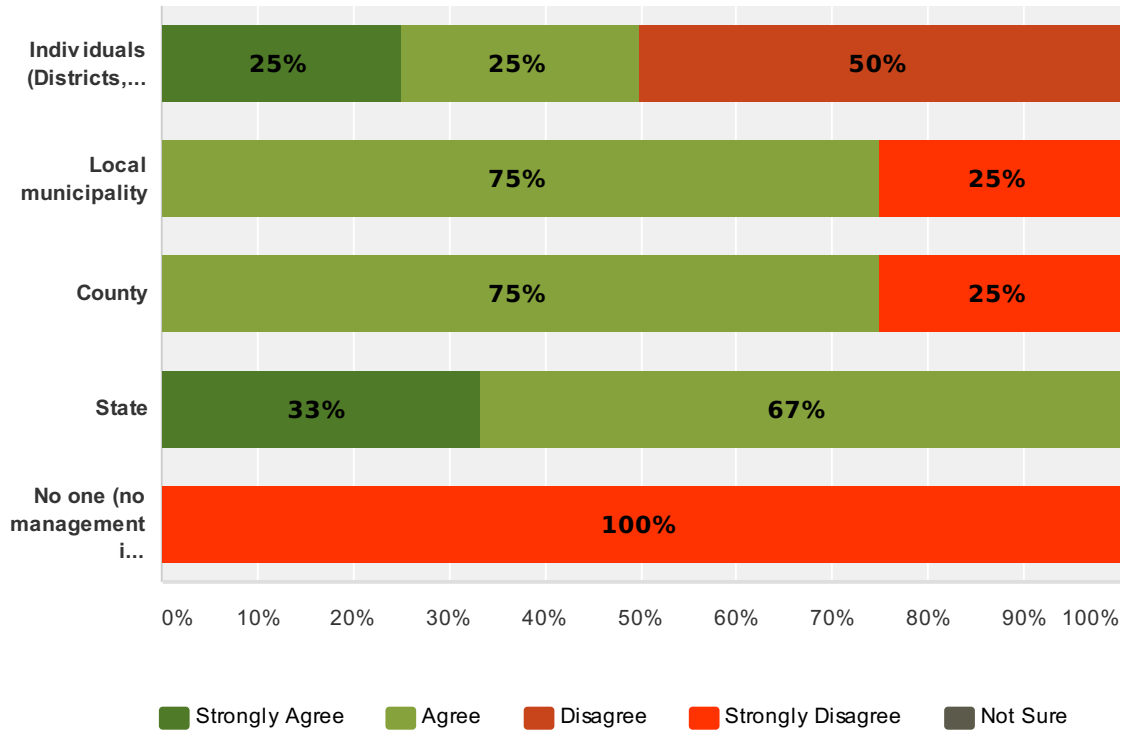
Answered: 4 Skipped: 0



	Yes, always	Sometimes	Rarely	No, never	Not applicable	Total Respondents
Boat (motor boat, canoe, kayak, etc.)	50.00% 2	0.00% 0	0.00% 0	0.00% 0	50.00% 2	4
Trailer	25.00% 1	0.00% 0	0.00% 0	0.00% 0	75.00% 3	4
Fishing Equipment	50.00% 2	0.00% 0	0.00% 0	0.00% 0	50.00% 2	4
Live wells	0.00% 0	0.00% 0	0.00% 0	0.00% 0	100.00% 4	4

### Q11 Who should pay for the cost of managing invasive aquatic plants? Check all that apply.

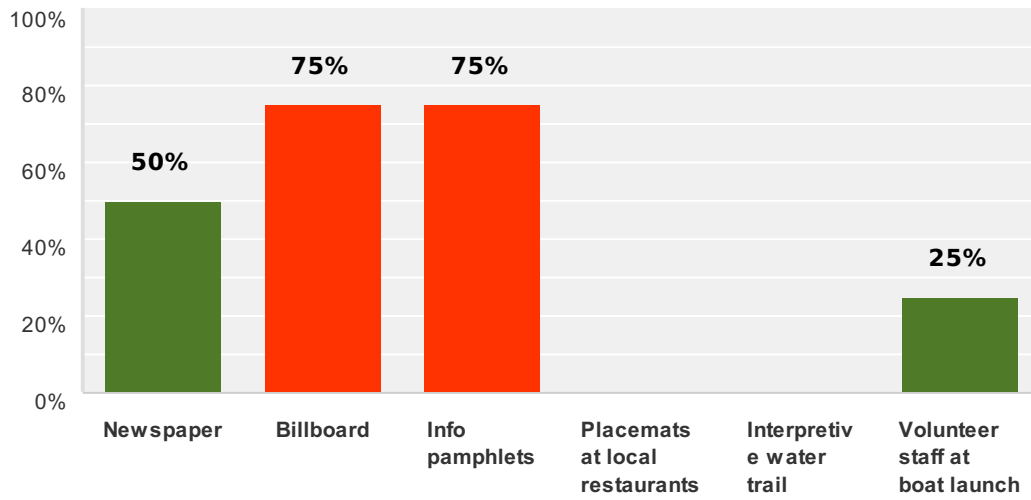
Answered: 4 Skipped: 0



	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure	Total
Individuals (Districts, associations, lakefront property owners)	25% 1	25% 1	50% 2	0% 0	0% 0	4
Local municipality	0% 0	75% 3	0% 0	25% 1	0% 0	4
County	0% 0	75% 3	0% 0	25% 1	0% 0	4
State	33% 1	67% 2	0% 0	0% 0	0% 0	3
No one (no management is undertaken)	0% 0	0% 0	0% 0	100% 2	0% 0	2

### Q12 What is the most effective way to inform others about aquatic invasive species?

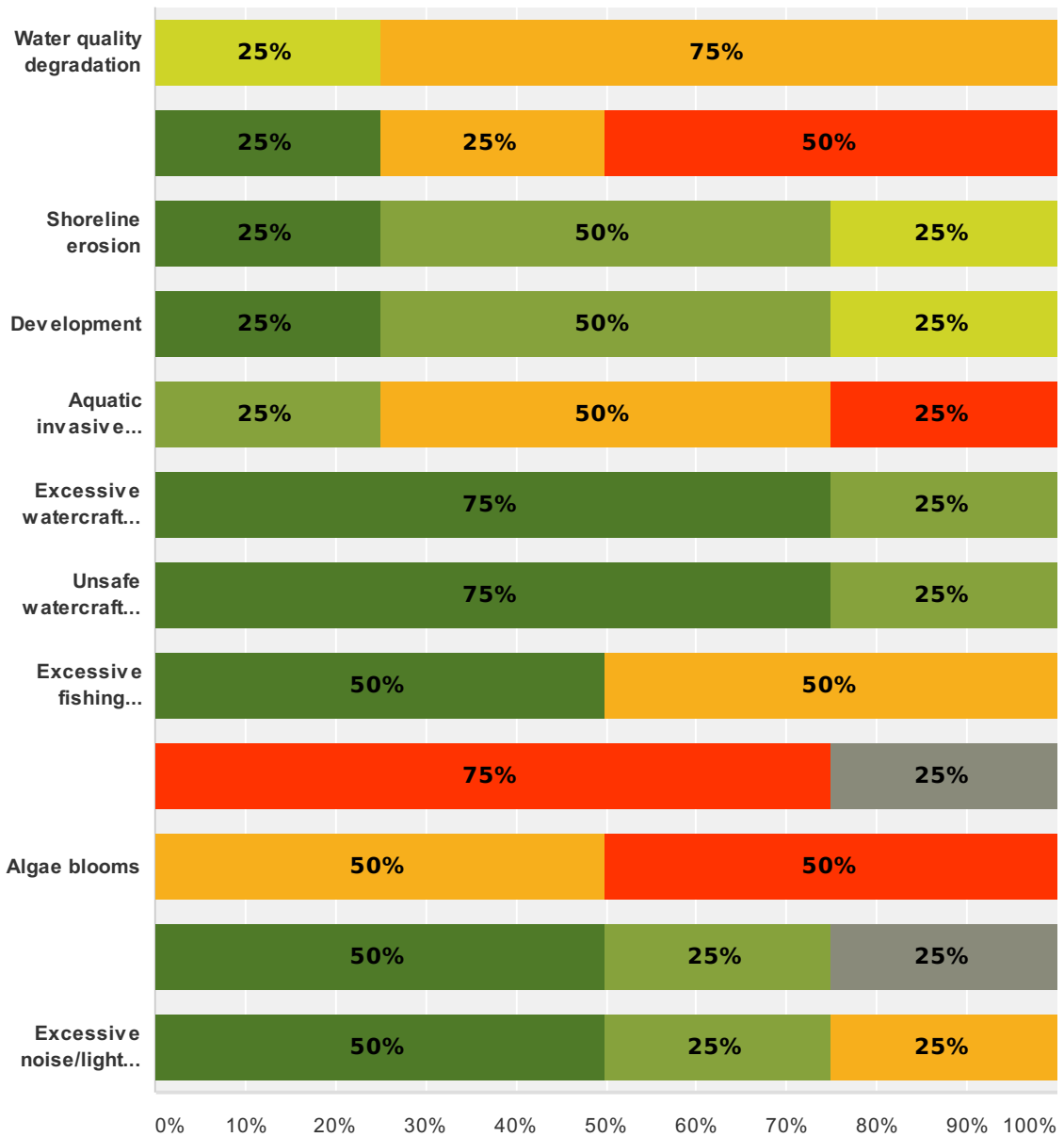
Answered: 4 Skipped: 0



Answer Choices	Responses	
Newspaper	50%	2
Billboard	75%	3
Info pamphlets	75%	3
Placemats at local restaurants	0%	0
Interpretive water trail	0%	0
Volunteer staff at boat launch	25%	1
<b>Total Respondents: 4</b>		

**Q13 Below is a list of possible negative impacts commonly found in Wisconsin lakes. To what level do you believe each of the following factors may be impacting Deer Lake? (Please rate 0 - 5) \* Not Present means that you believe the issue does not exist on Deer Lake. \*\*No Impact means that the issue may exist on Deer Lake but it is not negatively impacting the lake.**

Answered: 4 Skipped: 0



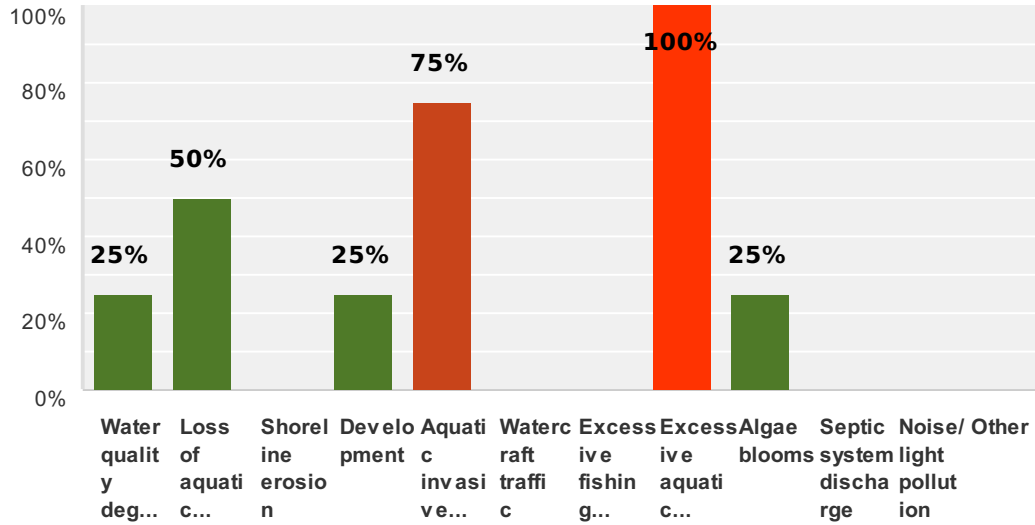
■ \*Not present 0  
 ■ \*\*No Impact 1  
 ■ 2  
 ■ Moderately negative impact 3  
 ■ 4  
 ■ Great negative impact 5  
 ■ Unsure - need more info

## Waushara County Lakes Project - Deer Lake Survey #3

	<b>*Not present 0</b>	<b>**No Impact 1</b>	<b>2</b>	<b>Moderately negative impact 3</b>	<b>4</b>	<b>Great negative impact 5</b>	<b>Unsure - need more info</b>	<b>Total</b>	<b>Average Rating</b>
Water quality degradation	0%	0%	25%	75%	0%	0%	0%	4	2.75
Loss of aquatic habitat	25%	0%	0%	25%	0%	50%	0%	4	3.25
Shoreline erosion	25%	50%	25%	0%	0%	0%	0%	4	1.00
Development	25%	50%	25%	0%	0%	0%	0%	4	1.00
Aquatic invasive species introduction	0%	25%	0%	50%	0%	25%	0%	4	3.00
Excessive watercraft traffic	75%	25%	0%	0%	0%	0%	0%	4	0.25
Unsafe watercraft practices	75%	25%	0%	0%	0%	0%	0%	4	0.25
Excessive fishing pressure	50%	0%	0%	50%	0%	0%	0%	4	1.50
Excessive aquatic plant growth (excluding algae)	0%	0%	0%	0%	0%	75%	25%	4	3.75
Algae blooms	0%	0%	0%	50%	0%	50%	0%	4	4.00
Septic system discharge	50%	25%	0%	0%	0%	0%	25%	4	0.25
Excessive noise/light pollution	50%	25%	0%	25%	0%	0%	0%	4	1.00

### Q14 From the list below, please mark your top three concerns regarding Deer Lake.

Answered: 4 Skipped: 0



Answer Choices	Responses
Water quality degradation	25% 1
Loss of aquatic habitat	50% 2
Shoreline erosion	0% 0
Development	25% 1
Aquatic invasive species introduction	75% 3
Watercraft traffic	0% 0
Excessive fishing pressure	0% 0
Excessive aquatic plant growth (excluding algae)	100% 4
Algae blooms	25% 1
Septic system discharge	0% 0
Noise/light pollution	0% 0
Other	0% 0
<b>Total Respondents: 4</b>	



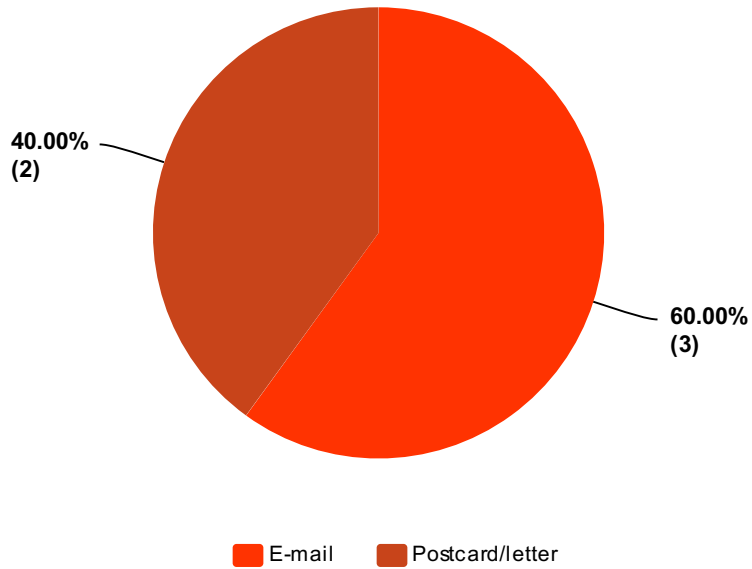
**Q1 What is your Waushara County Lakes Study ID?**

Answered: 5 Skipped: 0

#	Responses	Date
1	[REDACTED]	5/12/2014 12:39 PM
2	[REDACTED]	5/8/2014 10:34 AM
3	[REDACTED]	5/2/2014 10:19 PM
4	[REDACTED]	5/1/2014 5:06 AM
5	[REDACTED]	4/30/2014 6:53 PM

## Q2 How did you hear about this survey?

Answered: 5 Skipped: 0

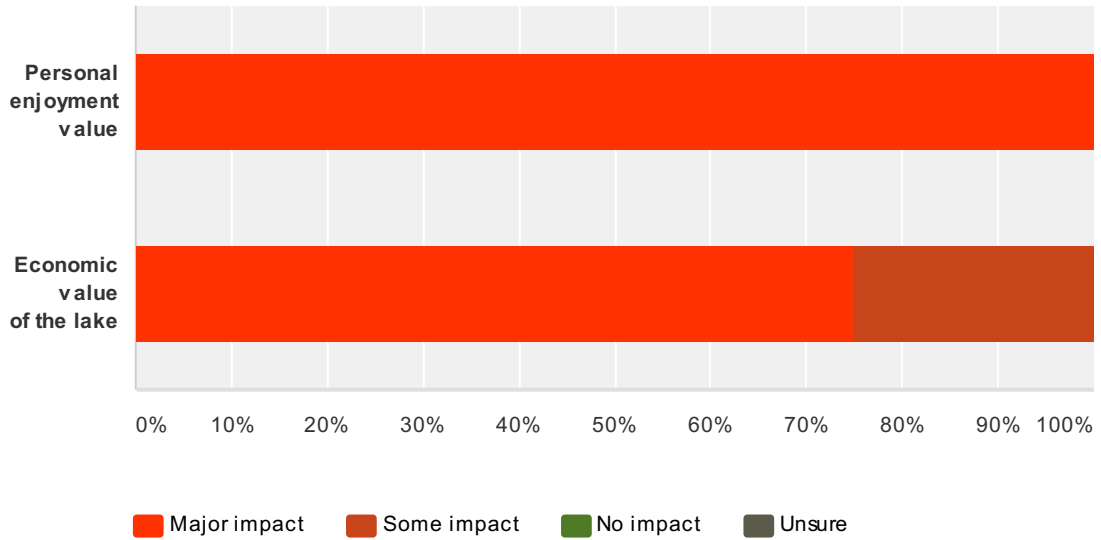


Answer Choices	Responses
E-mail	60.00% 3
Newspaper	0.00% 0
Postcard/letter	40.00% 2
Facebook	0.00% 0
Radio	0.00% 0
Word of mouth	0.00% 0
<b>Total</b>	<b>5</b>

#	Other (please specify)	Date
	There are no responses.	

### Q3 How much impact does the water quality of Deer Lake have on the following?

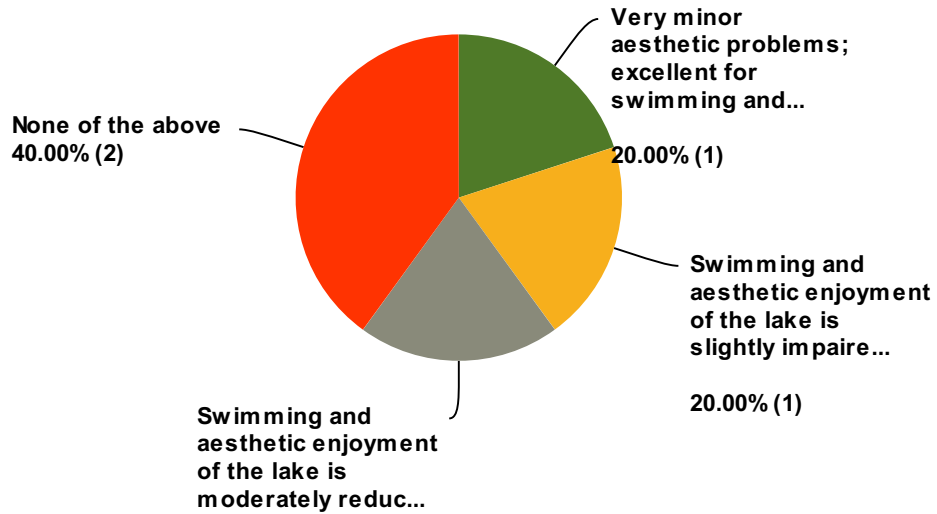
Answered: 4 Skipped: 1



	Major impact	Some impact	No impact	Unsure	Total
Personal enjoyment value	100.00% 4	0.00% 0	0.00% 0	0.00% 0	4
Economic value of the lake	75.00% 3	25.00% 1	0.00% 0	0.00% 0	4

### Q4 Which statement best describes water clarity during the times you spend most on the lake?

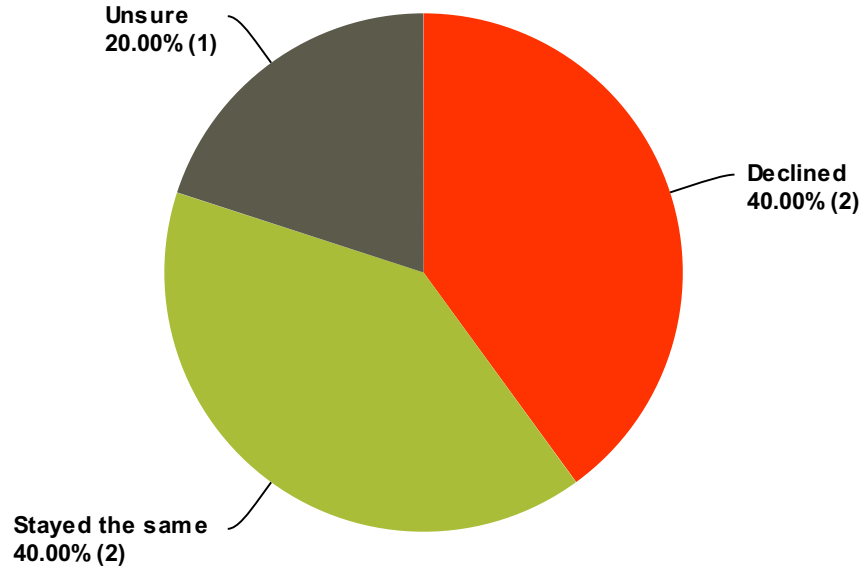
Answered: 5 Skipped: 0



Answer Choices	Responses
Beautiful, could not be any nicer	0.00% 0
Very minor aesthetic problems; excellent for swimming and boating enjoyment	20.00% 1
Swimming and aesthetic enjoyment of the lake is slightly impaired because of algae	20.00% 1
Swimming and aesthetic enjoyment of the lake is moderately reduced because of algae	20.00% 1
Swimming and aesthetic enjoyment of the lake is substantially reduced because of algae	0.00% 0
None of the above	40.00% 2
Unsure	0.00% 0
<b>Total</b>	<b>5</b>

**Q5 During the time that you have lived on, visited, or recreated on the lake, how would you say the water quality has changed?**

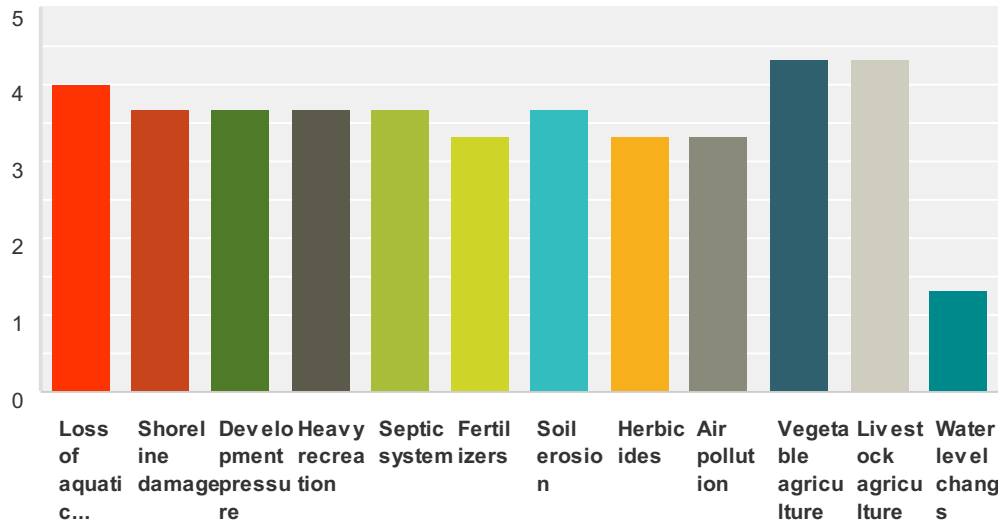
Answered: 5 Skipped: 0



Answer Choices	Responses
Improved	0.00% 0
Declined	40.00% 2
Stayed the same	40.00% 2
Unsure	20.00% 1
<b>Total</b>	<b>5</b>

### Q6 If it has declined, in your opinion, what are the primary causes?

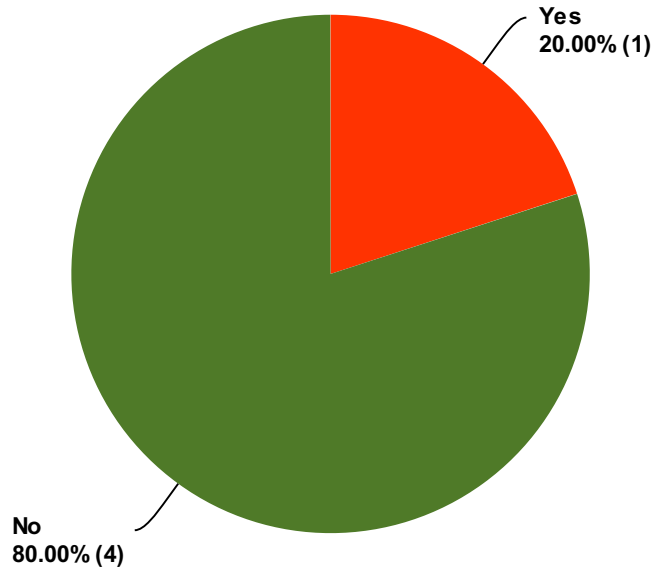
Answered: 3 Skipped: 2



	Strongly Agree	Agree	Disagree	Strongly Disagree	Unsure	Total Respondents
Loss of aquatic plants	0.00% 0	0.00% 0	0.00% 0	100.00% 3	0.00% 0	3
Shoreline damage	0.00% 0	0.00% 0	33.33% 1	66.67% 2	0.00% 0	3
Development pressure	0.00% 0	0.00% 0	33.33% 1	66.67% 2	0.00% 0	3
Heavy recreation	0.00% 0	0.00% 0	33.33% 1	66.67% 2	0.00% 0	3
Septic system	0.00% 0	0.00% 0	33.33% 1	66.67% 2	0.00% 0	3
Fertilizers	0.00% 0	33.33% 1	0.00% 0	66.67% 2	0.00% 0	3
Soil erosion	0.00% 0	0.00% 0	33.33% 1	66.67% 2	0.00% 0	3
Herbicides	0.00% 0	33.33% 1	0.00% 0	66.67% 2	0.00% 0	3
Air pollution	0.00% 0	33.33% 1	0.00% 0	66.67% 2	0.00% 0	3
Vegetable agriculture	0.00% 0	0.00% 0	0.00% 0	66.67% 2	33.33% 1	3
Livestock agriculture	0.00% 0	0.00% 0	0.00% 0	66.67% 2	33.33% 1	3
Water level changes	66.67% 2	33.33% 1	0.00% 0	0.00% 0	0.00% 0	3

### Q7 Do you use herbicides or pesticides (i.e. "weed and feed") on your land?

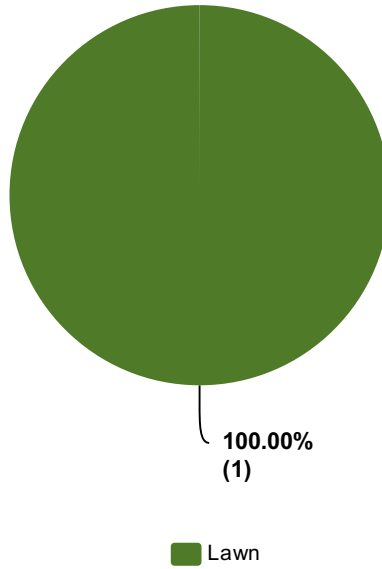
Answered: 5 Skipped: 0



Answer Choices	Responses	
Yes	20.00%	1
No	80.00%	4
<b>Total</b>		<b>5</b>

### Q8 Where do you apply herbicides and/or pesticides?

Answered: 1 Skipped: 4



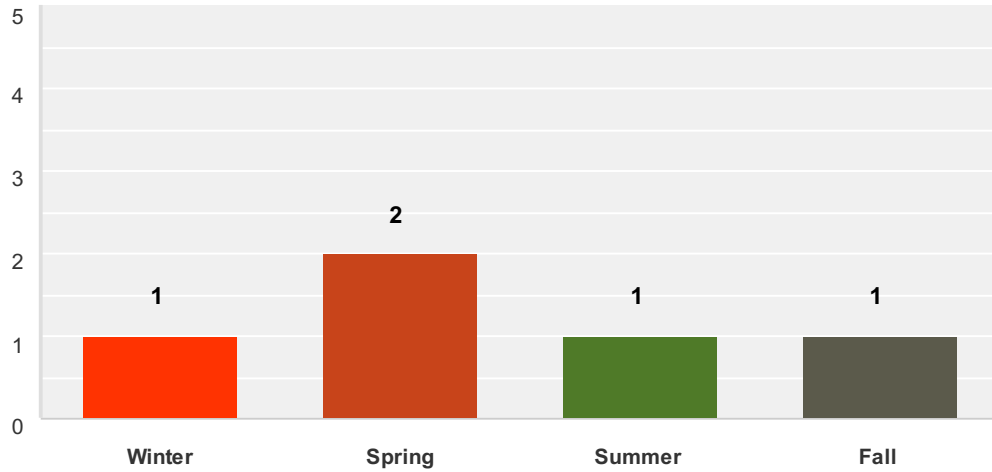
Answer Choices	Responses
Agricultural fields	0.00% 0
Garden	0.00% 0
Lawn	100.00% 1
<b>Total</b>	<b>1</b>

#	Other (please specify)	Date
	There are no responses.	



### Q9 In a typical year, how often do you apply herbicides and/or pesticides?

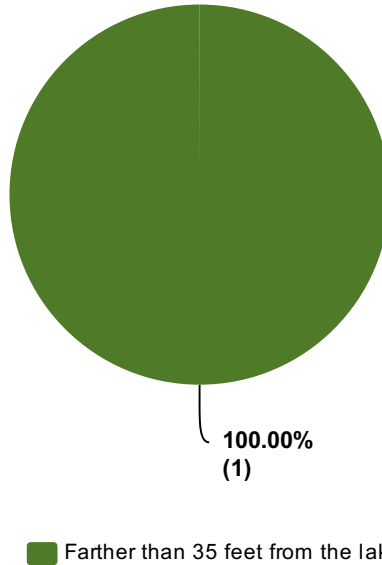
Answered: 1 Skipped: 4



	Never	Once	Once a week	Once a month	Varies	Total Respondents
Winter	100.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	1
Spring	0.00% 0	100.00% 1	0.00% 0	0.00% 0	0.00% 0	1
Summer	100.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	1
Fall	100.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	1

**Q10 If you apply herbicides and/or pesticides on lakefront property, how close to the lake are they applied (select the closest distance to the lake where herbicides/pesticides are applied)?**

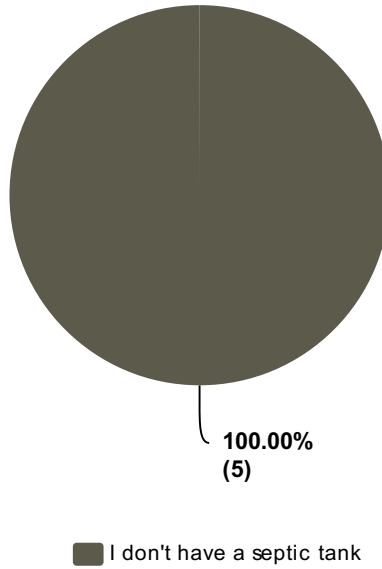
Answered: 1 Skipped: 4



Answer Choices	Responses
I do not apply herbicides/pesticides on lakefront property	0.00% 0
Up to the lake	0.00% 0
Within 35 feet of the lake	0.00% 0
Farther than 35 feet from the lake.	100.00% 1
<b>Total</b>	<b>1</b>

### Q11 Do you have your septic tank pumped at least every 3 years?

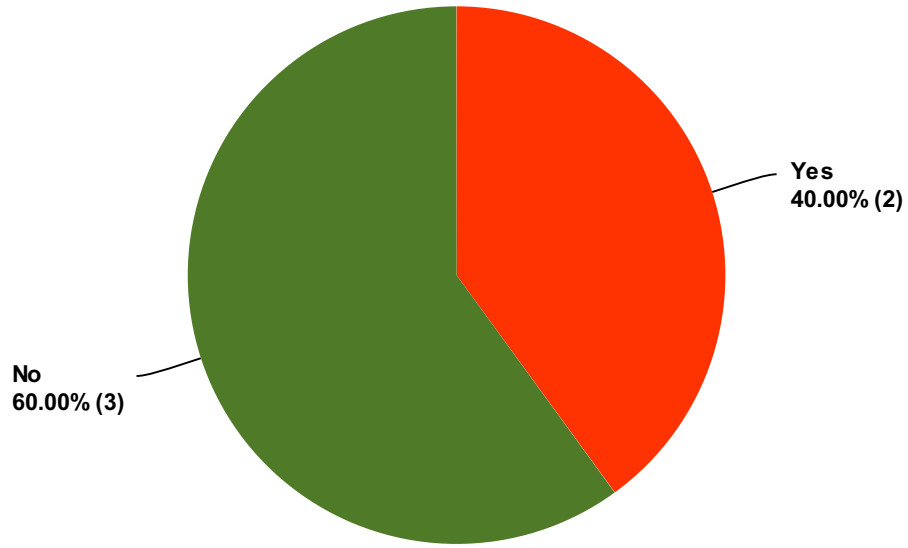
Answered: 5 Skipped: 0



Answer Choices	Responses
Yes	0.00% 0
No	0.00% 0
I don't have a septic tank	100.00% 5
<b>Total</b>	<b>5</b>

### Q12 Do you use fertilizer on your land?

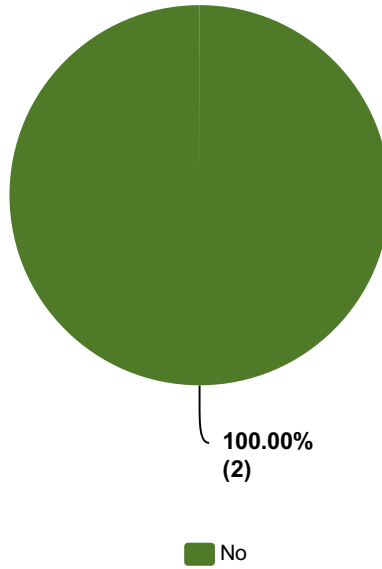
Answered: 5 Skipped: 0



Answer Choices	Responses	
Yes	40.00%	2
No	60.00%	3
<b>Total</b>		<b>5</b>

### Q13 Do you use fertilizer which contains phosphorus?

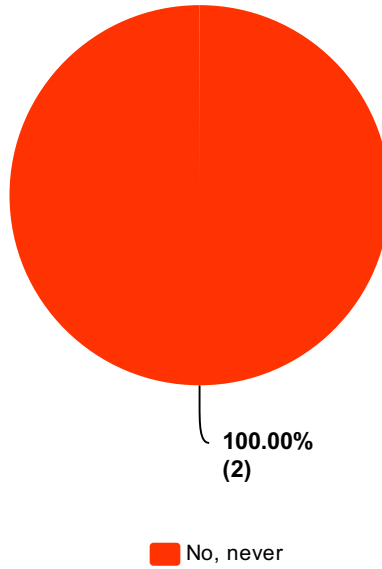
Answered: 2 Skipped: 3



Answer Choices	Responses
Yes	0.00% 0
No	100.00% 2
I don't know	0.00% 0
<b>Total</b>	<b>2</b>

### Q14 Do you have your soil tested before applying fertilizer?

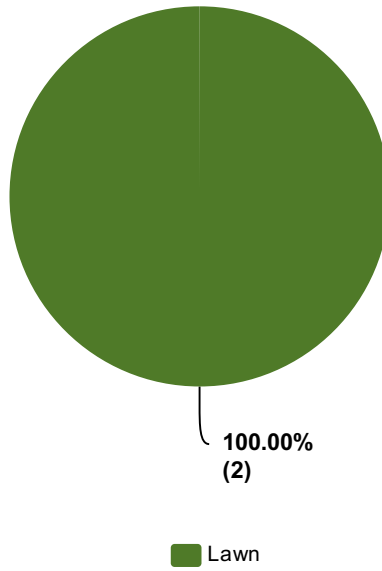
Answered: 2 Skipped: 3



Answer Choices	Responses
Yes, all of the time	0.00% 0
Yes, some of the time	0.00% 0
No, never	100.00% 2
<b>Total</b>	<b>2</b>

### Q15 Where do you apply fertilizer?

Answered: 2 Skipped: 3

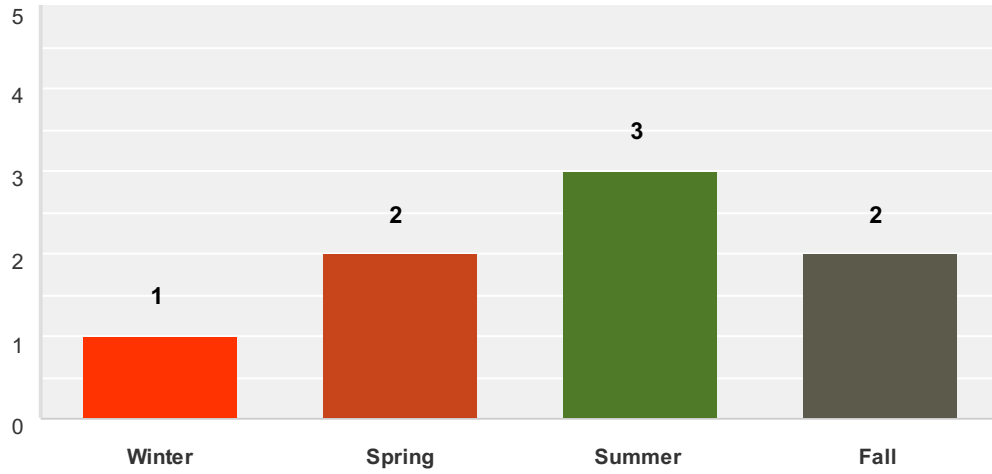


Answer Choices	Responses
Agricultural fields	0.00% 0
Garden	0.00% 0
Lawn	100.00% 2
<b>Total</b>	<b>2</b>

#	Other (please specify)	Date
	There are no responses.	

### Q16 In a typical year, how often do you apply fertilizer?

Answered: 2 Skipped: 3

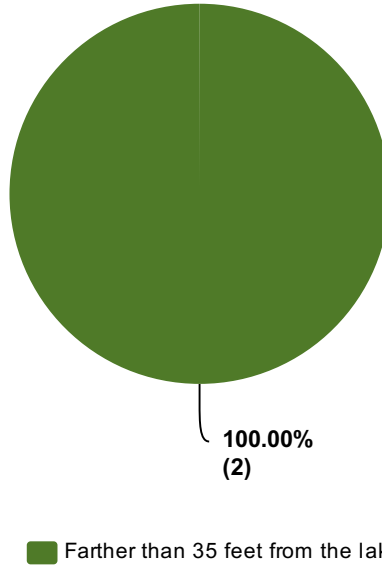


	Never	Once	Once a week	Once a month	Varies	Total Respondents
Winter	100.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	1
Spring	0.00% 0	100.00% 2	0.00% 0	0.00% 0	0.00% 0	2
Summer	0.00% 0	50.00% 1	0.00% 0	50.00% 1	0.00% 0	2
Fall	0.00% 0	100.00% 1	0.00% 0	0.00% 0	0.00% 0	1



**Q17 If you apply fertilizer on lakefront property, how close to the lake is it applied (select the closest distance to the lake where fertilizer is applied)?**

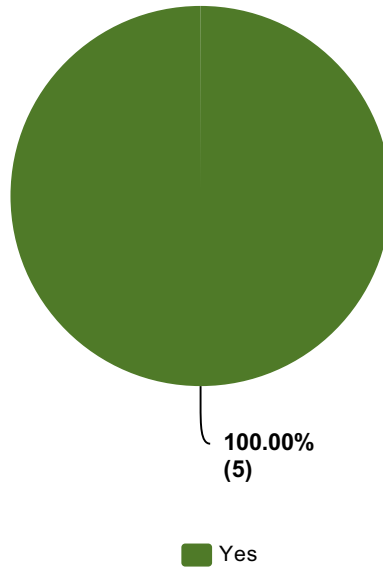
Answered: 2 Skipped: 3



Answer Choices	Responses
I do not apply fertilizer on lakefront property	0.00% 0
Up to the lake	0.00% 0
Within 35 feet of the lake	0.00% 0
Farther than 35 feet from the lake.	100.00% 2
<b>Total</b>	<b>2</b>

**Q18 Before reading the previous paragraph, did you know about the effects of phosphorus on lakes?**

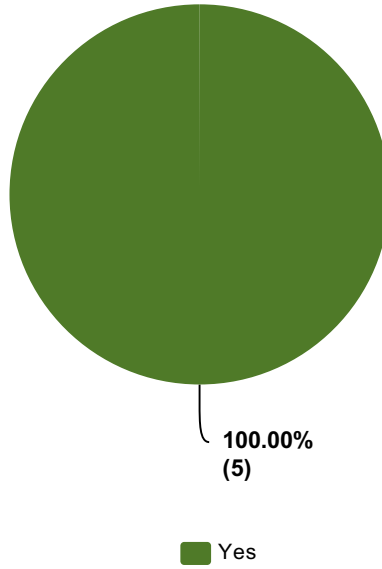
Answered: 5 Skipped: 0



Answer Choices	Responses	
Yes	100.00%	5
No	0.00%	0
Unsure	0.00%	0
<b>Total</b>		<b>5</b>

### Q19 Do you own shoreland property?

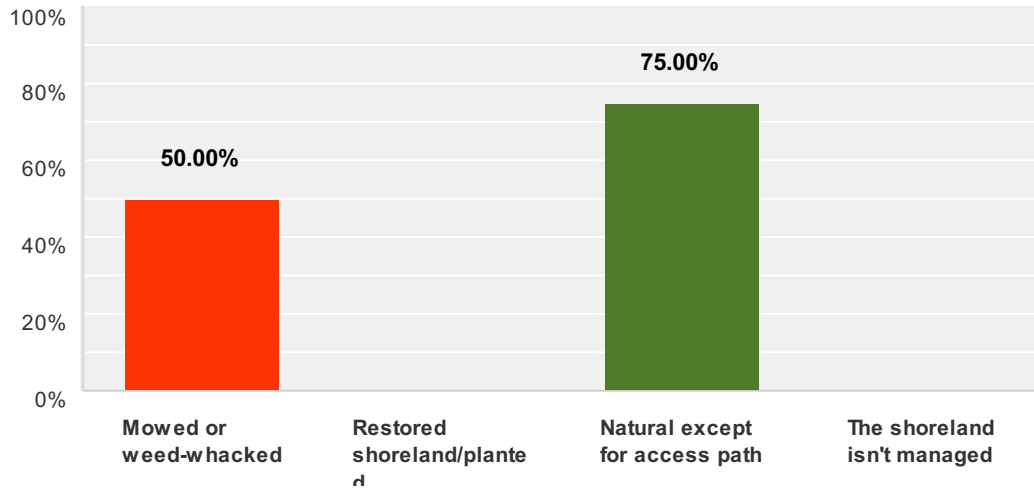
Answered: 5 Skipped: 0



Answer Choices	Responses
Yes	100.00% 5
No	0.00% 0
<b>Total</b>	<b>5</b>

**Q20 How do you currently manage the majority of your property within 35 feet of the lake? Check all that apply.**

Answered: 4 Skipped: 1

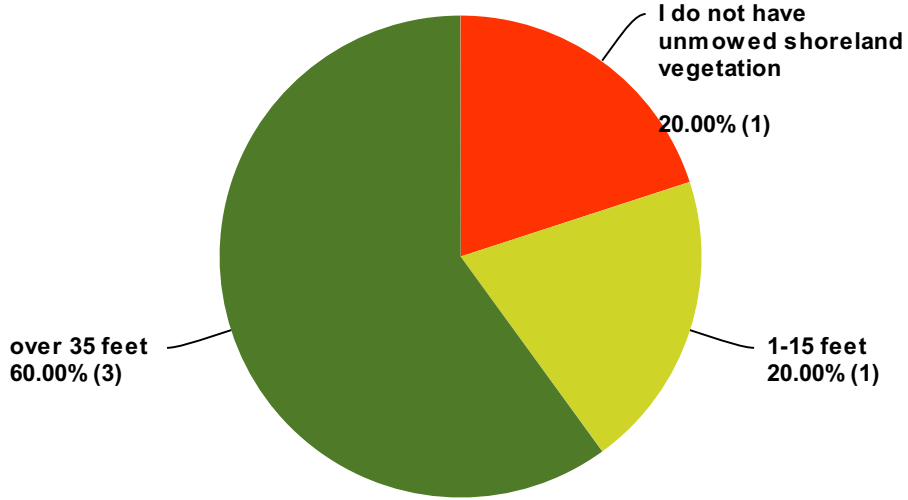


Answer Choices	Responses
Mowed or weed-whacked	50.00% 2
Restored shoreland/planted	0.00% 0
Natural except for access path	75.00% 3
The shoreland isn't managed	0.00% 0
<b>Total Respondents: 4</b>	

#	Other (please specify)	Date
1	mow to within 8ft of water	5/2/2014 10:24 PM

**Q21 If you have unmowed shoreland vegetation, how far inland from the water's edge does it extend?**

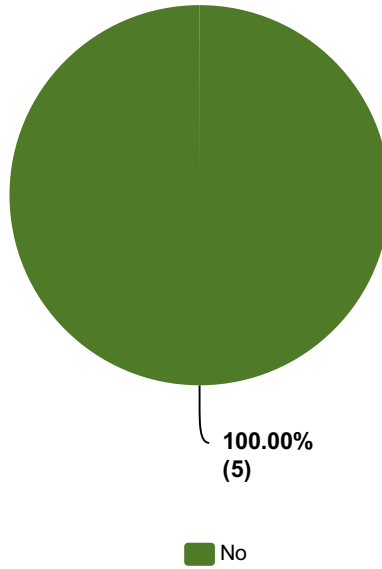
Answered: 5 Skipped: 0



Answer Choices	Responses
I do not have unmowed shoreland vegetation	20.00% 1
1-15 feet	20.00% 1
16-35 feet	0.00% 0
over 35 feet	60.00% 3
<b>Total</b>	<b>5</b>

### Q22 Have you observed erosion from your path to the lake?

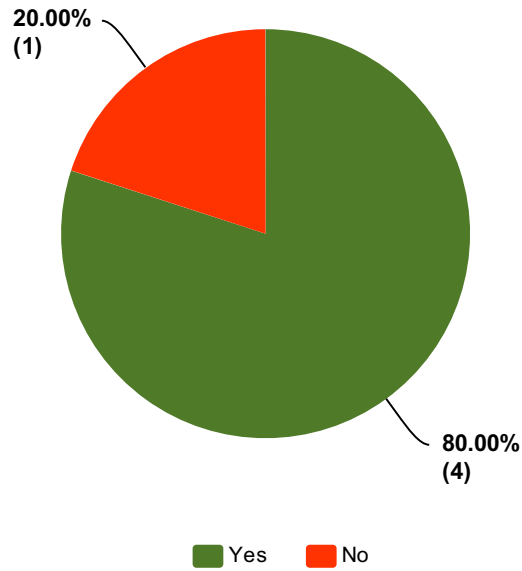
Answered: 5 Skipped: 0



Answer Choices	Responses	
I have no path	0.00%	0
Yes	0.00%	0
No	100.00%	5
Unsure	0.00%	0
<b>Total</b>		<b>5</b>

### Q23 Did you understand the importance of shoreland vegetation before reading this?

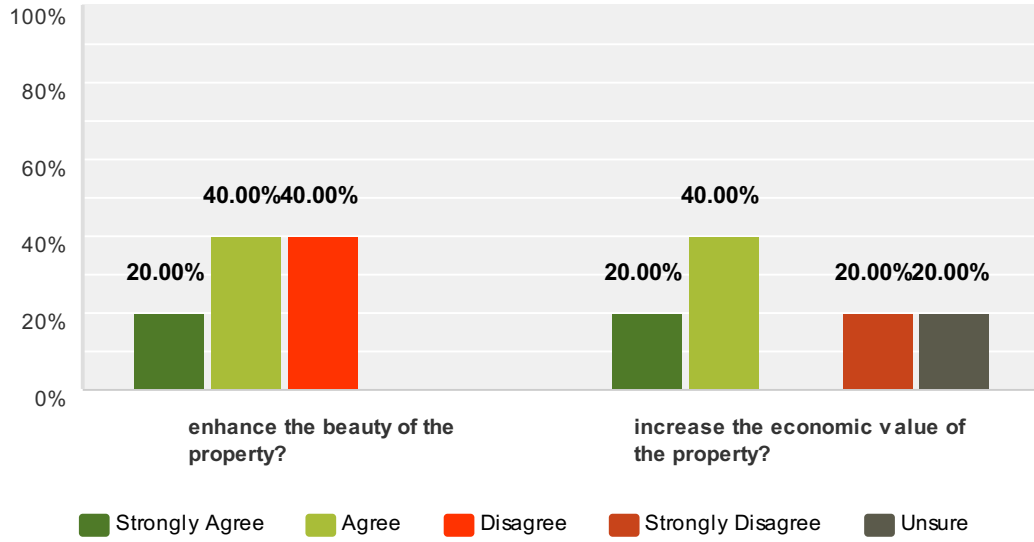
Answered: 5 Skipped: 0



Answer Choices	Responses	
Yes	80.00%	4
No	20.00%	1
Unsure	0.00%	0
<b>Total</b>		<b>5</b>

### Q24 In your opinion, does shoreland vegetation...

Answered: 5 Skipped: 0

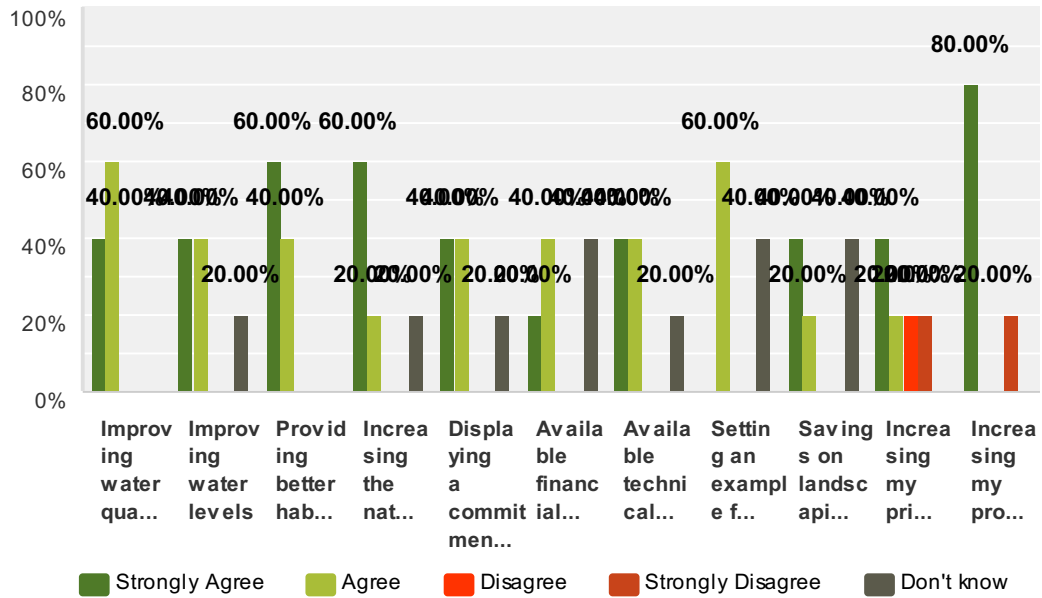


	Strongly Agree	Agree	Disagree	Strongly Disagree	Unsure	Total
enhance the beauty of the property?	20.00% 1	40.00% 2	40.00% 2	0.00% 0	0.00% 0	5
increase the economic value of the property?	20.00% 1	40.00% 2	0.00% 0	20.00% 1	20.00% 1	5



### Q25 What might motivate you to change how you manage your land?

Answered: 5 Skipped: 0



	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't know	Total
Improving water quality	40.00% 2	60.00% 3	0.00% 0	0.00% 0	0.00% 0	5
Improving water levels	40.00% 2	40.00% 2	0.00% 0	0.00% 0	20.00% 1	5
Providing better habitat for fish and wildlife	60.00% 3	40.00% 2	0.00% 0	0.00% 0	0.00% 0	5
Increasing the natural beauty of my property	60.00% 3	20.00% 1	0.00% 0	0.00% 0	20.00% 1	5
Displaying a commitment to the environment	40.00% 2	40.00% 2	0.00% 0	0.00% 0	20.00% 1	5
Available financial assistance	20.00% 1	40.00% 2	0.00% 0	0.00% 0	40.00% 2	5
Available technical assistance	40.00% 2	40.00% 2	0.00% 0	0.00% 0	20.00% 1	5
Setting an example for community members	0.00% 0	60.00% 3	0.00% 0	0.00% 0	40.00% 2	5
Savings on landscaping/maintenance costs	40.00% 2	20.00% 1	0.00% 0	0.00% 0	40.00% 2	5
Increasing my privacy	40.00% 2	20.00% 1	20.00% 1	20.00% 1	0.00% 0	5
Increasing my property value	80.00% 4	0.00% 0	0.00% 0	20.00% 1	0.00% 0	5

#	Other (please specify)	Date
	There are no responses.	