2016

Gilbert Lake, Waushara County, Wisconsin
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

2016 Lake Management Plan for Gilbert Lake, Waushara County, Wisconsin

The Gilbert Lake Management Plan was developed with input from residents and lake users at a series of four public planning sessions held at the Wild Rose Community Center in Wild Rose, Wisconsin and the Leon Town Hall in Pine River, Wisconsin in August-December, 2015. The inclusive community sessions were designed to learn about and identify key community opportunities, assets, concerns, and priorities. Representatives of state and local agencies 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 Gilbert Lake Advancement Association, Inc. on: February 2, 2016.

The plan was accepted by the Town of Springwater on: October 10, 2016.

The plan was accepted by Waushara County on: March 2, 2016.

The plan was approved by the Wisconsin Department of Natural Resources on: August 22, 2016.

Any changes, updates or revisions to this document after the last date on this page do not reflect contributions made or approved by University of Wisconsin-Stevens Point.

A special thanks to all who helped to create the 2016 Gilbert Lake Management Plan and provided guidance during the plan's development.

2016 Gilbert Lake Management Planning Committee Members and Resources

Planning Committee

Karen Reynolds
Rich Dittle
Florence Dittle
Carole Cochrane
Janet Downing
Wes Klages
Duane Youngsteadt
Bruce Cochrane
Dianne Cochrane
Gary Clair
Judy Lopez
Don Kusserow
Betty Kusserow
Annette Rehbein
Sue Zuege
Wes Zuege
Heather Hafferman
Ken Hardwicke
Mary Kay Hardwicke
Ellen Anderson
Nancy Glover
Keith Kirchhoff
Leslie Youngsteadt
Tom Olson
Tom Reynolds

Waushara County

County Conservationist – Ed Hernandez
Land Conservation Department
Community, Natural Resources and Economic Development Agent—
Patrick Nehring, University of Wisconsin-Extension

University of Wisconsin – Stevens Point

Center for Watershed Science and Education

Water Resources Specialist – Ryan Haney
Water Resources Scientist – Nancy Turyk

Wisconsin Department of Natural Resources

Water Resources Management Specialist – Ted Johnson
Fisheries Biologists – Dave Bartz and Scott Bunde

Golden Sands Resource Conservation & Development Council, Inc.

Regional Aquatic Invasive Species Education Specialist – Dillon Epping

We are grateful to many for providing funding, support, and insight:
Waushara County Watershed Lakes Council
Waushara County Staff and Citizens
Wisconsin Department of Natural Resources Professionals, Ted Johnson
Wisconsin Department of Natural Resources Lake Protection Grant Program

Contents

Overarching Vision for Gilbert Lake

Gilbert Lake, with its clear, clean water, will provide a wonderful setting where lake residents and visitors can enjoy a variety of recreational activities with family and friends.

Introduction

Gilbert Lake is located in the township of Springwater, northeast of Wild Rose and northwest of Saxeville, with one public boat launch on its eastern side. It is a 139-acre seepage lake with surface runoff and groundwater contributing most of its water. The maximum depth in Gilbert Lake is 65 feet; the lakebed has a steep slope and its bottom sediments are mostly sand with some areas of gravel and muck. Land uses near the lake are predominantly forested and residential. In 2015, community members around Gilbert Lake came together in partnership with local professionals to develop this lake management plan.

The purpose of this plan is to provide a framework for the protection and improvement of Gilbert Lake. Implementing the content of this lake management plan (LMP) will enable citizens and other supporters to achieve the vision for Gilbert Lake now and in the years to come. The plan was developed by community members who learned about the lake and identified features important to the Gilbert Lake community to help guide the fate of the 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 and identifies steps to correct past problems, improve on current conditions, and provide guidance for future boards, lake users, and technical experts. Because many entities are involved in lake and land management, it can be challenging to navigate the roles, partnerships and resources that are available; the planning process and content of this plan have been designed to identify where some key assistance exists. The actions identified in this LMP can serve as a gateway for obtaining grant funding and other resources to help implement activities outlined in the plan.

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

- **Individuals**: Individuals can use this plan to learn about the lake they love and their connection to it. People living near Gilbert Lake can have the greatest influence on the lake by understanding and choosing lake-friendly options to manage their land and the lake.
- **Gilbert Lake Advancement Association, Inc.:** This plan provides the Association with a well thought out plan for the whole lake and lists options that can easily be prioritized. Annual review of the plan will also help the Association to realize its accomplishments. Resources and funding opportunities for Association management activities are made more available by placement of goals into the LMP, and the Association can identify partners to help achieve their goals for Gilbert Lake.
- **Neighboring lake groups, sporting and conservation clubs**: Neighboring groups with similar goals for lake stewardship can combine their efforts and provide each other with support, improve competitiveness for funding opportunities, and make efforts more fun.

- **The Town of Springwater**: 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, streams, wetlands, and groundwater.
- **Wisconsin Department of Natural Resources**: Professionals working with lakes in Waushara County can use this plan as guidance for management activities and decisions related to the management of the resource, including the fishery, and invasive species. Lake management plans help the Wisconsin Department of Natural Resources to identify and prioritize needs within Wisconsin's lake community, and decide where to apply resources and funding. A well thought out LMP increases an application's competitiveness for funding from the State – if multiple Waushara County lakes have similar goals in their lake management plans, they can join together when seeking grant support to increase competitiveness for statewide resources.

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 personnel from 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. There was insufficient data available for many of the lakes to evaluate current water quality, aquatic plant communities, invasive species, and shorelands. The data that were available had been collected at differing frequencies or periods of time, making it difficult to compare lake conditions. Professionals and students from UW-Stevens Point and the Waushara County Land Conservation Department conducted the Waushara County Lakes Study and interpreted data for use in the development of lake management plans. Data collected by citizens, consultants, and professionals at the Wisconsin Department of Natural Resources were also incorporated into the planning process to provide a robust set of information from which informed decisions could be made. Sources of information used in the planning process are listed at the end of this document.

Several reports from the Gilbert 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/ (select "Departments", "Zoning and Land Conservation", "Land Conservation", and "Lake Management Planning"). Unless otherwise noted, the data used in the development of this plan were detailed in the 2014 report *Waushara County Lakes Study - Gilbert Lake*, University of Wisconsin-Stevens Point.

The Planning Process

The planning process included a series of four public planning sessions held between August and December 2015 at the Wild Rose Community Center and the Leon Town Hall in Pine River. The Gilbert Lake Planning Management Committee consisted of property owners and recreational users. 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 & Development Council, Inc. (RC&D), University of Wisconsin-Extension (UWEX), and the University of Wisconsin-Stevens Point Center for Watershed Science and Education (CWSE).

Participation in these sessions was open to everyone and was encouraged by letters sent directly to Gilbert Lake waterfront property owners and by press releases in local newspapers. In addition, members of the planning committee were provided with emails about upcoming meetings which could be forwarded to others. To involve and collect input from as many people as possible, a topic-specific survey related to the subject of each upcoming planning session was made available prior to each session. Property owners and interested lake users were notified about the surveys and how to access them (via postcards mailed to waterfront property owners, emails, and press releases in local newspapers). The surveys could be filled out anonymously online, or paper copies were available upon request. Survey questions and responses were shared at the planning sessions and can be found in Appendix E. Lake User Survey Results.

Implementing the content of this lake management plan will enable citizens and other supporters to achieve the vision for Gilbert Lake now and in the years to come.

Guest experts and professionals attended the planning sessions. 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. This information was organized with the survey results into discussion topics, which included: 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, planning committee members identified goals, objectives, and actions for the lake management plan that were recorded by professionals from UW-Stevens Point. Planning session notes and presentations are available on the Waushara County website.

Goals, Objectives and Actions

The following goals, objectives, and associated actions were derived from the values and concerns of citizens interested in Gilbert Lake and members of the Gilbert Lake Management Planning Committee, as well as the known science about Gilbert Lake, its ecosystem and the landscape within its watershed. Implementing and regularly updating the goals and actions in the Gilbert 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, the Wisconsin Department of Natural Resources requires that each comprehensive lake management plan address a specific list of topics affecting the character of a lake, whether each topic has been identified as a priority or as simply something to preserve. In this way, every lake management plan considers the many aspects associated with lakes. These topics comprise the chapters in this plan and have been grouped as follows:

In-Lake Habitat and a Healthy Lake

Fish Community—fish species, abundance, size, important habitat and other needs
Aquatic Plant Community—habitat, food, health, native species, and invasive species
Critical Habitat—areas of special importance to the wildlife, fish, water quality, and aesthetics of the lake

Landscapes and the Lake

Water Quality 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, Gilbert Lake Advancement Association, Inc.

List of Goals

Goal 1. Improve the quality of the fishery in Gilbert Lake through sustainable management practices.
Goal 2. Protect native plants in and around Gilbert Lake.
Goal 3. Aquatic invasive species (AIS) will be eliminated from Gilbert Lake and establishment of new AIS will be prevented.
Goal 4. Protect sensitive areas in and around Gilbert Lake
Goal 5. The water quality in Gilbert Lake will be the same or better than the average measurements observed during the 2010-2012 study.
Goal 6. Gilbert Lake will have water levels with natural fluctuations.
Goal 7. Gilbert Lake shorelands will become increasingly healthy over time.
Goal 8. Best management practices will be used by Gilbert Lake shoreland property owners and others in the watershed.
Goal 9. Reduce user conflicts by increasing compliance with boating rules and fishing regulations.
Goal 10. Increase participation in lake stewardship.
Goal 11. Relevant parts of the Gilbert Lake Management Plan will be incorporated into other land management plans. This plan will be kept current.

Most immediate goals:

Best Practices

Work with consultants and other external resources such as the WDNR to develop a set of practices for fish habitat, aquatic plant management, water quality, healthy shorelands, and other areas of interest and concern with respect to life on Gilbert Lake.

Education

Inform lakeshore property owners regarding the best practices that have been identified and about other issues impacting the quality of life on Gilbert Lake.

Communication

Enhance communications with lakeshore property owners in order to reinforce the best practices.

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

Resource	Acronym
WDNR Citizen Lake Monitoring Network	CLMN
UWSP Center for Watershed Science and Education	CWSE
Wisconsin Department of Agriculture, Trade and Consumer Protection	DATCP
Gilbert Lake Advancement Association, Inc.	GLAAI
North Central Conservancy Trust	NCCT
USDA Natural Resources Conservation Service	NRCS
Golden Sands Resource Conservation & Development Council, Inc.	RC&D
University of Wisconsin Extension	UWEX
University of Wisconsin-Stevens Point	UWSP
Waushara County Land Conservation Department	WCLCD
Waushara County Watershed Lakes Council	WCWLC
Wisconsin Department of Natural Resources	WDNR
Wisconsin Department of Transportation	WDOT
UWSP Wisconsin Environmental Analysis Laboratory	WEAL

Contact information for organizations and individuals who support lake management in Waushara County can be found in Appendix A. Waushara County Lakes Information Directory.

In-Lake Habitat and a Healthy Lake

Many lake users value Gilbert Lake for its fishing, wildlife and good water quality. These attributes are all interrelated; the health of one part of the lake system affects the health of the rest of the plant and animal community, the experiences of the people seeking pleasure at the lake, and the quality and quantity of water in the lake. Habitat is the structure for a healthy fishery and wildlife community. It can provide shelter for some animals and food for others.

Photo: Craig Libuse

Lake habitat occurs within the lake, along all of its shorelands, and even extends into its watershed for some species. Many animals that live in and near the lake are only successful if their needs – food, a healthy environment, and shelter – are met. Native vegetation including wetlands along the shoreline and adjacent to the lake provides habitat for safety, reproduction, and food, and can improve water quality and balance water quantity. Some lake visitors such as birds, frogs, and turtles use limbs from trees that are sticking out of the water for perches or to warm themselves in the sun. Aquatic plants infuse oxygen into the water and provide food and shelter for waterfowl, small mammals, and people. The types and abundance of plants and animals that comprise the lake community also vary based on the water quality, and the health and characteristics of the shoreland and watershed. Healthy habitat in Gilbert Lake includes the aquatic plants, branches, and tree limbs above and below the water.

The Fish Community

A balanced fish community has a mix of predator and prey species, each with different food, habitat, nesting substrate, and water quality needs in order to flourish. Activities in and around a lake that can affect a fishery may involve disturbances to the native aquatic plant community or substrate, excessive additions of nutrients or harmful chemicals, removal of woody habitat, shoreline alterations, and/or an imbalance in the fishery. Shoreland erosion can cause sediment to settle onto the substrate, causing the deterioration of spawning habitat. Habitat can be improved by allowing shoreland vegetation to grow, minimizing the removal of aquatic plants, providing fallen trees or limbs in suitable areas, and protecting wetlands and other areas of critical habitat.

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

Managing a lake for a balanced fishery can result in fewer expenses to lake stewards and the public. While some efforts may be needed to provide a more suitable environment to meet the needs of the fish, they usually do not have to be repeated on a frequently reoccurring basis. Protecting existing habitat such as emergent, aquatic, and shoreland vegetation, and allowing trees that naturally fall into the lake to remain in the lake are free of cost. Alternatively, restoring habitat in and around a lake can have an up-front cost, but the effects will often continue for decades. Costs in time, travel, and

other expenses are associated with routine efforts such as fish stocking and aeration. Ideally, a lake contains the habitat, water quality, and food necessary to support the fish communities that are present within the lake and provide fishing opportunities for people without a lot of supplemental effort and associated expenses to maintain these conditions.

The following is summarized from a presentation by David Bartz, Fisheries Biologist with the WDNR, on December 1, 2015:
The most recent fish survey on Gilbert Lake was completed in spring 2015. Prior to that, the most recent fishery data was collected in 2004. During the 2004 survey, northern pike were of average abundance, but had poor size structure and below average growth. Largemouth bass were categorized in slightly high abundance, with a capture rate for fish greater than 8" at 182/hr compared with 231/hr in 2004. 2015 had a notably cool spring, and ice-off was late. This situation likely contributed to the small sample size of northern pike and walleye. The 2015 size structure for largemouth bass was considered fair (PSD12=48%, compared to 32% in 2004; RSD14=8.7%, compared to 2% in 2004). The 2015 population exhibited below average growth, taking 7 years to reach 14". Bartz felt lack of forage was responsible for the reduced size structure and slow growth. In the 2015 survey, bluegill were in low abundance with capture rates for fish over 3" at 86/hr compared to 253/hr in 2004. The bluegill had fair size structure (PSD6 =33%, compared to 27% in 2004; RSD7= 5%, compared to 8% in 2004). Young of year were common with growth rates below average, taking 5 years to reach 6". A more preferable growth rate would be 3-4 years to achieve 6".

Just over 40% of the survey respondents felt the fishing had declined during their time at Gilbert Lake, with perceived declines attributed to overfishing and lack of habitat. Thirty-eight percent felt it had not changed.

Guiding Vision for the Fish Community

Gilbert Lake will have a healthy, well-balanced and sustainable fishery.

Goal 1. Improve the quality of the fishery in Gilbert Lake through sustainable management practices.

Objective 1.1. Improve the fishery by improving habitat for fish and their prey along the shoreland and near-shore areas and informing lake residents and users about fishery-related information and issues.

Actions	Lead person/group	Resources	Timeline
Provide opportunities for shoreland property owners to learn about the fishery in Gilbert Lake and how they can improve it.	GLAAI	WDNR Fisheries Biologist	Ongoing
Identify lake property owners who are willing to create fish habitat on their property (e.g. tree drops, fish sticks, brush under pier, etc.). Encourage owners to leave fallen wood in the lake.	GLAAI	WDNR Fisheries Biologist WDNR Healthy Lakes grants (Feb 1) WCLCD	Ongoing

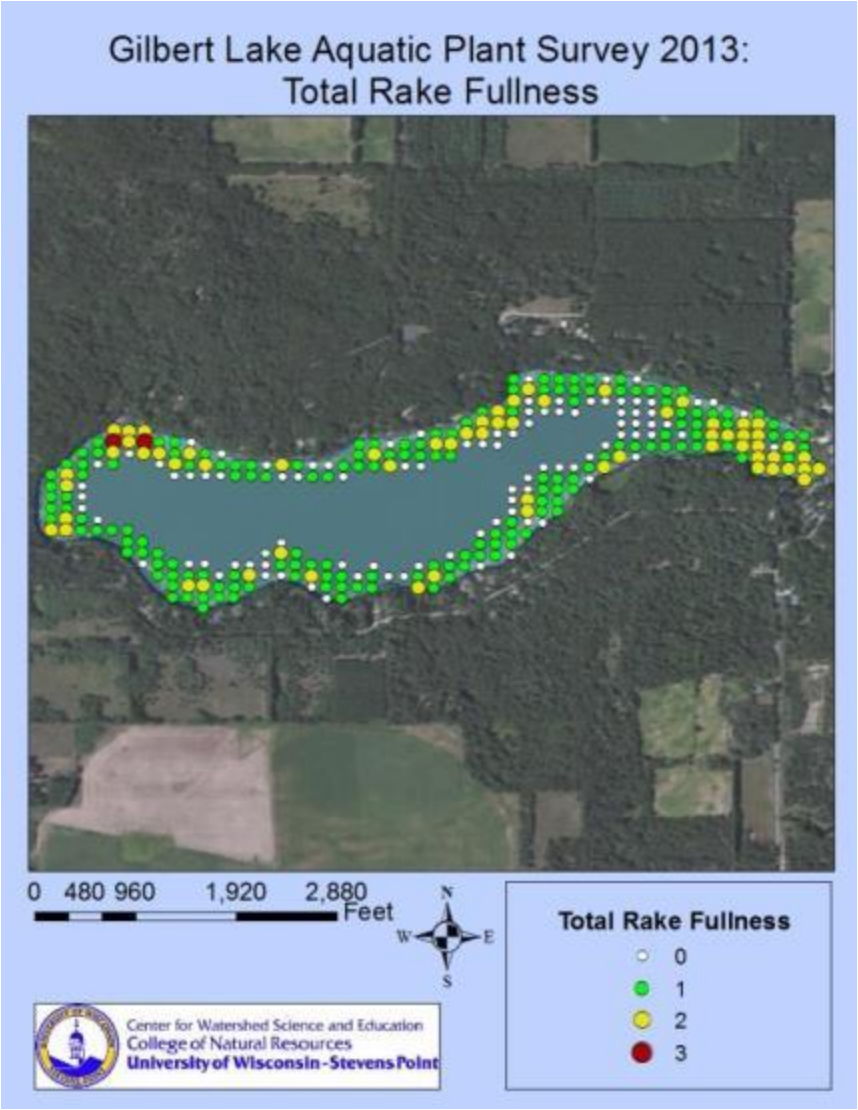
Explore obtaining a lake-wide permit for tree drops and/or fish sticks.	GLAAI	WDNR Healthy Lakes grants (Feb 1)	Ongoing
Continue to inform lake property owners about creating structure by placing brush or Christmas trees under their piers.	GLAAI	WDNR Fisheries Biologist UWEX Lakes	Ongoing

Aquatic Plants

Aquatic plants provide the forested landscape within Gilbert Lake. They provide food and habitat for spawning, breeding, and survival for a wide range of inhabitants and lake visitors including fish, waterfowl, turtles, amphibians, as well as invertebrates and other animals. They improve water quality by releasing oxygen into the water and utilizing nutrients that would otherwise be used by algae. A healthy lake typically has a variety of aquatic plant species which creates 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, mink, 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.

An aquatic plant survey was conducted on Gilbert Lake by the WDNR in 2011. Twenty-four species of aquatic plants were observed, which is above average when compared with other Waushara County lakes in the study. The greatest diversity occurred sporadically around the lake in shallow areas. Only 41% of the sample sites in Gilbert Lake had vegetative growth (222 of 545), with plants found at an average depth of 16 feet, with the greatest depth plants were found being 42 feet. Eighty percent of survey respondents perceived the lake had excessive plant growth; however, this was not substantiated in the aquatic plant survey. This indicates the need for shoreland property owners to understand the need and role of aquatic plants as part of the lake ecosystem. The dominant plant species in the survey was muskgrass, followed by variable pondweed and slender naiad. Of the aquatic plant species within Gilbert Lake, three had a C value of 8: yellow pond lily (*Nuphar advena*), southern naiad (*Najas guadalupensis*), and



floating-leaf pondweed (*Potamogeton natans*). The survey documented no species of special concern in Wisconsin. More detailed information can be found in Appendix B. Aquatic Plants and *Waushara County Lakes Study - Gilbert Lake*.

Guiding Vision for Aquatic Plants in Gilbert Lake

Gilbert Lake will have a healthy and diverse native aquatic plant community that supports a balanced fishery and promotes good water quality while allowing for recreation.

Goal 2. Protect native plants in and around Gilbert Lake.

Objective 2.1. Maintain the native aquatic plant community within Gilbert Lake while allowing for recreational use unimpeded by excessive aquatic plant growth.

Actions	Lead person/group	Resources	Timeline
Inform property owners of the importance of native aquatic vegetation to impede the establishment of additional invasive species and providing food and habitat for wildlife via educational materials provided at the annual meeting and in the spring newsletter.	GLAAI	UWEX Lakes WCLWC	Ongoing
If plants severely impede recreation, consider hand-pulling small areas around private docks (within WDNR guidelines). Be vigilant about watching for AIS in these areas.	Shoreland property owners		Ongoing
Remind shoreland property owners about refraining from the application of herbicides/pesticides on shorelands at annual meeting and in spring newsletter.	GLAAI	UWEX Lakes	Ongoing

Objective 2.2. Enhance shoreland vegetation and encourage best management practices within the watershed.

Actions	Lead person/group	Resources	Timeline
See **Shorelands** and **Watersheds** sections.			

Aquatic Invasive Species (AIS)

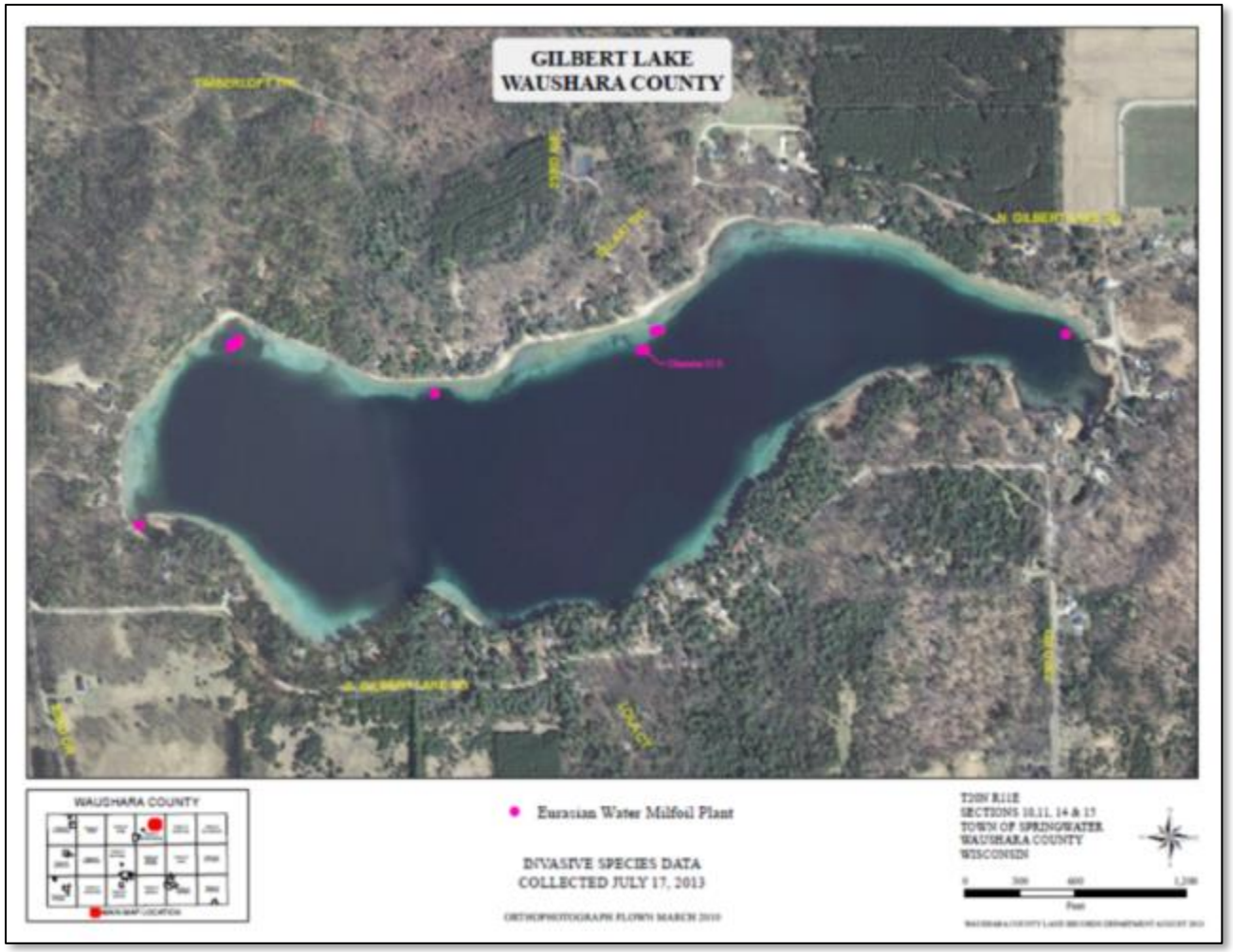
Aquatic invasive species are non-native aquatic plants and animals that are most often unintentionally introduced into lakes by lake users. This most commonly occurs on trailers, boats, equipment, and from the release of bait. In some lakes, aquatic invasive plant species can exist as a part of the plant community, while in other lakes populations explode, creating dense beds that can damage boat motors, make areas non-navigable, inhibit activities like swimming and fishing, and disrupt the lakes' ecosystems. EWM produces viable seeds; however, it often spreads by fragmentation. Just a small fragment of the stem is enough to start a new plant, so spread can occur quickly if plants are located near points of activity such as beaches and boat launches.

Eurasian watermilfoil (*Myriophyllum spicatum,* EWM) was first documented in Gilbert Lake in 1994. Altough populations have not become widespread (0.7% littoral frequency in 2011), individual plants and small beds persist. The most recent visual survey was conducted by Golden Sands Resource & Conservation Development Council, Inc. (RC&D) in 2013. Annual herbicide spot treatments are being conducted in an attempt to keep EWM in check.

Each lake is different and responses to EWM control may differ from lake to lake; therefore, no single approach will be appropriate. Often, multiple approaches and adaptive year-to-year changes are most successful. The population of EWM should be evaluated using a 'point-intercept' method (accompanied by more thorough observations) before and after treatments to determine the effectiveness of an approach in a given year. Strategies for the subsequent year should be adjusted accordingly. EWM management involves evolving scientific knowledge; therefore, the management strategies for EWM management in Gilbert Lake should be adapted as EWM populations in the lake change and as new information becomes available.

Hybrid watermilfoil (HWM) results from a hybridization of native watermilfoil with Eurasian watermilfoil. HWM tends to be more resilient and less affected by chemical treatment. HWM may be suspected in a lake if 1) the plants appearance is different than EWM; 2) management with chemicals becomes difficult or ineffective; and, 3) the lake is near other lakes with HWM. According to Michelle Nault, Water Resources Management Specialist with the WDNR, samples of watermilfoil from Gilbert Lake were genetically tested in 2010 (Cason & Associates), 2011 (WDNR Research) and 2015 (Cason & Associates.). Results indicated the samples submitted were not HWM; however, hybridization can occur at any time. If the three criteria above are met at some point in the future, plant samples should again be submitted to a lab for analysis. If HWM is confirmed, a *challenge test* should be conducted to determine which combination of chemicals will be effective in controlling that particular strain of HWM. There are many combinations of herbicides and concentrations that can potentially be used to treat HWM – the only way to know the appropriate combination is by sending samples to be challenge tested. Treating HWM without knowing the appropriate combination of chemicals can result in an even more resilient strain in the lake, damage to the native aquatic plant population, and a waste of money.

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



Guiding Vision for Aquatic Invasive Species

Invasive species will be controlled or eliminated from Gilbert Lake so that they do not impede residents' enjoyment of the lake.

Goal 3. Aquatic invasive species (AIS) will be eliminated from Gilbert Lake and establishment of new AIS will be prevented.

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

Actions	Lead person/group	Resources	Timeline
Continue to use signs, newsletters, and other methods to inform lake visitors about AIS and removing aquatic hitchhikers. Ensure signs at boat launch remain in good repair.	GLAAI Town of Springwater	UWEX Lakes (educational materials)	Ongoing
Learn to identify AIS and routinely look for it by obtaining identification cards for EWM and northern milfoil and distributing them to Association members.	Shoreland property owners Lake users	RC&D	Ongoing
Review and consider participation in the Clean Boats Clean Waters (CBCW) program, especially on busy weekends and holidays.	GLAAI	CBCW Coordinator UWEX Lakes	2016 Ongoing

Objective 3.2. Reduce or eliminate populations of EWM in Gilbert Lake.

Actions	Lead person/group	Resources	Timeline
Inform property owners at the annual meeting and in the spring newsletter (and periodically after that) about refraining from removing native aquatic vegetation to diminish the possible colonization by AIS.	GLAAI	RC&D UWEX Lakes (educational materials) WCLWC	Annually
Continue annual fall point-intercept survey to determine the next steps (or no action) in management of EWM.	GLAAI	WDNR Lake Manager RC&D, Consultant	Annually
Determine appropriate action (chemical or hand-pulling) to manage EWM and/or HWM if present as identified in the fall survey.	GLAAI	WDNR Lake Manager	Ongoing
Educate shoreland property owners about removing floating fragments of EWM and NOT hand-pulling, unless they are properly trained.	GLAAI	RC&D	Annually or as needed
Work with other area lake groups to apply jointly for a grant to hire divers to hand-pull EWM, if appropriate.	GLAAI	WDNR Lake Manager RC&D	As needed
If 3 conditions (above) are met, conduct DNA testing of EWM to determine if it has hybridized (HWM).	GLAAI	Consultant	Periodically as necessary.
If HWM is present, conduct challenge tests to determine the correct combinations of chemicals for successful treatment.	GLAAI	RC&D Consultant	As needed
Arrange meeting with individuals from Porters Lake to learn about their successful approach to eradication of EWM.	GLAAI Interested citizens	WDNR Lake Manager RC&D	2016
Request that zebra mussels be de-listed as AIS in Gilbert Lake.	GLAAI	WDNR Lake Manager	2016

Aquatic Plant Management Plan

Purpose: To Eliminate or Reduce EWM

The management options outlined in this plan were selected to achieve a balance between healthy aquatic habitat, a healthy fishery, good water quality, and recreational access. Responses to control efforts will differ within a lake and from year-to-year, so no single approach will be appropriate for Gilbert Lake. Often the selection of multiple options and adaptive year-to-year changes in strategy will be most successful in achieving the management goals. Each year, the state of the aquatic plants in Gilbert Lake should be assessed. During fall or winter, the results of the point-intercept survey should be reviewed by the GLAAI with assistance from the WDNR Water Resource Specialist, a consultant, and Golden Sands RC&D. Others may also be involved. Based on conditions, the strategy for the upcoming year should be developed. The strategy may include one or more of the following options. Some of the options require a WDNR permit.

Management options will change depending upon the amount of EWM in Gilbert Lake; therefore, routine annual monitoring of these species will continue. The following aquatic plant management options were determined to be the most practical and effective options to minimize impacts to Gilbert Lake as a whole.

Manual removal – Individuals - training is recommended - permit is not required

ADVANTAGES	LIMITATIONS
∗ Can target specific plants - with proper training	∗ Removes near-shore wildlife and fish habitat
∗ Can be effective in controlling small EWM/HWM infestations	∗ Opens up areas where other AIS can become established
∗ No associated cost	∗ If EWM/HWM are not removed properly, could worsen the problem
	∗ Training required for proper identification/removal methods

Individuals wishing to remove individual EWM plants can do so by manual removal; however, GLAAI encourages all shoreland property owners to obtain training prior to manually removing EWM. Additionally, those trained to properly identify and remove EWM and other AIS can remove those plants manually any time of year, without a permit. Trained divers can be hired to manually remove AIS in deeper parts of the lake as an adjunct to chemical spot treatments.

Manual removal - Diver-Assisted (With or Without Suction) – training is recommended - permit is not required

ADVANTAGES	LIMITATIONS
∗ Can be used in deeper areas	∗ Costs associated with hiring a diver may be comparable to chemical treatment expenses
∗ Can target specific plants with proper training	∗ Currently an experimental treatment – not readily available
∗ Can be effective in controlling small EWM/HWM infestations	∗ If EWM/HWM are not pulled properly, could worsen the problem
∗ May be useful in helping to remove upper root mass	

Divers trained in proper EWM removal techniques can be hired to manually remove AIS in deeper parts of the lake. If populations are low enough, this is the recommended option for controlling EWM/HWM at depths too great for hand-pulling without additional gear**.** Pulling EWM/HWM may stir up bottom sediment, which can greatly reduce visibility. In this case, divers can use suction techniques to reduce the disturbance of sediment. Grants may be available to support hand-pulling efforts. This technique can be employed following a chemical treatment to remove individual plants. To improve grant competition, GLAAI members could work with other area lake groups to jointly apply for a grant.

Chemical Treatment with Contact Herbicide (Early Season) – permit required

ADVANTAGES	LIMITATIONS
∗ May reduce EWM/HWM for a time	∗ Usually not fully effective in eradicating target species
∗ Treatment not needed as frequently	∗ 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
	∗ May negatively affect native vegetation
	∗ Effects on lake ecosystem not fully understood
	∗ Can open up areas once taken up by natives for AIS to colonize again
	∗ Can be costly

Chemical spot treatment. Results of recent studies of the effectiveness of chemical spot treatment suggest the treatment is less effective than previously thought and may actually promote chemically resistant forms of EWM; however, chemical spot treatments may still be appropriate in certain conditions to control EWM in the future. If hybrid milfoil (HWM) is determined to be present, the type of chemical should be based on the specific type of hybrid. This can be determined through a *challenge test*. If EWM is found to not be a hybrid, and affected areas are typically less than 5 acres, a contact herbicide such as endothall or diquat should be used. Systemic herbicides should not be used. Treatment should occur early in the season, prior to emergence of native plants. To reduce the chance of developing resilient strains of EWM, a different treatment should be used each year.

Do nothing

Doing no active management is an option to see how the EWM may respond. Although EWM is present in the lake and typically behaves very aggressively, there have been cases in other lakes where the population stabilized and did not present a significant issue to the lakes' users.

OPTIONS DISCUSSED BUT NOT SELECTED:

Milfoil Weevils The release of milfoil weevils was previously tried on Gilbert Lake, but they were not successful. The reason for the lack of success is unknown.

Mechanical harvesting. (Native plants) A harvester can be purchased or hired to cut access lanes through dense vegetation to provide boating access and improve fish habitat. This was discussed and decided to not be appropriate for Gilbert Lake.

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. This is done in order to protect features that are important to the overall health and integrity of the lake, including aquatic plants and animals. While every lake contains important natural features, not all lakes have official critical habitat designations. Designating areas of the lake as critical habitat enables these areas to be located on maps and information about their importance to be shared. Having a critical habitat designation on a lake can help lake groups and landowners plan waterfront projects that will minimize impact to important habitat, ultimately helping to ensure the long-term health of the lake.

In 2006, WDNR lake specialists identified five critical habitat areas in Gilbert Lake (Figure 1). These areas support wildlife and fish habitat, provide mechanisms that protect water quality in the lake, harbor quality plant communities, and preserve places of serenity and aesthetic beauty for the enjoyment of lake residents and visitors. A special designation of sensitive areas within a lake provides a means to protect sites most important to preserving the very character and qualities of the lake and its ecosystem that initially attracted development to the lake. More information about the critical habitat designations in/near Gilbert Lake can be found at http://dnr.wi.gov/lakes/criticalhabitat/Project.aspx?project=10419358.

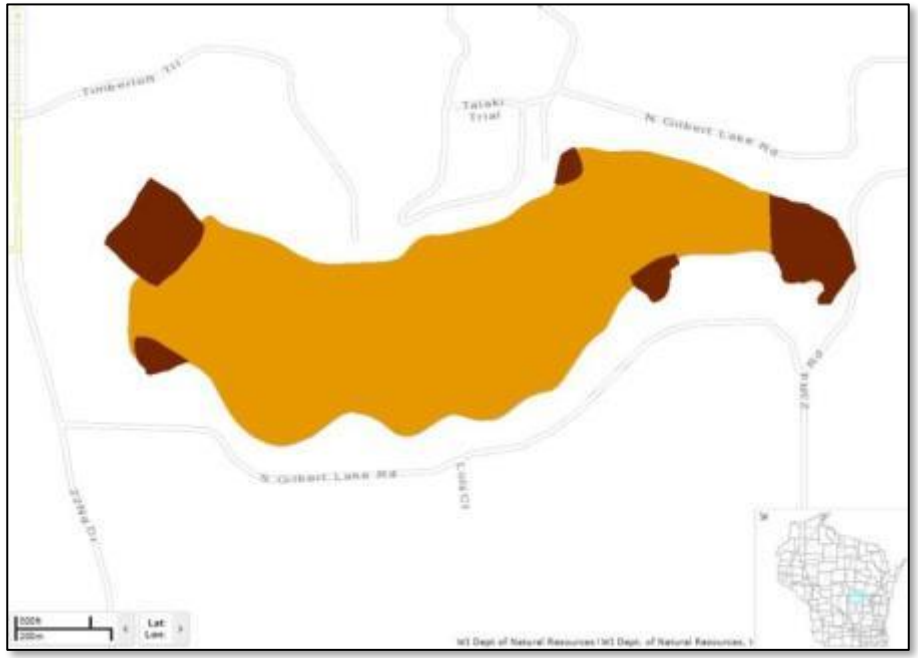


Figure 1. Critical habitat designations on Gilbert Lake (WDNR, 2006).

Guiding Vision Gilbert Lake's Critical Habitat

Gilbert Lake's sensitive areas will be enhanced and protected from degradation.

Goal 4. Protect sensitive areas in and around Gilbert Lake.

Objective 4.1. Protect and enhance critical habitat areas in Gilbert Lake.

Actions	Lead person/group	Resources	Timeline
Learn about and inform shoreland property owners within critical habitat areas of the importance of critical habitat and potential need for communication with WDNR biologists and additional permitting needs if disturbance in these areas is desired.	GLAAI	WCLCD WDNR Biologists UWEX Lakes	Ongoing

Photo: Robert Korth

Photo: Eddie Heath

Landscapes and the Lake

Land use and land management practices within a lake's watershed can affect both its water quantity and quality. While forests, grasslands, and wetlands allow a fair amount of precipitation to soak into the ground, resulting in more groundwater and good water quality, other types of land uses may result in increased runoff and less groundwater recharge, and may also be sources of pollutants that can impact the lake and its inhabitants. Areas of land with exposed soil can produce soil erosion. Soil entering the lake can make the water cloudy and cover fish spawning beds. Soil also contains nutrients that increase the growth of algae and aquatic plants. Development on the land may result in changes to natural drainage patterns and alterations to vegetation on the landscape, and may be a source of pollutants. Impervious (hard) surfaces such as roads, rooftops, and compacted soil prevent rainfall from soaking into the ground, which may result in more runoff that carries pollutants to the lake. Wastewater, animal waste, and fertilizers used on lawns, gardens and crops can contribute nutrients that enhance the growth of algae and aquatic plants in our lakes. Land management practices can be put into place that better mimic some of the natural processes, and reduction or elimination of nutrients added to the landscape will help prevent the nutrients from reaching the water. In general, the land nearest the lake has the greatest impact on the lake water quality and habitat.

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 also serve the lake by allowing contaminants to settle out, providing shelter for fish and wildlife, and decreasing the hazard of shoreline erosion by providing a shoreland barrier from waves and wind.

The water quality in Gilbert Lake is the result of many factors, including the underlying geology, the 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 Gilbert Lake was assessed by measuring different characteristics including temperature, dissolved oxygen, water clarity, and water chemistry. All of these factors were taken into consideration when management planning decisions were made.

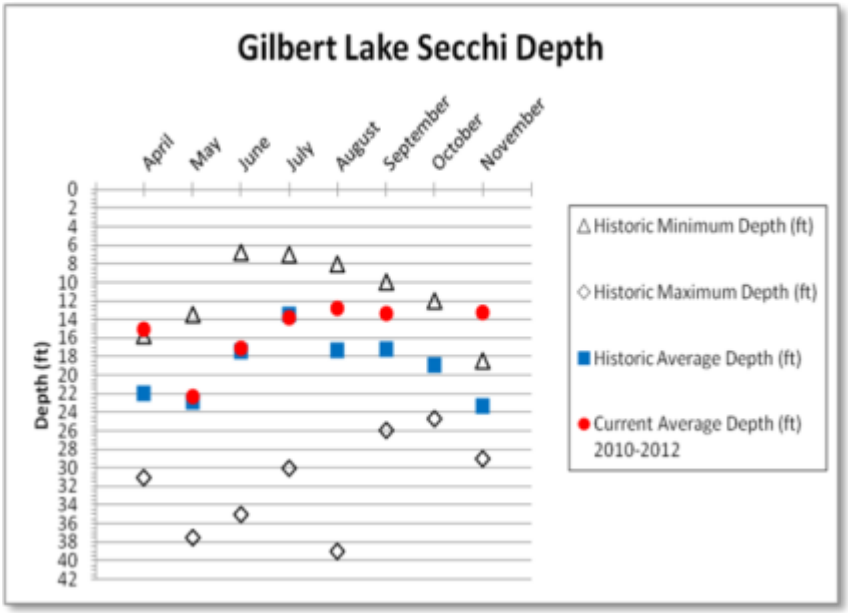
Water Quality

Survey respondents indicated there is a direct correlation between water quality in Gilbert Lake and both the personal enjoyment value and the economic value of their lake property. More than one-half of the respondents felt water quality had declined during their time at the lake and most felt this was primarily attributable to heavy recreation and water level decline. Planning session participants indicated algae blooms were occurring earlier in the year than they had previously. Most of the survey respondents indicated improvements to water quality would be a major factor in motivating them to change the ways they manage their property.

A variety of water chemistry measurements were used to characterize the water quality in Gilbert Lake. Water quality was assessed during the 2010-2012 lake study and involved a number of measures including temperature, dissolved oxygen, water chemistry, and nutrients (phosphorus and nitrogen). Nutrients are important measures of water quality in lakes because they are used for growth by algae and aquatic plants. Each of these interrelated measures plays a part in the lake's overall water quality. In addition, water quality data collected in past years were also reviewed to determine trends in Gilbert Lake's water quality.

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

Dissolved oxygen is an important measure in Gilbert Lake because a majority of organisms in the water depend on oxygen to survive. Oxygen is dissolved into the water from contact with air, which is increased by wind and wave action. Algae and aquatic plants also produce oxygen when sunlight enters the water, but the decomposition of dead plants and algae reduces oxygen in the lake. Dissolved oxygen concentrations change throughout the year and vary with depth. In Gilbert Lake, dissolved oxygen concentrations typically increase at depths between 25 and 45 feet due to oxygen production by algae, and concentrations were always sufficient for fish in the upper 30 feet of water.



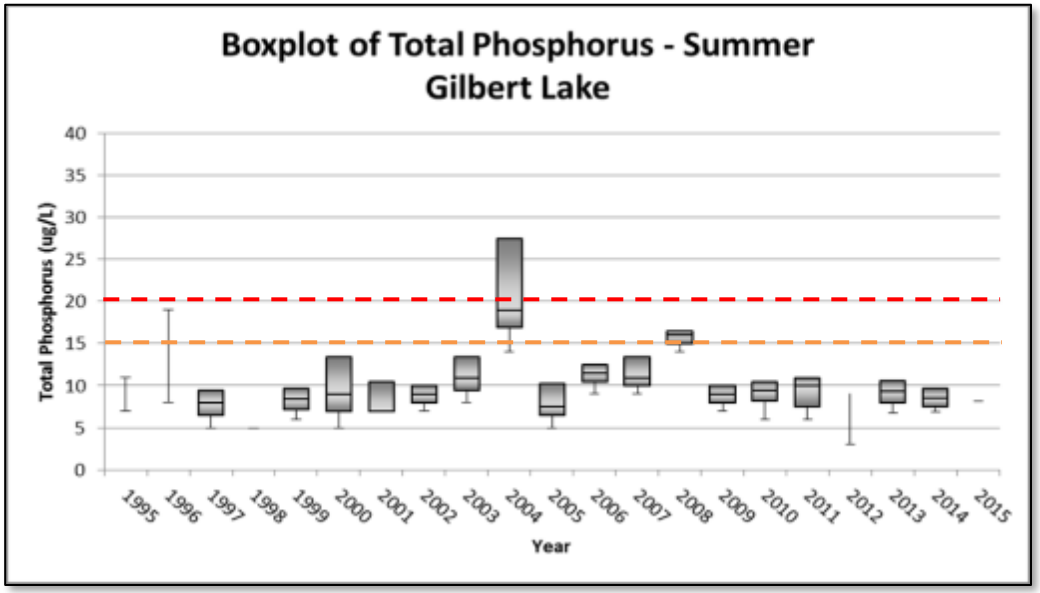
The water clarity measured in Gilbert Lake was considered good. Water clarity ranged from 9 feet to 22 feet depending upon the time of year. The poorest water clarity occurred in July, August and September. When compared with monthly averages of past data, the average water clarity measured during the study was similar in May, June and July, and poorer in April, August, September and November. Historic maximum water clarity values were significantly better for all months compared with water clarity measurements during the study. A robust water clarity dataset for Gilbert Lake exists with records dating back to 1985.

Chloride, sodium and potassium are commonly used as indicators of how a lake is being impacted by human activity. The presence of these compounds where they do not naturally occur indicates sources of water contaminants. Although these elements are not detrimental to the aquatic ecosystem, they indicate that sources

of contaminants such as road salt, fertilizer, animal waste and/or septic system effluent may be entering the lake from surface runoff or via groundwater. Gilbert Lake had low average chloride, sodium, and potassium concentrations in samples collected during the study; however, atrazine, an herbicide commonly used on corn, was detected (0.11 µg/L and 0.055 µg/L DACT). The presence of DACT suggested agricultural activities in the surrounding area were impacting water quality. Toxicity studies have indicated that reproductive system abnormalities can occur in frogs at these levels (Hayes et al., 2001; Hayes et al., 2003). Since DACT is likely to be entering via groundwater, it is recommended that private wells be tested.

Phosphorus is an element essential in trace amounts to most living organisms, including aquatic plants and algae. Sources 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 for biological growth, phosphorus receives 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.

During the study, total phosphorus concentrations measured in samples collected from Gilbert Lake ranged from a high of 19 µg/L in August 2011 to a low of 3 µg/L in February 2011, February 2012 and August 2012. The summer median total phosphorus concentration for Gilbert Lake was 10 µg/L and 9 µg/L in 2011 and 2012, respectively. This is below Wisconsin's phosphorus standard of 20 µg/L for deep seepage lakes.



Median (June 1 – Sept 15) concentrations of total phosphorus (µ/L) in Gilbert Lake. 1995-2015. Wisconsin TP standard for deep stratified lakes is 20 µ/L and "flag" value is 15 µ/L.

In Gilbert Lake, the average concentration of inorganic nitrogen was 0.26 mg/L during the spring. Concentrations of inorganic nitrogen above 0.3 mg/L are sufficient to increase algal blooms throughout the summer. Inorganic nitrogen typically moves to the lake via groundwater. Its sources can include fertilizers, septic systems and animal waste. It is advisable to test private well water to determine if it exceeds the health standards for drinking water.

Managing nitrogen, phosphorus and soil erosion throughout the Gilbert Lake watershed is one of the keys to protecting the lake itself. Near shore activities that may increase the input of phosphorus and nitrogen to the lake include applying fertilizer, removing or mowing native vegetation (trees, bushes and grasses), and increasing the amount of exposed soil. Nitrogen inputs to Gilbert Lake can be controlled by using lake-friendly land

management decisions, such as the restoration of shoreland vegetation, elimination/reduction of fertilizers, proper management of animal waste and septic systems, and the use of water quality-based management practices.

Guiding Vision for Water Quality in Gilbert Lake

Water quality in Gilbert Lake will support a healthy lake ecosystem and great recreation.

Goal 5. The water quality in Gilbert Lake will be the same or better than the average measurements observed during the 2010-2012 study.

Spring nitrogen concentrations will show a decreasing trend over the next 5 years, median summer concentrations of total phosphorus will be less than 10 ug/L, and average water clarity measurements in the summer greater than 14 feet.

Objective 5.1. Monitor water quality to determine if the water quality goals are being met and to determine the quality of water being consumed from private wells.

Actions	Lead person/group	Resources	Timeline
Private well owners should test drinking water for atrazine and nitrate. Offer group testing to Association members. Consider inviting the UWEX Groundwater Specialist to give a presentation on sample results.	GLAAI	UWEX-Patrick Nehring WEAL UWEX Groundwater Spec.	2017 and annually
Take routine water clarity measurements throughout the growing season, with an increased frequency when algae blooms are observed.	GLAAI	CLMN	May-Sept. 5 times
Implement/continue regular summer monitoring program to include total phosphorus and chlorophyll-*a* analysis at least 3 times May-September.	GLAAI	CLMN	Annually May-Sept.
Collect lake water samples for inorganic nitrogen analysis during overturn approx. 2-3 weeks after ice-off.	GLAAI	WEAL Certified water lab	Annually in spring
Take periodic dissolved oxygen readings per CLMN monitoring guidelines.	GLAAI	CLMN	Annually
Monitor ice-on and ice-off every year.	GLAAI	WDNR	Annually
Submit all lake monitoring data to the WDNR SWIMS database for long term storage.			Min. Annually
Remind Association members that septic systems need to be pumped every 3 years.	GLAAI	WC Zoning	Annually

Objective 5.2. Develop strategies to ensure healthy shorelands remain intact and improvements are made to those that have disturbance.

Actions	Lead person/group	Resources	Timeline
See **Shorelands** section.			

Water Quantity

Gilbert Lake has experienced a decline in water levels over recent years, which is of concern for many Gilbert Lake residents and visitors. Some seepage lakes in Waushara County have historically experienced fluctuations in water levels and some plants have adapted to these fluctuations for survival. Since 2006, annual precipitation for Wautoma has been average and in some years above average (Kraft et. al., 2014). Excess withdrawal of groundwater can add to natural fluctuations, affecting the extent and duration of low water levels (Kraft, 2014). The Gilbert Lake planning committee envisions improved water levels in Gilbert Lake through the maintenance of natural groundwater levels and limitations on groundwater withdrawals in the surrounding area.

Guiding Vision for Water Quantity

Gilbert Lake will have typical historic water levels at or near the ordinary high water mark.

Goal 6. Gilbert Lake will have water levels with natural fluctuations.

Objective 6.1. Understand water fluctuations (natural vs. manmade) in and near Gilbert Lake.

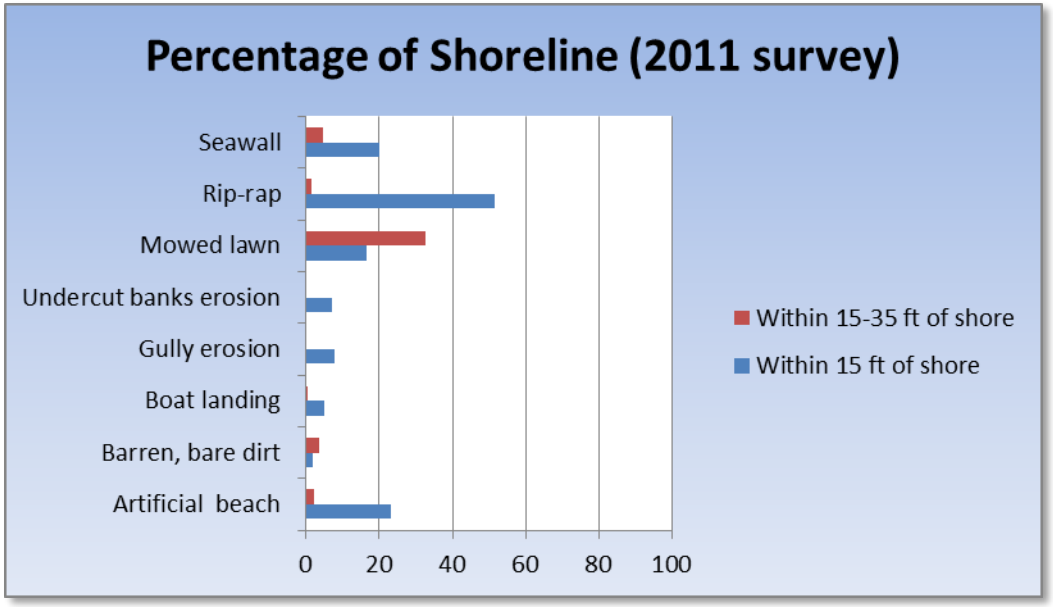
Actions	Lead person/group	Resources	Timeline
Continue the lake level monitoring program. Work with WCLCD to verify current monitoring methods and inquire about the installation of a monitoring well. Collect measurements at least monthly.	GLAAI	WCLCD WDNR Water Quality Specialist	Ongoing
Work with WDNR to establish a threshold lake level for Gilbert Lake with respect to wildlife and the public interest.	GLAAI	WDNR Lake Specialist	2016

Objective 6.2. Work with citizens and elected officials to ensure that Gilbert Lake has "normal" natural lake levels.

Actions	Lead person/group	Resources	Timeline
Provide information to Association members via website and/or email on what is currently happening with water withdrawals and impacts on lake levels.	GLAAI	Wisconsin Lakes	Ongoing
Connect with other lake groups and organizations in the area focused on water level/groundwater issues in Central Wisconsin.	GLAAI	WCWLC Friend of Central Sands Wisconsin Lakes	Ongoing – as needed
Work with other lake organizations /lake residents/agriculture on groundwater legislation and to reduce groundwater withdrawals.	GLAAI	WCWLC Friends of Central Sands Wisconsin Lakes	Ongoing
Work with local legislators on groundwater legislation; give legislators more support and representation at discussions on groundwater issues related to water withdrawal.	GLAAI	Town, Village, County elected officials State and Federal legislators	Ongoing – as needed

Shorelands

Shoreland vegetation is critical to a healthy lake ecosystem. It provides habitat for many aquatic and terrestrial animals including birds, frogs, turtles, and small and large mammals. It also helps to improve the quality of the runoff that is flowing across the landscape towards the lake. Healthy shoreland vegetation includes a mix of unmowed grasses/flowers, shrubs, trees, and wetlands which extends at least 35 feet landward from the water's edge.



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, sea walls, 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 Gilbert Lake is displayed on the map in Appendix D. Shoreland Survey – 2011. Several stretches of Gilbert Lake's shorelands are in good to moderately-good shape, but many sections have challenges that should be addressed. Two stretches of shoreland are ranked as poor. Fifteen sites of erosion were identified during the survey. Erosion can contribute sediment to the lake, which can alter spawning habitat and carry nutrients into the lake. The survey identified over 10,000 feet of shoreland with rip-rap or sea walls, which do not provide good habitat. In many cases, these materials can be replaced with biologs, which can support plants and provide healthy habitat.

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

Guiding Vision for Gilbert Lake's Shorelands

Gilbert Lake will have a shoreland that provides aesthetic beauty and benefits water quality and habitat for birds, frogs, and other animals that use or live near shore.

Goal 7. Gilbert Lake shorelands will become increasingly healthy over time.

Approximately 10% of the 2,400 feet of shoreland that is mowed to the water's edge will be restored over the next 5 years.

Objective 7.1. Gilbert Lake shoreland property owners will be knowledgeable about and make good decisions about shoreland practices that result in good water quality and habitat.

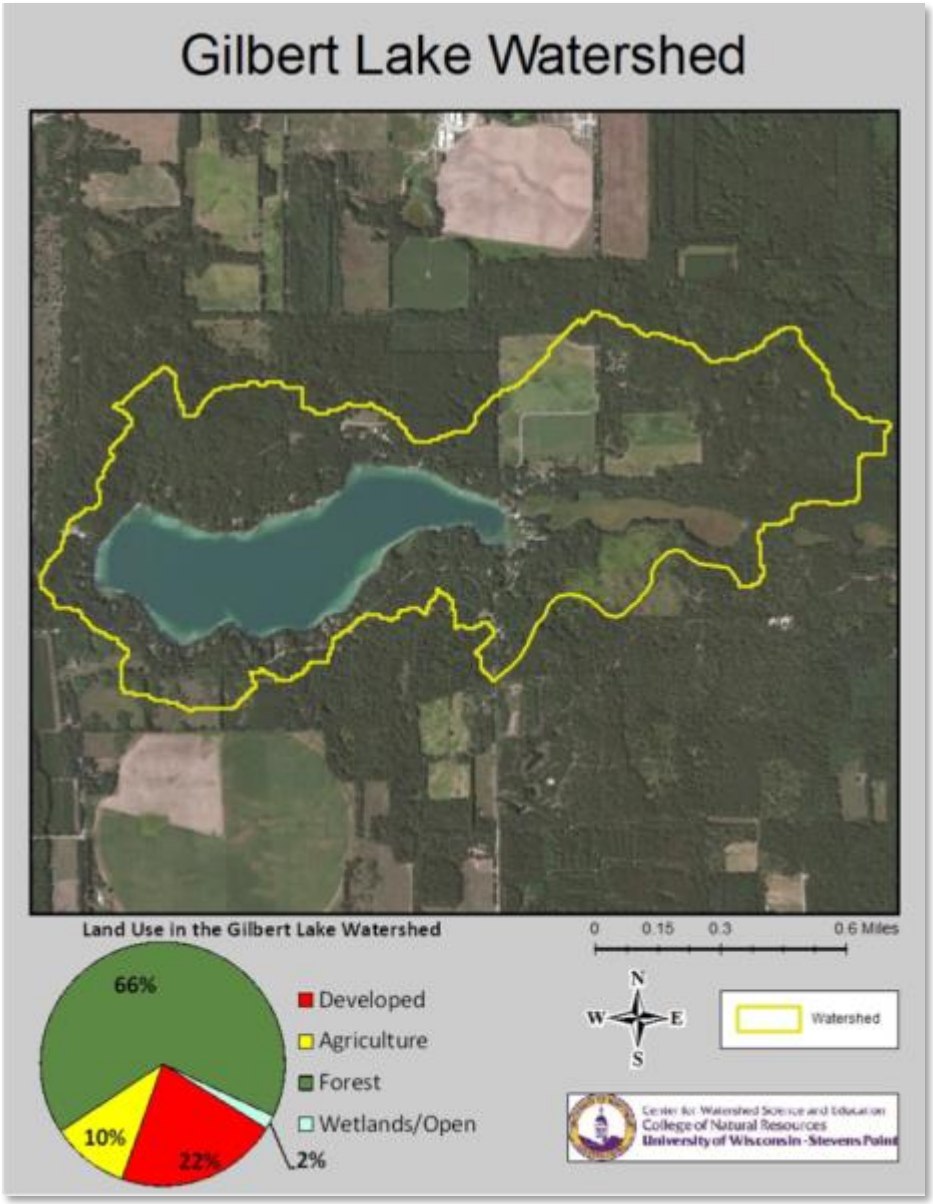
Actions	Lead person/group	Resources	Timeline
Provide informational materials to all shoreland property owners about basic lake stewardship including healthy shorelands and their composition (wildflowers, shrubs, trees, etc.).	GLAAI	WCWLC UWEX Lakes – info materials	Ongoing
Inform property owners that a WDNR permit is required to 'add sand' to their shoreland.	GLAAI	UWEX Lakes WCLCD	Ongoing
Encourage and support shoreland owners interested in shoreland restoration and inform them to contact the WCLCD for available resources.	GLAAI Shoreland property owners	UWEX Lakes – info materials WCLCD Consultants WDNR Healthy Lakes grants	Ongoing
Explore a demonstration site in the county that residents can be directed to see.	GLAAI Town of Springwater Shoreland property owners	WCLCD UWEX Lakes Consultants	2016-2017
Discourage lake property owners from using fertilizer on their lawns as they are a source of nitrogen seepage into the lake; those concerned about appearance of lawn should have their soil tested to determine if any amendments are warranted.	GLAAI	WCLCD UWEX	Ongoing
Host a speaker/demonstration on how to restore shorelands.	GLAAI	WCLCD UWEX Lakes-Patrick Goggin Consultants	2017
Shoreland property owners will make efforts to protect healthy shorelands and restore those that are not healthy. Incremental improvements can be helpful.	Shoreland property owners	WCLCD Consultants WDNR Healthy Lakes grants	Ongoing
Shoreland property owners will work with others to address shoreland areas that are eroding.	Shoreland property owners	WCLCD Consultants	As needed

Watershed Land Use

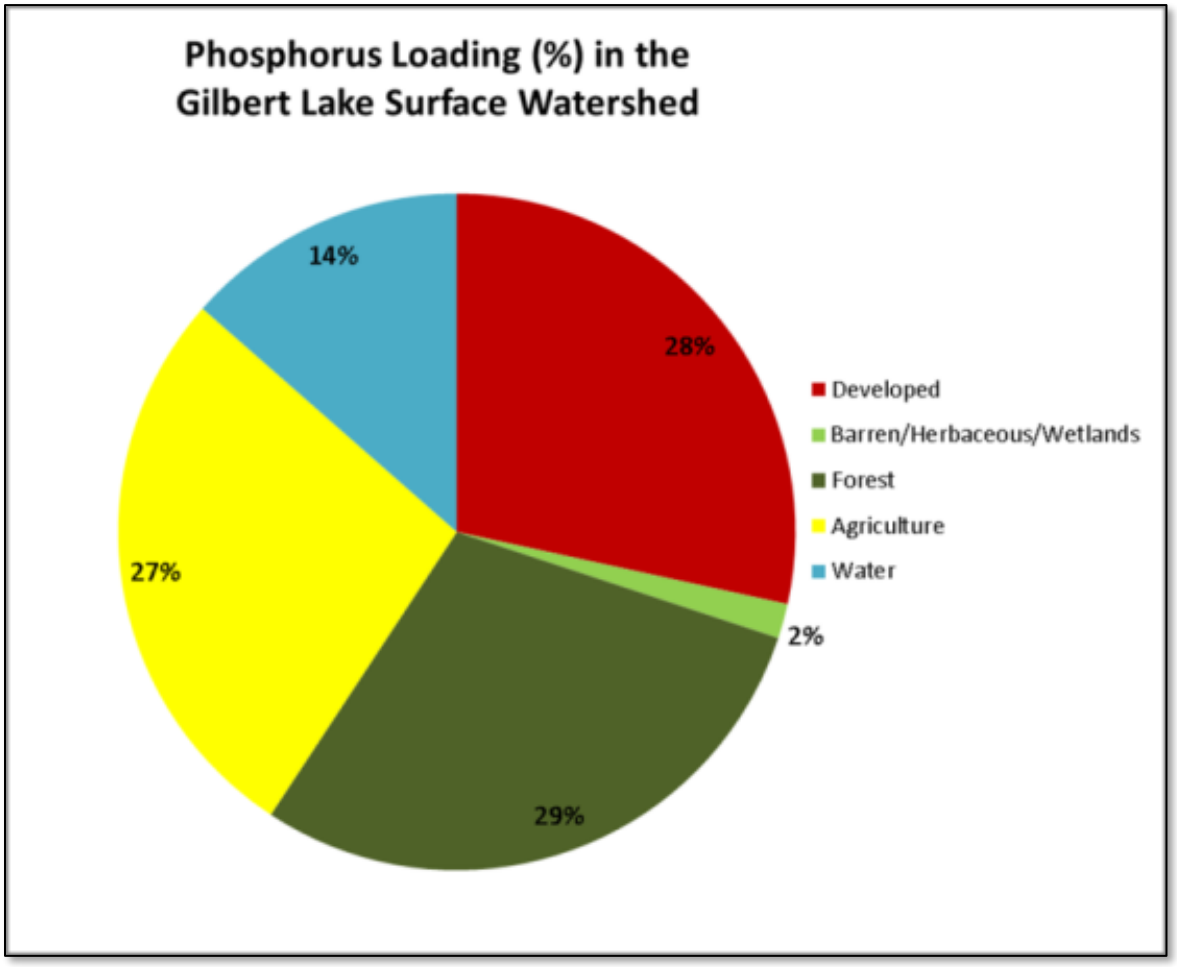
It is important to understand where Gilbert Lake's water originates in order to understand the lake's health. During snowmelt or rainstorms, water moves across the surface of the landscape (runoff) towards lower elevations such as lakes, streams, and wetlands. The land area that contributes runoff to a lake is called the surface watershed. Groundwater also feeds Gilbert 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. 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, rain barrels, and routing drainage from pavement and roofs away from the lake. Some practices are used to help reduce nutrients from moving across the landscape towards the lake. Examples include manure management practices, eliminating/reducing the use of fertilizers, increasing the distance between the lake and a septic drainfield, protecting/restoring wetlands and native vegetation in the shoreland, and using erosion control practices.

The surface watershed for Gilbert Lake is approximately 1,044 acres. The dominant types of land use in the watershed are forests (66%) followed by developed land (22%). The land closest to the lake often has the greatest impact on water quality and habitat; Gilbert Lake's shoreland is surrounded primarily by forests, wetlands, and development. Estimates



of phosphorus from the landscape can help to understand the phosphorus sources to Gilbert 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 Gilbert Lake.



Guiding Vision for Gilbert Lake's Watershed

Land within the Gilbert Lake watershed will be managed in a way that supports clean water and a healthy lake.

Goal 8. Best management practices will be used by Gilbert Lake shoreland property owners and others in the watershed.

Objective 8.1. Inform property owners about the practices that lead to a healthy watershed and healthy lake.

Actions	Lead person/group	Resources	Timeline
Inform shoreland property owners about minimizing impervious surfaces and managing runoff to the lake from existing hard surfaces by providing opportunities for the runoff water to soak into the ground (e.g. rain gardens, retention basins, rain barrels, etc.)	GLAAI	UWEX Lakes WDNR Healthy Lakes grants	Ongoing
Inform shoreland property owners about the benefits of healthy shorelands (**see Shorelands section**).	GLAAI	UWEX Lakes	Ongoing
Encourage the County to support and follow-up with water quality-based best management practices (BMPs) within the watershed. Include BMPs that reduce application of excess nitrogen and pesticides that leach to groundwater.	WCLCD GLAAI	NRCS DATCP County Board	Ongoing
Support landowners interested in the protection of their land via a land conservation program (i.e. conservation easement, purchase of development rights, or sale of land for protection).	Watershed property owners	NCCT WDNR Lake Protection grants Knowles-Nelson Stewardship Fund	As needed
Encourage subdivisions and other new developments to manage storm water on site and consider ways to minimize impacts from septic systems on Gilbert Lake.	GLAAI	Town of Springwater Developers	As needed
Protect wetlands to maintain the water budget of Gilbert Lake. Any altered wetlands should be mitigated within the lake's watershed.	GLAAI	WDNR WCLCD	As needed
Encourage design of road and construction projects that will minimize impacts to Gilbert Lake.	GLAAI	Town of Springwater WC Highway Dept. WDOT	As needed

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. The plan summarizes the decisions of the people to take proactive steps to improve their lake and their community. Individual decisions by lake residents and visitors can have positive impacts on the lake and on those who enjoy this common resource. Collaborative efforts may have bigger positive impacts; therefore, communication and cooperation between the lake association, community, and suite of lake users are essential to maximize the effects of plan implementation.

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

The primary activities identified by over 80% of the Gilbert Lake survey respondents included swimming/snorkeling, kayaking/canoeing, enjoying the scenery and wildlife, and walking. Public access to Gilbert Lake includes one public boat landing with ADA features at the eastern end, and walk-in access on the southern side. Slow no wake hours on Gilbert Lake are from 5pm to 10am. Having times where motor boating and tubing are allowed, along with quieter times, helps to reduce potential conflicts and safety issues associated with a mix of fast-moving motorized and non-motorized activities; however, survey comments indicated there are too many fast moving boats. Some felt boaters are favored over non-motorized recreation.

Guiding Vision for Recreation

People will enjoy Gilbert Lake with minimal recreational conflicts among lake users.

Goal 9. Reduce user conflicts by increasing compliance with boating rules and fishing regulations.

Objective 9.1. Continue to communicate recreational rules to lakeshore property owners.

Action	Lead person/group	Resources	Timeline
Maintain public landing/boat launch signs and request that Town add information about sensitive areas in addition to currently depicted NO WAKE area when signs are next updated.	Town of Springwater	Town of Springwater	Ongoing
Continue to communicate at annual meetings by providing information for lake residents, their guests, and renters. Information should include: not operating any boat or PWC faster than slow no wake speed within 100 feet of any dock, pier, raft, or within the NO WAKE area of the lake.	GLAAI	GLAAI	Ongoing
Provide brochures, as appropriate, for lake property owners regarding other boating regulations.	GLAAI	Information available online	Ongoing

Objective 9.2. Support continued recreational fishing on Gilbert Lake.
(See also, Goal 1. Improve the quality of the fishery in Gilbert Lake through sustainable management practices.**)**

Action	Lead person/group	Resources	Timeline
Support enforcement of current fishing regulations (i.e., valid fishing license, bag limits, ice fishing regulations re: fish shanties, bag limit, tip-ups, etc.)	WDNR Warden Town of Springwater	WDNR Warden Town of Springwater	Ongoing
Support interest in fishing by children through continued support of annual fishing contest.	GLAAI	GLAAI	Ongoing

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 ecosystem in Gilbert Lake enjoyed by many people. Working together on common values will help to achieve the goals that are outlined in this plan.

Guiding Vision for Communication

The Gilbert Lake community will be connected and informed about lake stewardship.

Goal 10. Increase participation in lake stewardship.

Objective 10.1. Develop opportunities for education and outreach among full and part-time residents.

Actions	Lead person/group	Resources	Timeline
Maintain the GLAAI website and/or create a GLAAI Facebook page to provide a common source of communication.	GLAAI	UWEX Lakes	Ongoing
Maintain an email list of lake association members	GLAAI	WC UWEX	Ongoing
Continue to distribute a welcome packet/mailing to all new shoreland property owners with basic lake stewardship information/brochures.	Waushara County	WCWLC	Ongoing
Communicate current management activities and updates to the lake management plan to residents and users of the lake via email list and/or newsletter.	GLAAI		Ongoing
Host an annual meeting to discuss lake management and opportunities for shoreland property owners.	GLAAI		Annually
Refer to the survey responses in the appendices to understand perspectives and assist with the implementation of this plan.	GLAAI		As needed

Objective 10.2. Achieve good communication with clubs, municipalities, agency staff, elected officials, other lake groups and organizations interested in Gilbert Lake or lake health.

Actions	Lead person/group	Resources	Timeline
Network with other lake groups in Waushara County by continuing to participate in the WCWLC.	GLAAI	UWEX	Quarterly
Network with other lakes in the state to learn lake management strategies, etc. by continuing to have a representative attend the Wisconsin Lake Convention.	GLAAI	UWEX Lakes	Annually
Consider sending an individual interested in Gilbert Lake to the Lake Leaders Institute.	GLAAI	UWEX Lakes	
Encourage property owners and stewards to obtain "Lake Tides", a quarterly newsletter about Wisconsin lakes.	GLAAI	UWEX Lakes	

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

Gilbert Lake will have an up-to-date and relevant lake management plan that is reviewed annually and documents all management activities and results.

Goal 11. Relevant parts of the Gilbert Lake Management Plan will be incorporated into other land management plans. This plan will be kept current.

Objective 11.1. Incorporate goals, objectives, and actions outlined in the Gilbert Lake Management Plan into local land management and comprehensive plans.

Actions	Lead person/group	Resources	Timeline
Incorporate goals, objectives, and actions outlined in the Gilbert Lake Management Plan into Waushara County and Town of Springwater comprehensive plans.	WCLCD Town of Springwater	Waushara County Town of Springwater Copies to WDNR, etc.	2016

Objective 11.2. Review plan annually and update as needed.

Actions	Lead person/group	Resources	Timeline
Review plan at the GLAAI annual meeting and discuss accomplishments and identification of goals, objectives, and actions for upcoming year.	GLAAI	UWEX Lakes	Annually
Formally update this LMP every 5 years or sooner if necessary.	GLAAI Board	WCWLC WC UWEX Consultants	2021

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 RC&D, 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.

References

Bartz, David, 2015. Fisheries of Gilbert and Pearl Lakes. Presentation given December 1, 2015 at the Leon Town Hall.

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

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

Haney, Ryan. 2015. Water Quality in Gilbert and Pearl Lakes. Presentation given October 27, 2015 at the Leon Town Hall.

Hayes, T., K. Haston, M. Tsui, A. Hoang, C. Haeffele and A. Vonk. 2003. Atrazine-Induced Hermaphroditism at 0.1 PPB in American Leopard Frogs (Rana pipiens): Laboratory and Field Evidence. Environmental Health Perspectives 111: 568-575.

Hayes, T.K. A. Collins, M. L. Magdelena Mendoza, N. Noriega, A. A. Stuart, and A. Vonk. 2001. Hermaphroditic, demasculinized frogs after exposure to the herbicide atrazine at low ecologically relevant doses. National Academy of Sciences vol. 99 no. 8, 5476–5480.

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

Nault, Michelle, 2015. Personal communication via email on October 1, 2015 regarding Wisconsin Department of Natural Resources research on EWM control in Gilbert Lake.

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

Turyk, Nancy. 2015. Aquatic Plants and Invasive Species in Gilbert and Pearl Lakes. Presentation given October 2015 at the Leon Town Hall.

Turyk, Nancy. 2015. Healthy Watersheds=Healthy Lakes. Presentation given October 27, 2015 at the Leon Town Hall.

UW-Stevens Point Center for Watershed Science and Education, 2014. Waushara County Lakes Study - Gilbert Lake. Final Report to Waushara County and Wisconsin Department of Natural Resources.

UW-Stevens Point Center for Watershed Science and Education, 2013. Waushara County Lakes Study - Gilbert Lake Summary. Report to Waushara County and Wisconsin Department of Natural Resources. Planning Meeting Presentations.

Vallentyne, J.R., 1974. The Algal Bowl-Lakes and Man. Ottawa Department of the Environment.

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
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://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
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

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

Contact: Ted Johnson
Wisconsin Department of Natural Resources
Phone: 920-424-2104
E-mail: 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
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
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
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
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.

Citizen Lake Monitoring Network
Contact: Brenda Nordin
Wisconsin Department of Natural Resources
Phone: 920-662-5141
E-mail: brenda.nordin@wisconsin.gov

Conservation Easements

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

Contact: Ted Johnson
Wisconsin Department of Natural Resources
Phone: 920-424-2104
E-mail: 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

Contact: North Central Conservancy Trust
PO Box 124, Stevens Point, WI 54481
Phone: 715-344-1910
E-mail: 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
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
Website: http://dnr.wi.gov/org/water/wm/dsfm/dams/

Fertilizers/Soil Testing

Contact: Ken Williams
Waushara County UW- Extension
209 S St. Marie St, PO Box 487, Wautoma, WI 54982
Phone: 920-787-0416
E-mail: ken.williams@ces.uwex.edu
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
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
E-mail: WFTS@wisconsin.gov

Grants

Contact: Ted Johnson
Wisconsin Department of Natural Resources
Phone: 920-424-2104
E-mail: 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
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
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

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

Groundwater Levels/Quantity (cont'd)

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
http://prodoasext.dnr.wi.gov/inter1/hicap$.startup

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

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

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

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

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

Lake Levels

See: Groundwater

Lake-Related Law Enforcement (no-wake, transporting invasives, etc.)

Contact: Ben Mott
State Conservation Warden
Wisconsin Department of Natural Resources
427 E. Tower Drive, Suite 100, Wautoma, WI 54982
Phone: 920-896-3383
Website: http://www.wigamewarden.com/

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

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

Nutrient Management Plans

Contact: 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
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
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
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
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
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
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
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 St., Wautoma, WI 54982
Phone: 920-787-0416
E-mail: 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

Water Quality Problems

Contact: Ted Johnson
Wisconsin Department of Natural Resources
Phone: 920-424-2104
E-mail: 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

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
Website: http://dnr.wi.gov/wetlands/

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

Wetland Inventory

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

Woody Habitat

Contact: 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

If you are looking for any information that is not listed in this directory, please contact:
Ryan Haney (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. Aquatic Plants

Gilbert Lake aquatic plant survey summary, 2011.

	Lake Average	Statewide Average	North Central Hardwood Forests Ecoregion Average
Littoral Frequency of Occurrence (%)	76.6	74.3	76
Maximum Depth of Plant Growth (ft)	42	15.3	15.9
Species Richness (Including Visuals)	24	16.8	16.2
Floristic Quality Index (FQI)	26.6	24.1	23.3

Frequency of occurrence of aquatic plant species observed in Gilbert Lake, 2011.

Scientific Name	Common Name	Coefficient of Conservatism Value (C Value)	2011 % Frequency of Occurrence
Emergent Species			
Schoenoplectus acutus	hardstem bulrush	6	0.5
Schoenoplectus pungens	three-square bulrush	5	0.5
Eleocharis palustris	creeping spikerush	6	Visual Only
Polygonum amphibium	water smartweed	5	Visual Only
Schoenoplectus tabernaemontani	softstem bulrush	4	Visual Only
Typha spp.	cattail	1	Visual Only
Floating Leaf Species			
Nymphaea odorata	white water lily	6	0.9
Nuphar advena	yellow pond lily	8	
Submergent Species			
Chara spp.	muskgrass	7	89.2
Potamogeton gramineus	variable pondweed	7	16.7
Najas flexilis	slender naiad	6	10.4
Najas guadalupensis	southern naiad	8	6.8
Nitella spp.	Nitella	7	6.3
Potamogeton natans	floating-leaf pondweed	5	5.0
Potamogeton illinoensis	Illinois pondweed	6	3.6
Potamogeton friessii	Fries' pondweed	8	2.3
Elodea Canadensis	common waterweed	3	1.8
Potamogeton zosteriformis	flat-stem pondweed	6	1.8
Stuckenia pectinata	sago pondweed	3	1.8
Myriophyllum sibiricum	northern water-milfoil	6	1.4
Potamogeton amplifolius	large-leaf pondweed	7	1.4
*Myriophyllum spicatum**	Eurasian watermilfoil*	0	0.9
Heteranthera dubia	water star-grass	6	0.5
Nuphar variegata	spatterdock	6	0.5
Potamogeton strictifolius	Stiff pondweed	8	0.3
Free-Floating Species			
Utricularia vulgaris	common bladderwort	7	
Other			
	Aquatic moss		1.4

Appendix C. Rapid Response Plan

SURVEY/MONITOR

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

REPORTING A SUSPECTED INVASIVE SPECIES

1. Collect specimens or take photos. Regardless of the method used, provide as much information as possible. Try to include flowers, seeds or fruit, buds, full leaves, stems, roots and other distinctive features. In photos, place a coin, pencil or ruler for scale. Deliver or send specimen ASAP.	Collect, press and dry a complete sample. This method is best because a plant expert can then examine the specimen. **-OR-** Collect a fresh sample. Enclose in a plastic bag with a moist paper towel and refrigerate. **-OR-** Take detailed photos (digital or film).
2. Note the location where the specimen was found. If possible, give the exact geographic location using a GPS (global positioning system) unit, topographic map, or the Wisconsin Gazetteer map book. If using a map, include a photocopy with a dot showing the plant's location. You can use TopoZone.com 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: • Latitude & Longitude • UTM (Universal Transverse Mercator) coordinates • County, Township, Range, Section, Part-section • Precise written site description, noting nearest city & road names, landmarks, local topography

3. Gather information to aid in positive species identification.	• Collection date and county • Your name, address, phone, email • Exact location (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 **UW-Stevens Point Herbarium** 301 Trainer Natural Resources Building 800 Reserve Street Stevens Point, WI 54481 Phone: 715-346-4248 E-Mail: ejudziew@uwsp.edu **Wisconsin Invasive Plants Reporting & Prevention Project** Herbarium-UW-Madison 430 Lincoln Drive Madison, WI 53706 Phone: (608) 267-7612 E-Mail: invasiveplants@mailplus.wisc.edu
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

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: Springwater

- **The Lake Association** in which the waterbody is located.
  Gilbert Lake Advancement Association, Inc.
  Contact: Wes Klages
  Phone: 920-622-3000

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

- **Local Residents**

If an invasive species is confirmed the secretary of the Gilbert Lake Advancement Association, Inc. will make the following public information contacts:

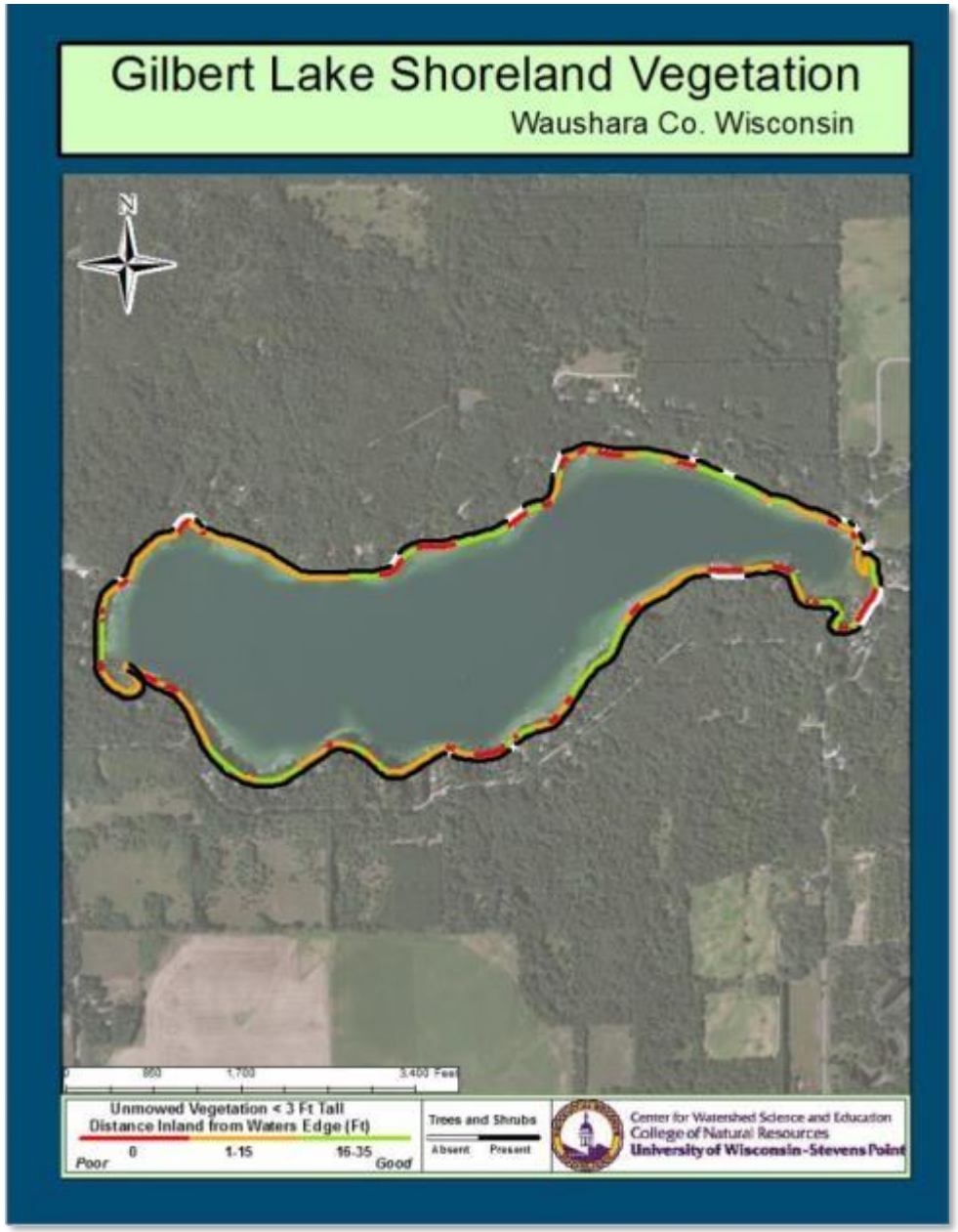
- **Newspapers**: The Argus, The Resorter

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

Appendix D. 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 Gilbert Lake are displayed in the figure on the next page. The shorelands were color-coded to show their overall health based on natural and physical characteristics. Blue shorelands identify healthy shoreland with sufficient vegetation and few disturbances. Red shorelands indicate locations where changes in management or mitigation may be warranted. Several stretches of Gilbert Lake's shorelands are in good to moderately-good shape, but many sections have challenges that should be addressed. Two stretches of shoreland are ranked as poor. For a more complete understanding of the ranking, an interactive map showing results of the shoreland surveys can be found on Waushara County's website at http://gis.co.waushara.wi.us/ShorelineViewer/.



Waushara County Shoreline Assessment GILBERT 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

Center for Land Use Education

Map created by Dan McFarlane
Center for Land Use Education

Appendix E. Lake User Survey Results

Q1 What is your Waushara County Lakes Survey ID?

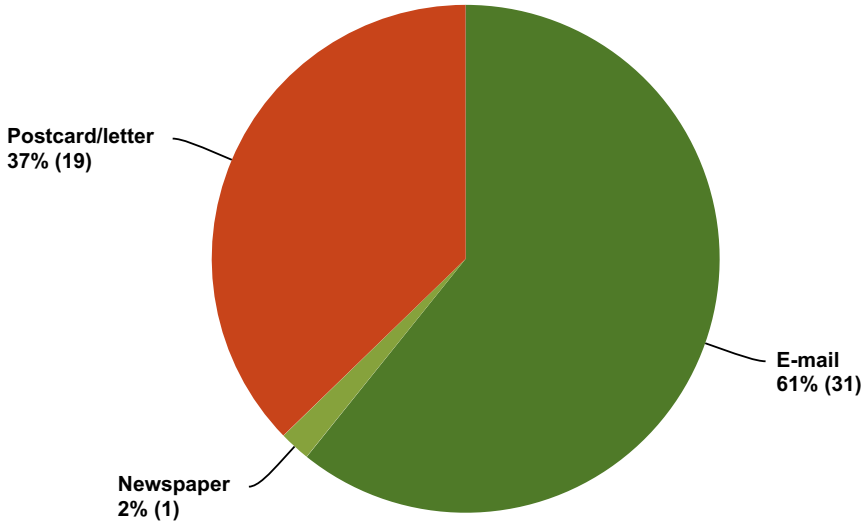
Answered: 60 Skipped: 0

#	Responses	Date
1	[redacted]	9/23/2015 11:49 AM
2	[redacted]	9/21/2015 7:01 PM
3	[redacted]	9/13/2015 6:57 PM
4	[redacted]	9/13/2015 7:20 AM
5	[redacted]	8/27/2015 7:29 AM
6	[redacted]	8/26/2015 12:06 PM
7	[redacted]	8/26/2015 9:15 AM
8	[redacted]	8/23/2015 12:42 PM
9	[redacted]	8/22/2015 8:04 AM
10	[redacted]	8/21/2015 1:52 PM
11	[redacted]	8/21/2015 11:28 AM
12	[redacted]	8/21/2015 9:19 AM
13	[redacted]	8/20/2015 8:56 PM
14	[redacted]	8/20/2015 7:16 PM
15	[redacted]	8/20/2015 4:18 PM
16	[redacted]	8/20/2015 4:11 PM
17	[redacted]	8/20/2015 2:49 PM
18	[redacted]	8/20/2015 2:33 PM
19	[redacted]	8/19/2015 9:38 PM
20	[redacted]	8/17/2015 8:40 PM
21	[redacted]	8/16/2015 12:36 PM
22	[redacted]	8/13/2015 9:08 PM
23	[redacted]	8/12/2015 8:37 PM
24	[redacted]	8/11/2015 10:32 AM
25	[redacted]	8/10/2015 6:10 PM
26	[redacted]	8/10/2015 10:23 AM
27	[redacted]	8/10/2015 7:26 AM
28	[redacted]	8/8/2015 8:26 PM
29	[redacted]	8/8/2015 8:11 PM
30	[redacted]	8/8/2015 1:05 PM
31	[redacted]	8/8/2015 11:16 AM
32	[redacted]	8/8/2015 10:22 AM
33	[redacted]	8/8/2015 7:03 AM
34	[redacted]	8/7/2015 12:51 PM

35	[redacted]	8/7/2015 12:41 PM
36	[redacted]	8/7/2015 7:13 AM
37	[redacted]	8/6/2015 9:43 PM
38	[redacted]	8/6/2015 9:19 PM
39	[redacted]	8/6/2015 6:22 PM
40	[redacted]	8/6/2015 1:31 PM
41	[redacted]	[redacted]
[redacted]	[redacted]	8/6/2015 8:39 AM
43	[redacted]	8/6/2015 8:28 AM
44	[redacted]	8/5/2015 9:02 PM
45	[redacted]	8/5/2015 8:46 PM
46	[redacted]	8/5/2015 8:37 PM
47	[redacted]	8/5/2015 8:33 PM
48	[redacted]	8/5/2015 8:29 PM
49	[redacted]	8/5/2015 8:28 PM
50	[redacted]	8/5/2015 8:09 PM
51	[redacted]	8/5/2015 8:08 PM
52	[redacted]	8/5/2015 8:06 PM
53	[redacted]	8/5/2015 4:57 PM
54	[redacted]	8/5/2015 4:38 PM
55	[redacted]	8/5/2015 11:13 AM
56	[redacted]	[redacted]
[redacted]	[redacted]	8/4/2015 8:24 AM
58	[redacted]	8/3/2015 11:29 PM
59	[redacted]	8/3/2015 8:02 PM
60	[redacted]	8/3/2015 4:18 PM

Q2 How did you hear about this survey?

Answered: 51 Skipped: 9

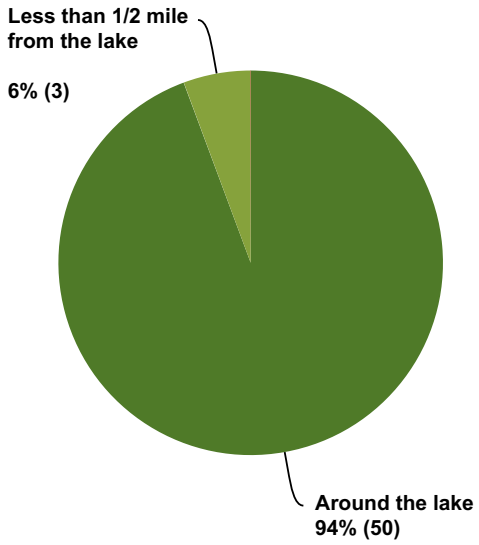


Answer Choices	Responses	
E-mail	**61%**	31
Newspaper	**2%**	1
Postcard/letter	**37%**	19
Facebook	**0%**	0
Radio	**0%**	0
Total		**51**

#	Other (please specify)	Date
1	both email and letter from the association	8/23/2015 12:49 PM
2	lake association	8/20/2015 4:28 PM
3	mail	8/8/2015 8:33 PM
4	association annual meeting	8/5/2015 8:40 PM

Q3 Do you own or rent property...

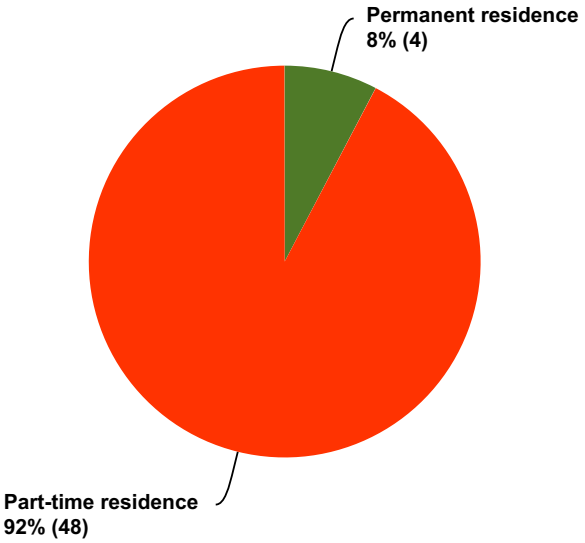
Answered: 53 Skipped: 7



Answer Choices	Responses	
Around the lake	94%	50
Less than 1/2 mile from the lake	6%	3
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	0%	0
Total		53

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: 52 Skipped: 8

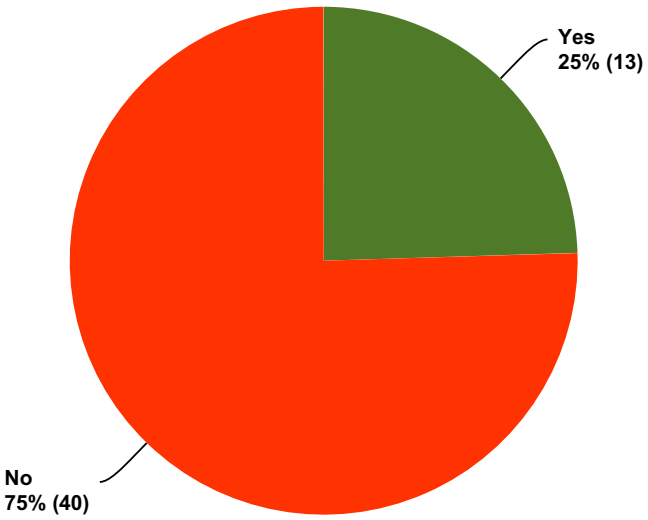


Answer Choices	Responses	
Permanent residence	8%	4
Part-time residence	92%	48
I do not own or rent property near the lake	0%	0
Total		52

#	Other (please specify)	Date
1	Own lot on lake	8/6/2015 9:21 PM

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

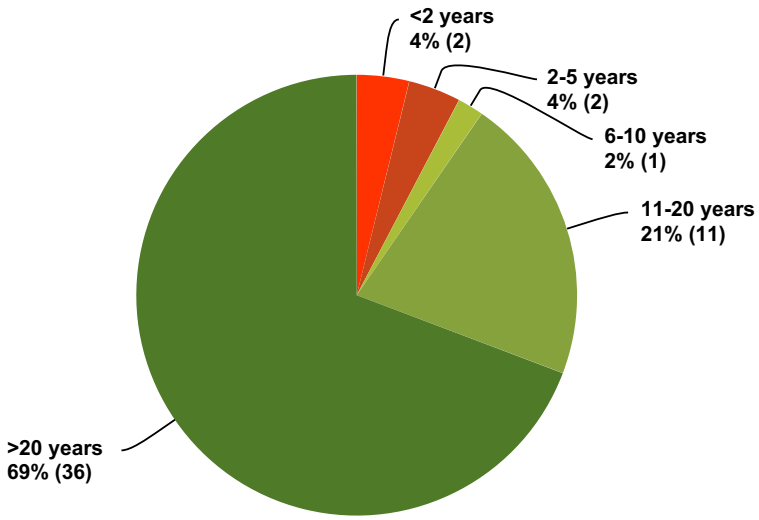
Answered: 53 Skipped: 7



Answer Choices	Responses	
Yes	25%	13
No	75%	40
Total		53

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

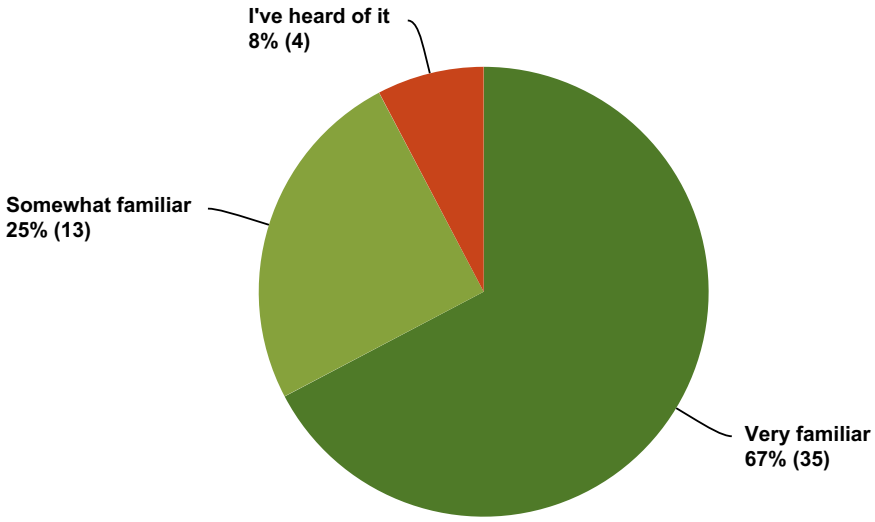
Answered: 52 Skipped: 8



Answer Choices	Responses	
<2 years	4%	2
2-5 years	4%	2
6-10 years	2%	1
11-20 years	21%	11
>20 years	69%	36
Total		52

Q7 Are you familiar with the Gilbert Lake Advancement Association?

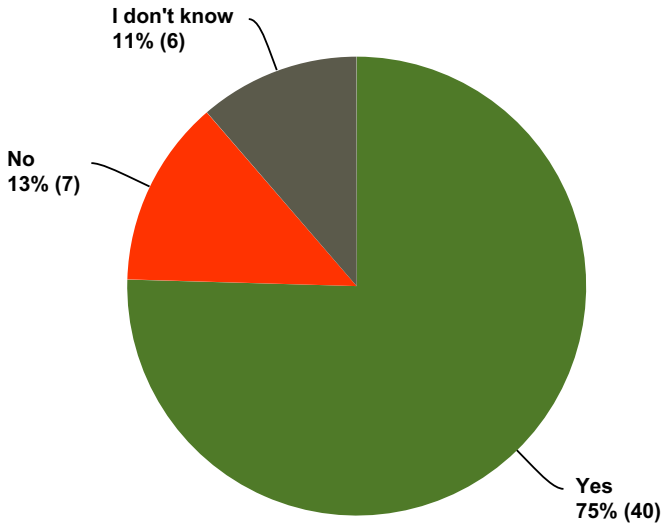
Answered: 52 Skipped: 8



Answer Choices	Responses	
Very familiar	67%	35
Somewhat familiar	25%	13
I've heard of it	8%	4
Never heard of it	0%	0
Total		52

Q8 Are you a member of the Gilbert Lake Advancement Association?

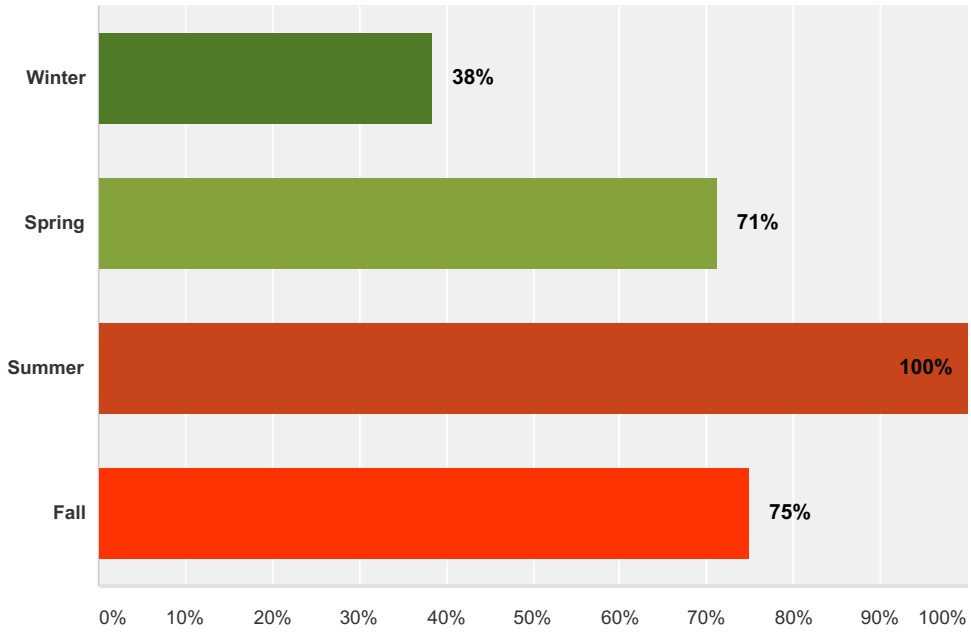
Answered: 53 Skipped: 7



Answer Choices	Responses	
Yes	75%	40
No	13%	7
I don't know	11%	6
Total		53

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

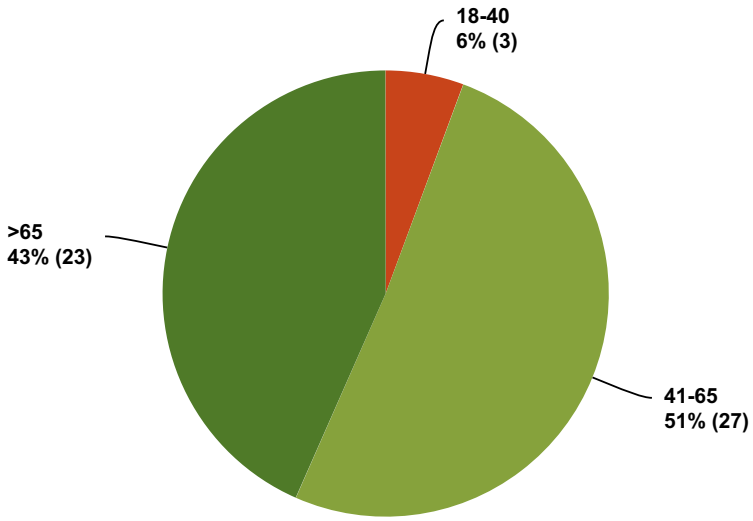
Answered: 52 Skipped: 8



Answer Choices	Responses	
Winter	38%	20
Spring	71%	37
Summer	100%	52
Fall	75%	39
Total Respondents: 52		

Q10 Which category below includes your age?

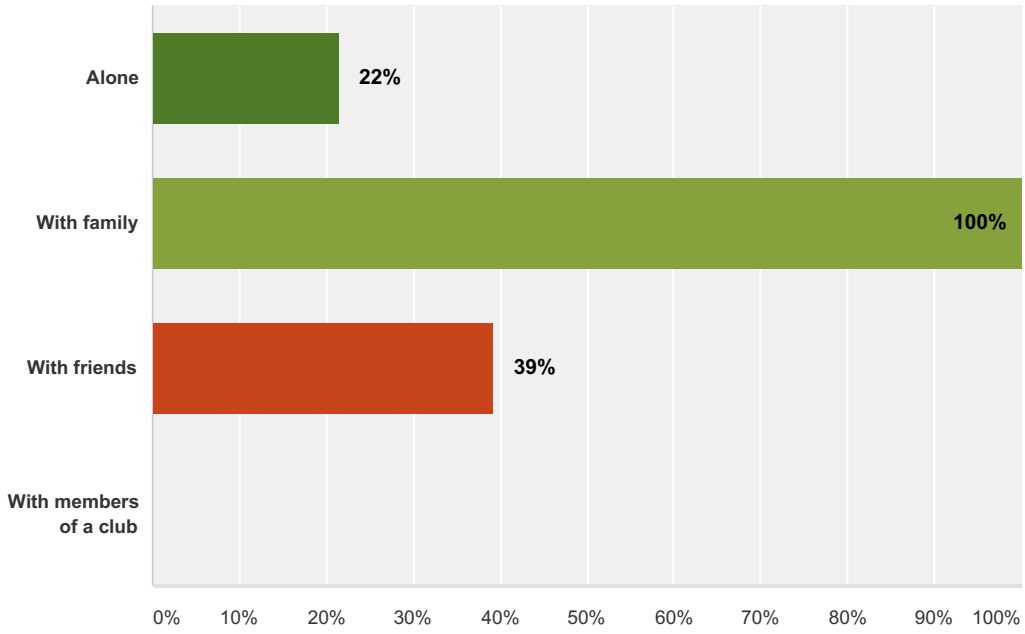
Answered: 53 Skipped: 7



Answer Choices	Responses	
Under 18	0%	0
18-40	6%	3
41-65	51%	27
>65	43%	23
Total		53

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

Answered: 51 Skipped: 9

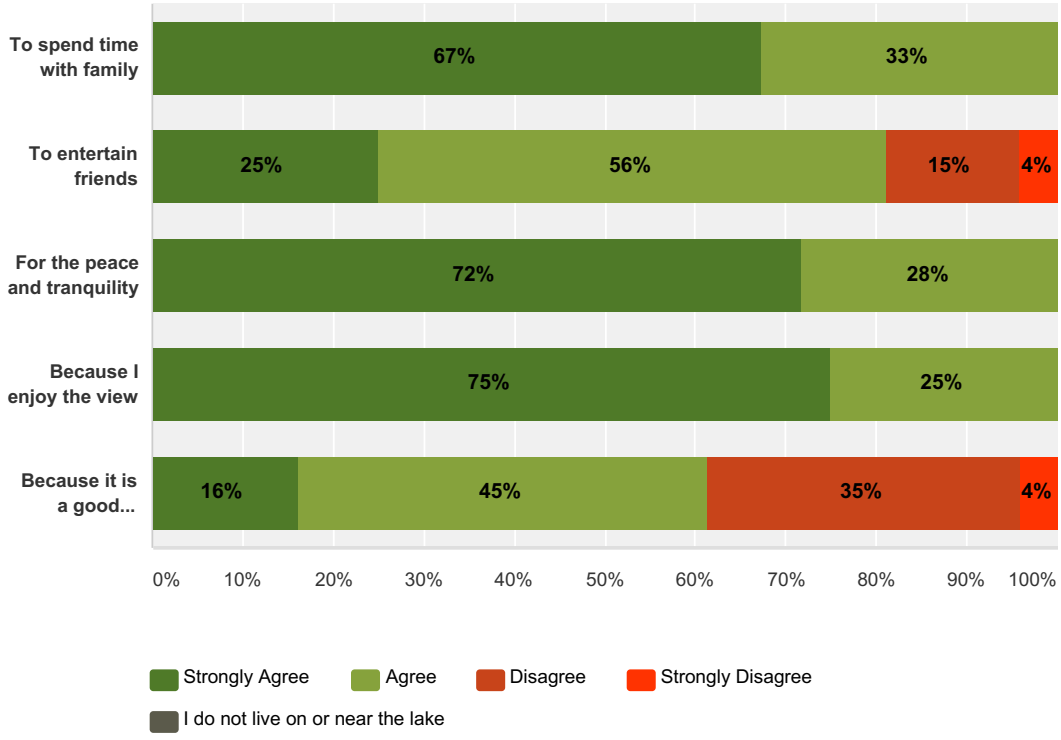


Answer Choices	Responses	
Alone	**22%**	11
With family	**100%**	51
With friends	**39%**	20
With members of a club	**0%**	0
Total Respondents: 51		

#	Other (please specify)	Date
1	I don't visit.	8/8/2015 11:55 AM

Q12 I live on or near the lake...

Answered: 53 Skipped: 7



	Strongly Agree	Agree	Disagree	Strongly Disagree	I do not live on or near the lake	Total
To spend time with family	**67%** 35	**33%** 17	**0%** 0	**0%** 0	**0%** 0	52
To entertain friends	**25%** 12	**56%** 27	**15%** 7	**4%** 2	**0%** 0	48
For the peace and tranquility	**72%** 38	**28%** 15	**0%** 0	**0%** 0	**0%** 0	53
Because I enjoy the view	**75%** 39	**25%** 13	**0%** 0	**0%** 0	**0%** 0	52
Because it is a good investment	**16%** 8	**45%** 22	**35%** 17	**4%** 2	**0%** 0	49

Q13 What do you value most about Gilbert Lake?

Answered: 49 Skipped: 11

#	Responses	Date
1	My grandfather built the cottage. I've been there for 54 years.	9/23/2015 11:53 AM
2	Clean air. Clean water.	9/21/2015 7:05 PM
3	Clean water and scenic value.	9/13/2015 7:03 PM
4	Getting together with family.	9/13/2015 7:24 AM
5	Serenity	8/26/2015 12:11 PM
6	The lake is nice and deep and clean. Good rules for boating with quiet times between 5pm and 10am.	8/23/2015 12:49 PM
7	Clean water and 5pm	8/21/2015 11:31 AM
8	The gathering place for family...it's serenity and sense of time suspended	8/20/2015 9:03 PM
9	simple and peaceful	8/20/2015 7:19 PM
10	its natural state and water quality	8/20/2015 4:28 PM
11	clear water	8/20/2015 4:14 PM
12	Water quality and clarity which seem to be diminishing.	8/20/2015 2:52 PM
13	The beauty and tranquility. Water clarity and water depth, both seems to be diminishing.	8/20/2015 2:40 PM
14	Peace and tranquility along with abundant nature.	8/19/2015 9:42 PM
15	Hearing the laughter and excitement when people are enjoying the lake along with others	8/17/2015 8:45 PM
16	The peace.	8/16/2015 12:39 PM
17	The beautiful water clarity	8/13/2015 9:12 PM
18	The serenity and peacefulness of the area around the lake, the clear water and the hard sand lake bottom.	8/11/2015 10:57 AM
19	relaxation	8/10/2015 6:15 PM
20	water quality	8/10/2015 10:30 AM
21	The quality & clarity of the lake water.	8/10/2015 7:28 AM
22	Clean water, clean air, Trees, quite, friends	8/8/2015 8:33 PM
23	The clean water and friends and neighbors. The slow no wake hours. Near a hospital Water quality	8/8/2015 8:18 PM
24	The relaxation it gives!	8/8/2015 1:09 PM
25	Aside from when many of the summer people go home; The water when its going through clean periods, the view, for three seasons-the quiet, the wild life most do not get to see in summer and the birds.	8/8/2015 11:55 AM
26	nature i.e. water, woods, birds, animals	8/8/2015 10:26 AM
27	The size	8/8/2015 7:08 AM
28	the beauty of nature	8/7/2015 12:46 PM
29	The clearness and cleanliness of the water.	8/7/2015 7:17 AM
30	Peaceful feeling/Nature. .	8/6/2015 9:57 PM
31	It provides a place to reconnect with nature and recharge. The clear water and forest environment and very calming.	8/6/2015 6:25 PM
32	The clean water, perfect size of the lake, and friendly neighbors.	8/6/2015 1:34 PM
33	1) Clear water, 2) Beauty of the lake	8/6/2015 10:43 AM
34	The clarity, the boating hours, the serenity, childhood memories	8/6/2015 8:42 AM

35	The wildlife and the beauty of the lake itself.	8/5/2015 9:12 PM
36	It's not Chicago. Nature, recreation, space.	8/5/2015 9:05 PM
37	Gilbert Lake is my home away from and has been my entire life.	8/5/2015 8:56 PM
38	The quality of the lake water	8/5/2015 8:40 PM
39	The lake and all the activities we do on it. Nature. Quiet.	8/5/2015 8:33 PM
40	Owning a year-round home in a beautiful setting that we can enjoy in every season of the year; we enjoy swimming, boating, fishing, cross-country skiing, and snow shoeing. We appreciate the quality of the water and the quality of life here on the lake.	8/5/2015 8:17 PM
41	Clarity of the water and the beauty of the area. Also the oversight of the Board members for their concern for the lake.	8/5/2015 8:15 PM
42	quiet:seriously challenged by super large boats, and people who like to play their music unbidden	8/5/2015 8:11 PM
43	Water quality.	8/5/2015 5:02 PM
44	Location,cleanliness, size, landscape,beauty	8/5/2015 4:43 PM
45	Its beauty and clarity	8/5/2015 11:17 AM
46	Spending time with family and friends	8/4/2015 8:31 AM
47	clean beautiful lake surrounded by plenty of trees reminding me of being upnorth in Eagle River	8/3/2015 11:32 PM
48	Clear clean water. Wooded feel. No commercial aspect.	8/3/2015 8:05 PM
49	Water Quality	8/3/2015 4:21 PM

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

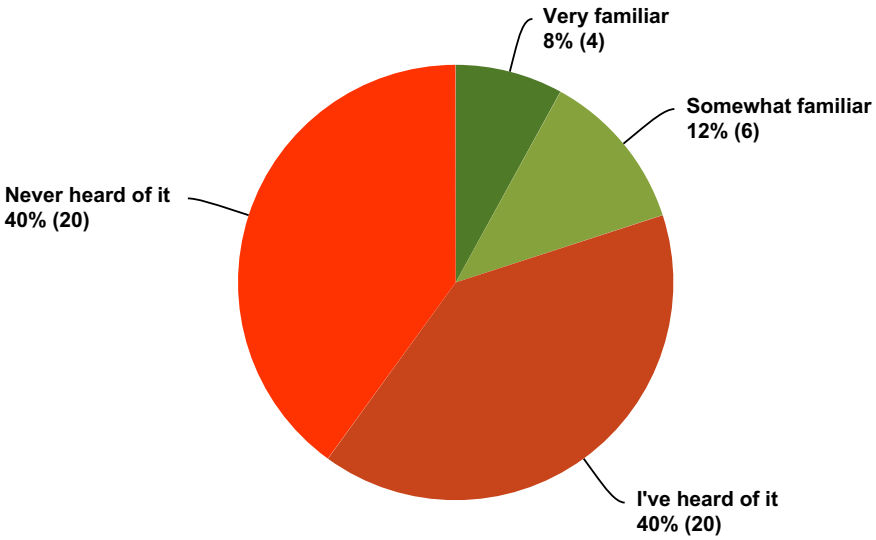
Answered: 47 Skipped: 13

#	Responses	Date
1	Keep boating regulation strict.	9/23/2015 11:53 AM
2	More fish habitat. Restrict parking at the boat landing.	9/21/2015 7:05 PM
3	Definitely maintain the 10 to 5 boating rules. Limit the size of boats allowed on the lake. Establish noise ordinance to disallow waverunners or anything else that makes that level of noise.	9/13/2015 7:03 PM
4	Everyone needs to do there part to help maintain the lake.	9/13/2015 7:24 AM
5	Provide better control at all points of public access to include waste receptacles, access at S. Gilbert Lake Rd across from Proveux's is washing out and eroded. Enforce no wake rules. Public is using private swim areas and beaches when homeowner is not present. Need enforcement to minimize trespassing. Public is not cleaning or rinsing boats to remove invasive insects, pests or vegetation.	8/26/2015 12:11 PM
6	Keep up the work of the association with monitoring the water quality, zebra mussels, any invasive plant species. Perhaps a bit more to inform on the boating rules, i.e. distance from shore, piers and rafts.	8/23/2015 12:49 PM
7	cleap lake clean, all users to follow rules, limited development	8/21/2015 11:31 AM
8	Enforcement of rules governing lake usage, attention to any discharges in lake from improperly maintained septic systems and overview of irrigation practices by surrounding farms.	8/20/2015 9:03 PM
9	uncertain	8/20/2015 7:19 PM
10	the biggest obstruction to improving the natural state of the lake are the requlations of the State of Wi AND most people on the lake are not willing to do their part to maintain the lake.---change those two things and then worry about what can be done	8/20/2015 4:28 PM
11	reduce ski hours	8/20/2015 4:14 PM
12	Stop and cut back on high capacity wells in our area.	8/20/2015 2:52 PM
13	Stop and cut back on high capacity wells using water from our aquafirs. Learn how to restore our water quality.	8/20/2015 2:40 PM
14	Maintain a natural environment.	8/19/2015 9:42 PM
15	Not sure	8/13/2015 9:12 PM
16	Would like to see improved fishing. To accomplish this, I think we need additional cover in the lake either from increased vegetation in the deeper basin areas (approximately 10 feet and deeper) of the lake where the softer bottom has more fertility than the hard sand bottom shallow areas. I feel the clear water will allow sufficient sunlight to reach these depths of 10 feet plus. I am not sure how deep we can get enhanced vegetation growth, but from past experience I would think we have sufficient sunlight down to 14-15 feet of water. Deploying a large number of man made structures is also an option to increase fish cover that is so scarce in Gilbert Lake.	8/11/2015 10:57 AM
17	better control of boat and speedoo traffic	8/10/2015 6:15 PM
18	shoreline buffers, less motor boat traffic, improve water clarity	8/10/2015 10:30 AM
19	Not sure.	8/10/2015 7:28 AM
20	Put the culvert back that connected Gilbert Lake with what was called little gilbert at the east end of the lake. Develop a plan to restore cover for fish.	8/8/2015 8:33 PM
21	Check boats from off the lake for invasive species. Inform off the lake folk of the slow no wake rule Have an enforcement officer here more often to enforce no wake and personal watercraft boats.	8/8/2015 8:18 PM
22	Marshland neat old Camp Talaki should be restored. Also, neighbors should share rafts for less "cluttler" on the small lake.	8/8/2015 1:09 PM

23	For some reason we have seen sporadic periods of algae growth the past few years. No doubt it may be related to farm runoff and well manicured lawns to the water edge. There are well groomed and sandy beaches beyond what is natural (known of sand dumped and spread, most surreptitiously but even blatantly.) One of the allures for Gilbert to many is watersports which create wakes but some wakes seem way beyond what should be expected. The lake is dirtiest after heavy boating usage particular the very big ones with the exaggerated wakes. But I do not support a full time no wake rule under any circumstance just not such violent wakes. But that just me. Aquatic plant growth of the non invasive kind should be encouraged. It's probably too late but I understand that the connection between Little Gilbert (the depression to the east of 23rd beyond the landing) and Gilbert was very beneficial for cleaner water and fish life etc. I understand water levels were still higher before the town closed the connection and Little Gilbert Dried up.	8/8/2015 11:55 AM
24	maintain water quality and water level	8/8/2015 10:26 AM
25	Restore the opening under 23rd road to allow water into the slew across from the public landing to permit better fish breeding conditions	8/8/2015 7:08 AM
26	continue with what is being done now.	8/7/2015 12:46 PM
27	Continue to manage the Eurasia millfoil.	8/7/2015 7:17 AM
28	Try to keep out geese. Control music volume on boats. Encourage more people to drop trees into water for fish habitat. Prohibit (or discourage through education) fertilizing lawns and weed killer on lawns near lake.	8/6/2015 9:57 PM
29	The water vegetation seems minimal which I think contributes to lower fish populations. I would like to see more fish and preferably with them reproducing on their own instead of always stocking.	8/6/2015 6:25 PM
30	Add some more gravel at the boat launch. Other than that, the lake is amazing!	8/6/2015 1:34 PM
31	1) Maintain/improve water clarity; 2) Maximize lake level 3) Improve fishery	8/6/2015 10:43 AM
32	Continual oversight of our water's clarity, monitoring of milfoil and taking care of our fish. Maintaining the rules associated with the lake and having a well run lake association	8/6/2015 8:42 AM
33	Close the public access. The lake has progressively and consistently deteriorated ever since it was opened to the general public.	8/5/2015 9:12 PM
34	Pretty good the way it is.	8/5/2015 9:05 PM
35	I think the horse power and size of boats on this small inland lake should be limited. The wakes from the high powered competition ski boats are destroying the shoreline.	8/5/2015 8:56 PM
36	Restore shoreline vegetation	8/5/2015 8:40 PM
37	continue the treatment of the milfoil, continue the police patrol, continue working with We Really Kare Fish club and having an active director of fish enhancement	8/5/2015 8:33 PM
38	We are very fortunate that there have not been major developments on or off the lake (in adjacent properties). This is a small lake, and the introduction of more boats would be detrimental to the water quality and to the relative tranquility of the lake. We hope that we can maintain the quality that we now enjoy. We have also been fortunate that no major agricultural or CAFO developments with their attendant high cap wells appear to be on the horizon in our area, threatening our lake levels, and hope that continues to be the case near our lake.	8/5/2015 8:17 PM
39	Enforce boating laws. Continuing monitoring of water quality.	8/5/2015 8:15 PM
40	too late to stop development of quiet bays so: stop motor boat traffic! of course that won't work, so how about keeping cruising pontoon boats far off shore and restricting ski boats from causing large waves that erode the shoreline and turn the lake visibility (this year wonderful!) to about 6". Stop lawns. Who knows. Probably too late to do much: what about those high cap wells for irrigation?	8/5/2015 8:11 PM
41	Continue efforts to provide recreational opportunities for people of all ages with various interests.	8/5/2015 5:02 PM
42	Let the Association continue to do the job we have done for years.	8/5/2015 4:43 PM
43	More control over boat size... there are some monster boats that really erode the shore with their waves. Continue to try to control invasive species, geese.	8/5/2015 11:17 AM
44	I don't know how to do this but keep out Zebra Mussells, prevent pollution. Keep Eurasian Milfoil under control. No jet skiis	8/4/2015 8:31 AM
45	keep the lake clean, remove erasium milfoil and other invasive species	8/3/2015 11:32 PM
46	Unsure	8/3/2015 8:05 PM
47	Make sure transient boaters do not introduce foreign plant or animal life	8/3/2015 4:21 PM

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

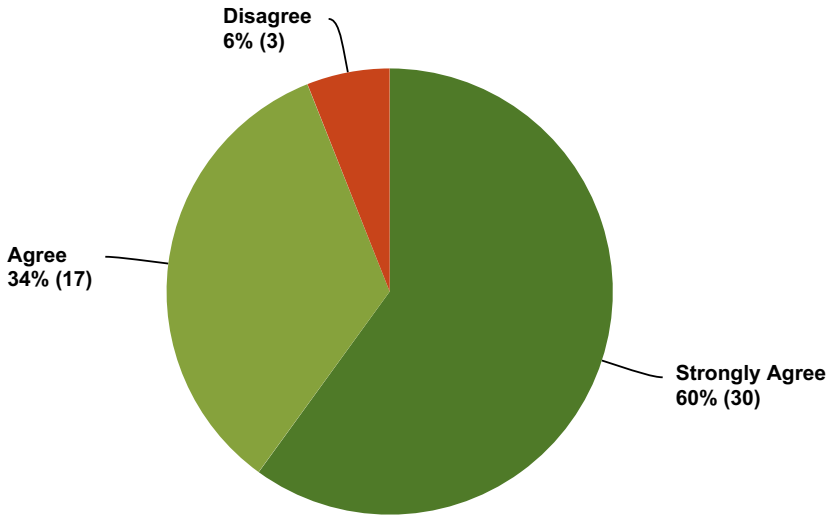
Answered: 50 Skipped: 10



Answer Choices	Responses	
Very familiar	8%	4
Somewhat familiar	12%	6
I've heard of it	40%	20
Never heard of it	40%	20
Total		50

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

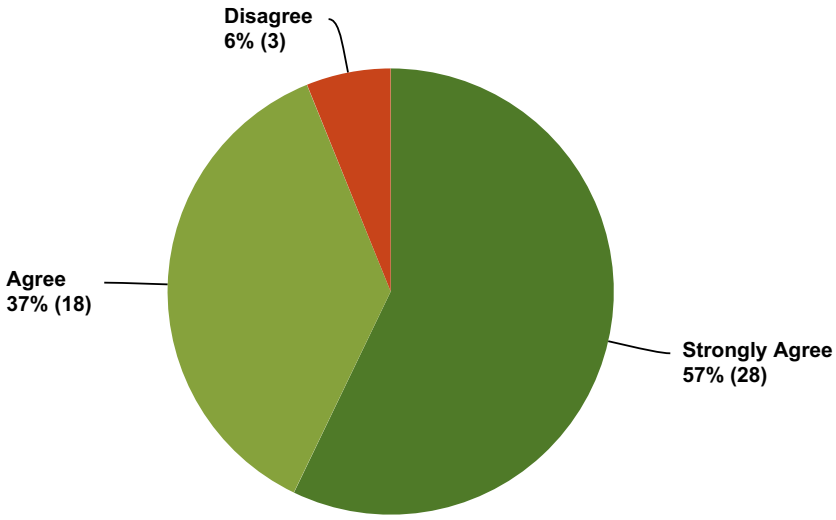
Answered: 50 Skipped: 10



Answer Choices	Responses	
Strongly Agree	60%	30
Agree	34%	17
Disagree	6%	3
Strongly Disagree	0%	0
Total		50

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

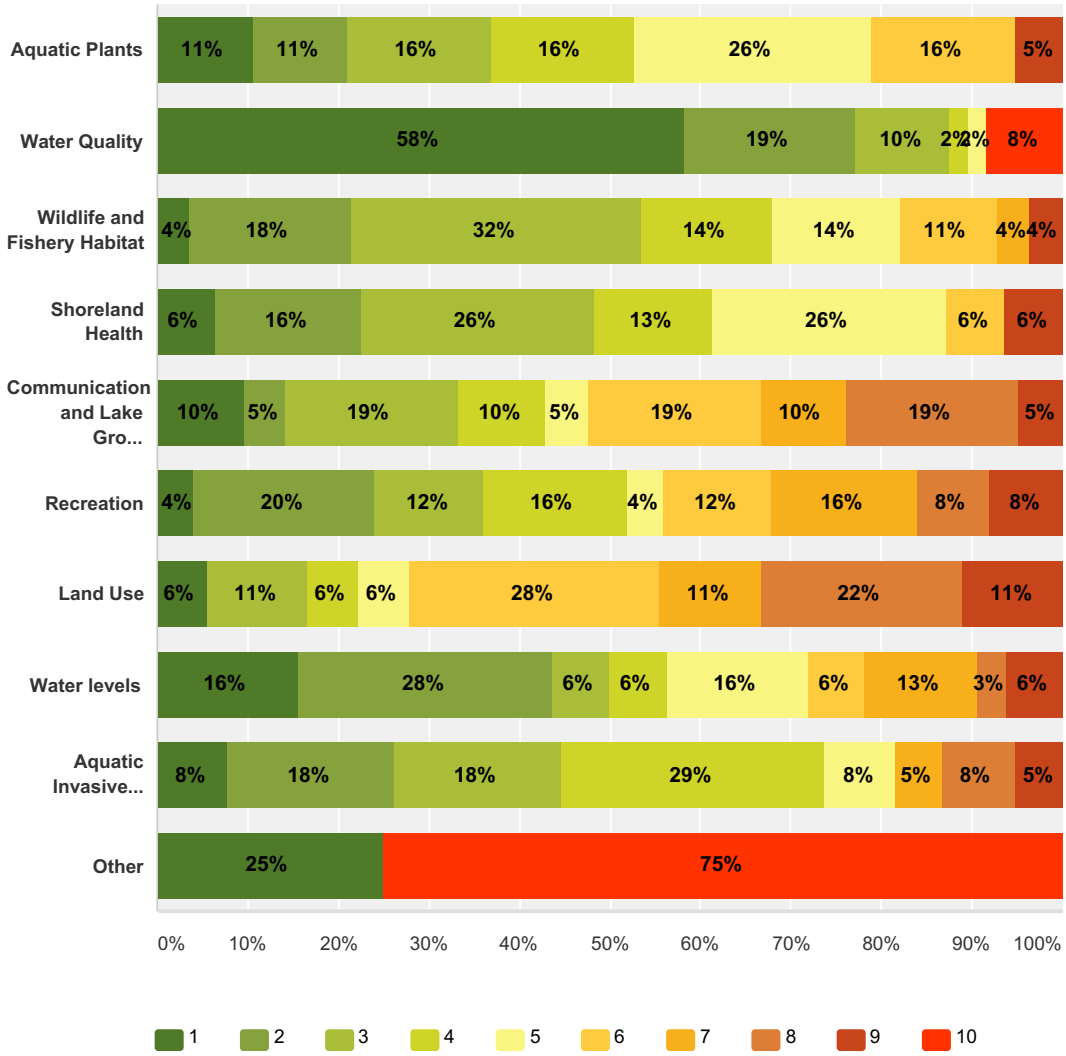
Answered: 49 Skipped: 11



Answer Choices	Responses	
Strongly Agree	57%	28
Agree	37%	18
Disagree	6%	3
Strongly Disagree	0%	0
Total		49

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

Answered: 48 Skipped: 12

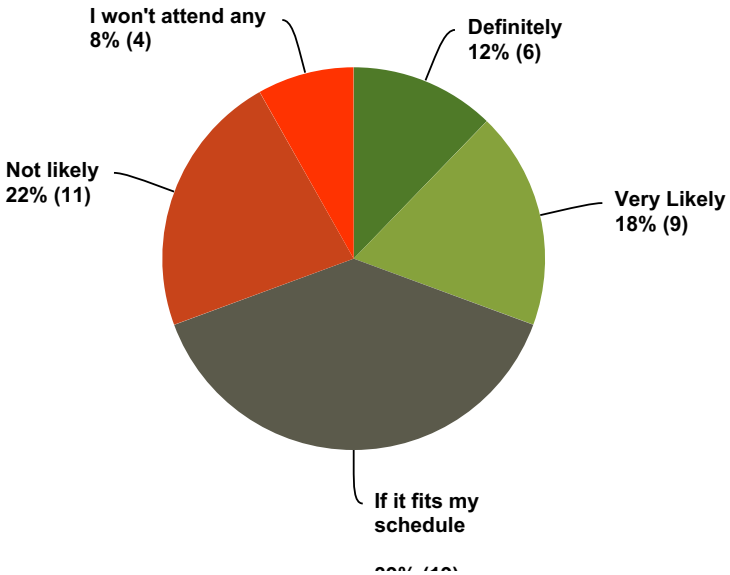


	1	2	3	4	5	6	7	8	9	10	Total	Score
Aquatic Plants	11% 2	11% 2	16% 3	16% 3	26% 5	16% 3	0% 0	0% 0	5% 1	0% 0	19	6.84
Water Quality	58% 28	19% 9	10% 5	2% 1	2% 1	0% 0	0% 0	0% 0	0% 0	8% 4	48	8.71
Wildlife and Fishery Habitat	4% 1	18% 5	32% 9	14% 4	14% 4	11% 3	4% 1	0% 0	4% 1	0% 0	28	7.14
Shoreland Health	6% 2	16% 5	26% 8	13% 4	26% 8	6% 2	0% 0	0% 0	6% 2	0% 0	31	7.06
Communication and Lake Group Support	10% 2	5% 1	19% 4	10% 2	5% 1	19% 4	10% 2	19% 4	5% 1	0% 0	21	5.86

Recreation	**4%** 1	**20%** 5	**12%** 3	**16%** 4	**4%** 1	**12%** 3	**16%** 4	**8%** 2	**8%** 2	**0%** 0	25	6.16
Land Use	**6%** 1	**0%** 0	**11%** 2	**6%** 1	**6%** 1	**28%** 5	**11%** 2	**22%** 4	**11%** 2	**0%** 0	18	4.89
Water levels	**16%** 5	**28%** 9	**6%** 2	**6%** 2	**16%** 5	**6%** 2	**13%** 4	**3%** 1	**6%** 2	**0%** 0	32	7.00
Aquatic Invasive Species	**8%** 3	**18%** 7	**18%** 7	**29%** 11	**8%** 3	**0%** 0	**5%** 2	**8%** 3	**5%** 2	**0%** 0	38	6.97
Other	**25%** 1	**0%** 0	**0%** 0	**0%** 0	**0%** 0	**0%** 0	**0%** 0	**0%** 0	**0%** 0	**75%** 3	4	3.25

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 or Friday afternoons. How likely is it that you will attend one or more of the planning sessions?

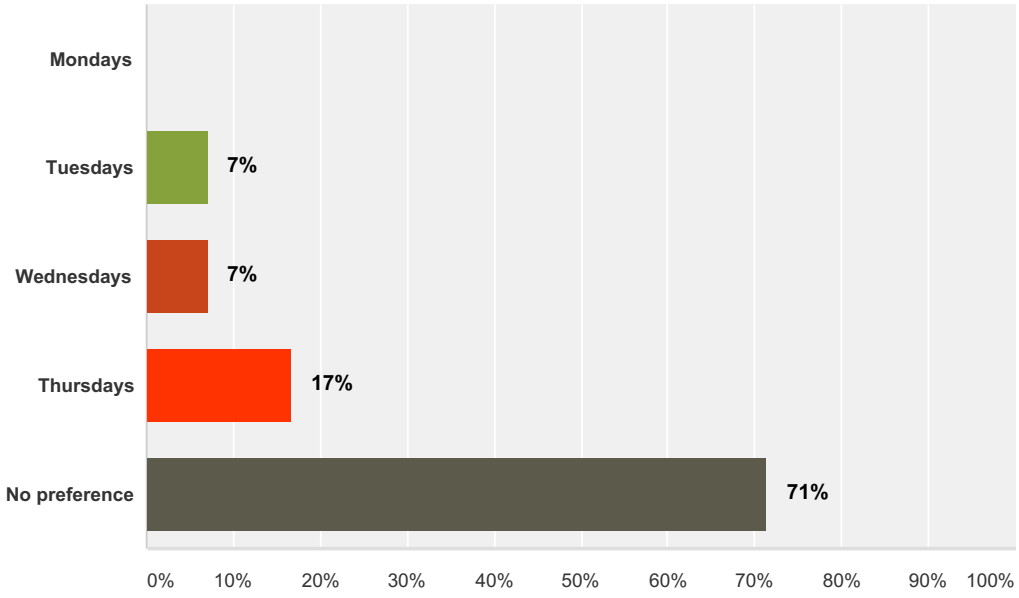
Answered: 49 Skipped: 11



Answer Choices	Responses	
Definitely	12%	6
Very Likely	18%	9
If it fits my schedule	39%	19
Not likely	22%	11
I won't attend any	8%	4
Total		49

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?

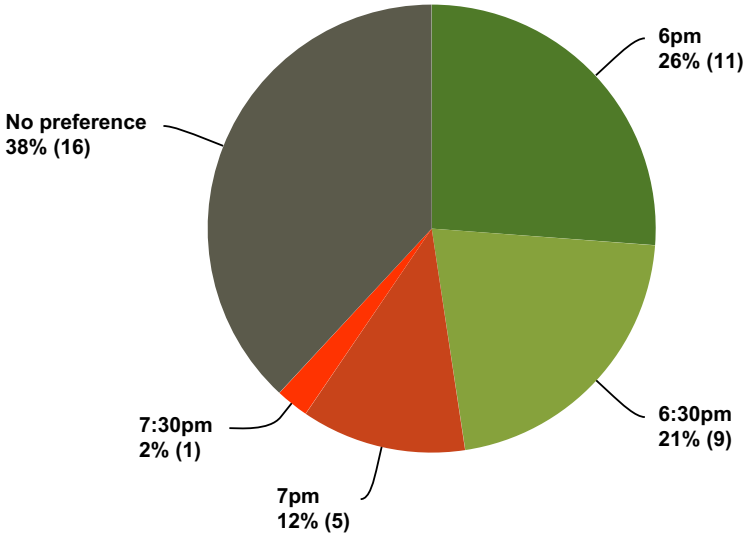
Answered: 42 Skipped: 18



Answer Choices	Responses	
Mondays	0%	0
Tuesdays	7%	3
Wednesdays	7%	3
Thursdays	17%	7
No preference	71%	30
Total Respondents: 42		

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

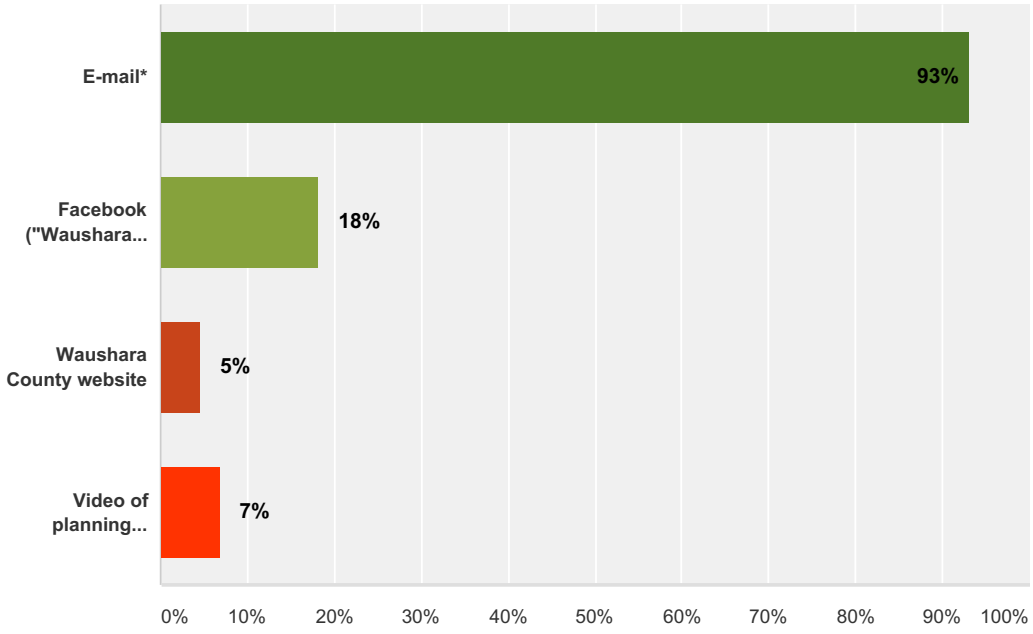
Answered: 42 Skipped: 18



Answer Choices	Responses	
6pm	26%	11
6:30pm	21%	9
7pm	12%	5
7:30pm	2%	1
No preference	38%	16
Total		42

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

Answered: 44 Skipped: 16



Answer Choices	Responses	
E-mail*	93%	41
Facebook ("Waushara County Lakes Project")	18%	8
Waushara County website	5%	2
Video of planning meeting posted on the web	7%	3
Total Respondents: 44		

#	Other (please specify)	Date
1	Insufficient advance notice of the August 21 mtg, Received letter on August 21.	8/26/2015 12:18 PM
2	Snail mail	8/8/2015 8:26 PM
3	No other space for comment. Aren't existing law, rules and regulations between the DNR and county enough to protect the lakes. They are just not followed. I would oppose another layer of regulation or entanglement with the government regarding the lake. People should just follow the rules and common sense.	8/8/2015 12:13 PM
4	Waushara Argus	8/8/2015 7:16 AM
5	Postal Mail	8/6/2015 9:41 AM
6	U.S. Mail	8/5/2015 8:21 PM

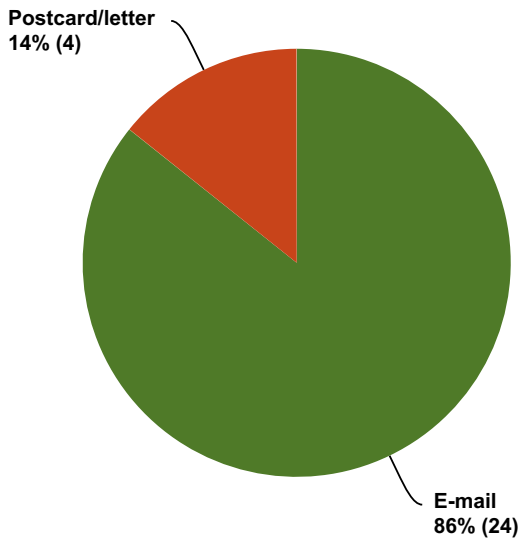
Q1 Enter your Waushara County Lakes Survey ID. If you've forgotten your ID or haven't created one yet, follow the instructions below.

Answered: 28 Skipped: 0

#	Responses	Date
1	[redacted]	10/2/2015 11:14 AM
2	[redacted]	10/2/2015 7:13 AM
3	[redacted]	10/1/2015 9:42 PM
4	[redacted]	10/1/2015 9:23 PM
5	[redacted]	10/1/2015 3:34 PM
6	[redacted]	10/1/2015 2:47 PM
7	[redacted]	10/1/2015 2:05 PM
8	[redacted]	10/1/2015 12:13 PM
9	[redacted]	10/1/2015 11:16 AM
10	[redacted]	10/1/2015 10:49 AM
11	[redacted]	10/1/2015 9:49 AM
12	[redacted]	10/1/2015 9:45 AM
13	[redacted]	9/29/2015 2:07 PM
14	[redacted]	9/27/2015 6:38 PM
15	[redacted]	9/24/2015 7:40 AM
16	[redacted]	9/23/2015 8:41 PM
17	[redacted]	9/23/2015 12:33 PM
18	[redacted]	9/23/2015 12:04 PM
19	[redacted]	9/22/2015 10:10 PM
20	[redacted]	9/22/2015 9:08 PM
21	[redacted]	9/22/2015 8:33 PM
22	[redacted]	9/22/2015 5:34 PM
23	[redacted]	9/22/2015 4:50 PM
24	[redacted]	9/22/2015 3:23 PM
25	[redacted]	9/22/2015 9:00 AM
26	[redacted]	9/21/2015 9:12 PM
27	[redacted]	9/21/2015 4:13 PM
28	[redacted]	9/21/2015 3:59 PM

Q2 How did you hear about this survey?

Answered: 28 Skipped: 0

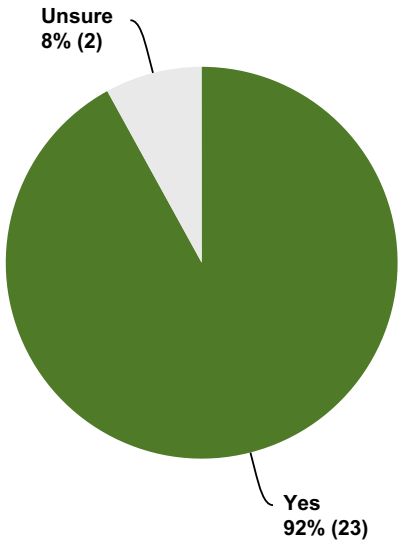


Answer Choices	Responses	
E-mail	86%	24
Newspaper	0%	0
Postcard/letter	14%	4
Facebook	0%	0
Radio	0%	0
Total		28

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

Q3 Were you aware of the importance of aquatic plants?

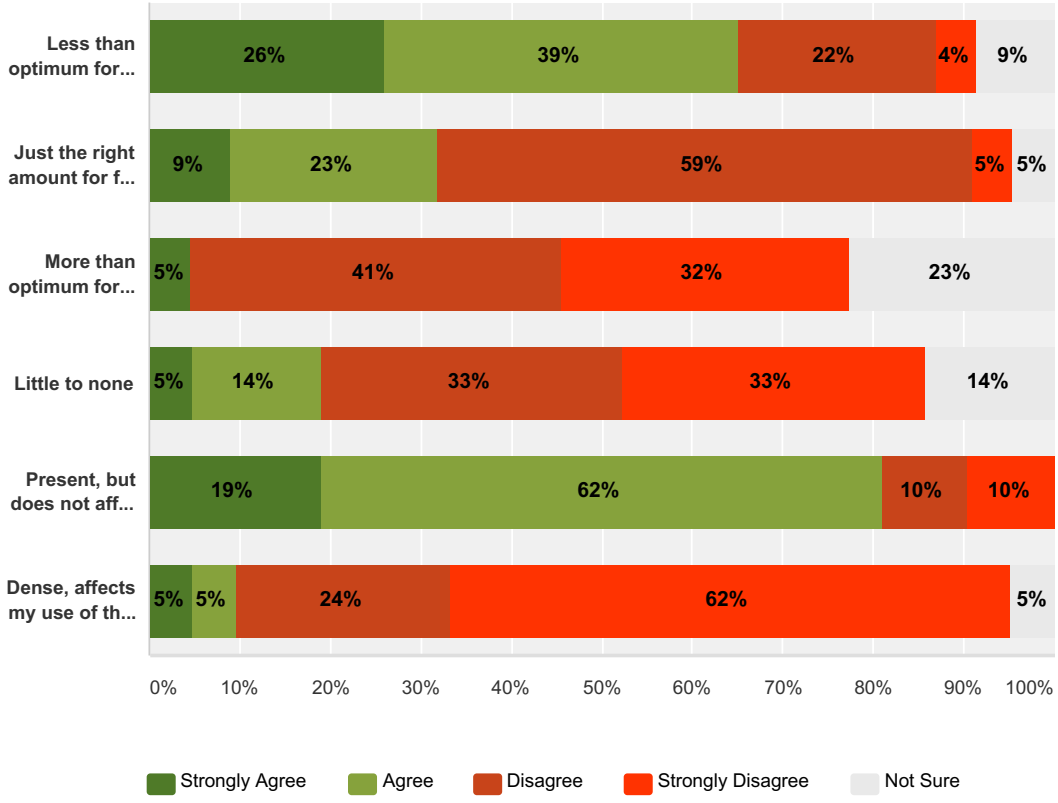
Answered: 25 Skipped: 3



Answer Choices	Responses	
Yes	92%	23
No	0%	0
Unsure	8%	2
Total		25

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

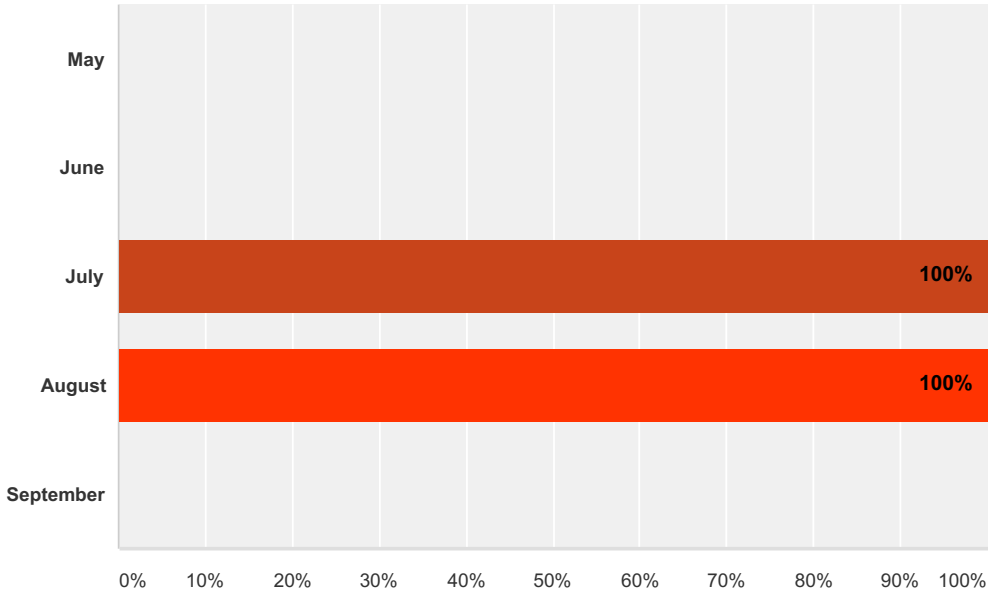
Answered: 25 Skipped: 3



	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure	Total
Less than optimum for fish and wildlife	**26%** 6	**39%** 9	**22%** 5	**4%** 1	**9%** 2	23
Just the right amount for fish and wildlife	**9%** 2	**23%** 5	**59%** 13	**5%** 1	**5%** 1	22
More than optimum for fish and wildlife	**5%** 1	**0%** 0	**41%** 9	**32%** 7	**23%** 5	22
Little to none	**5%** 1	**14%** 3	**33%** 7	**33%** 7	**14%** 3	21
Present, but does not affect my use of the lake	**19%** 4	**62%** 13	**10%** 2	**10%** 2	**0%** 0	21
Dense, affects my use of the lake	**5%** 1	**5%** 1	**24%** 5	**62%** 13	**5%** 1	21

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

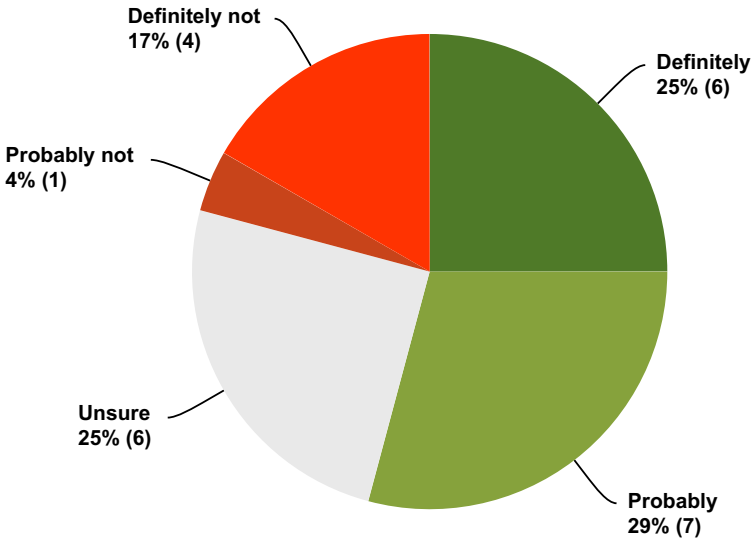
Answered: 2 Skipped: 26



Answer Choices	Responses	
May	0%	0
June	0%	0
July	100%	2
August	100%	2
September	0%	0
Total Respondents: 2		

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

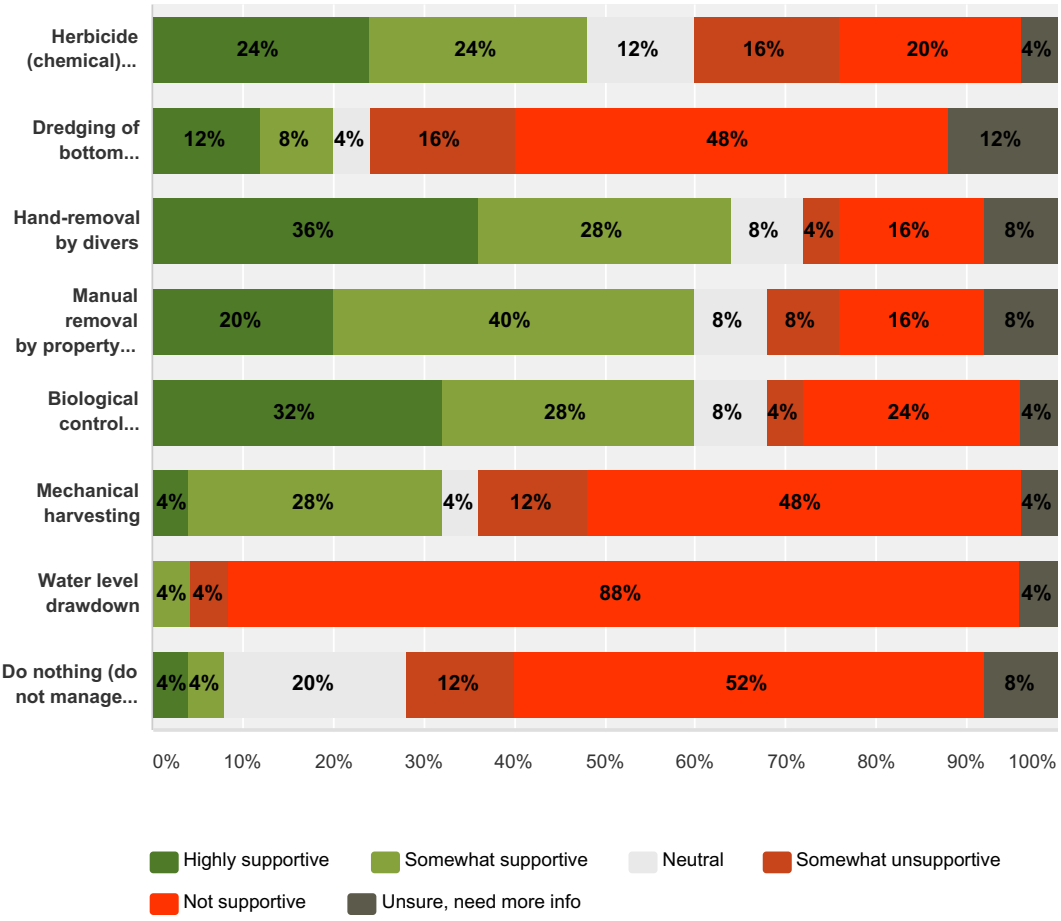
Answered: 24 Skipped: 4



Answer Choices	Responses	
Definitely	25%	6
Probably	29%	7
Unsure	25%	6
Probably not	4%	1
Definitely not	17%	4
Total		24

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

Answered: 25 Skipped: 3

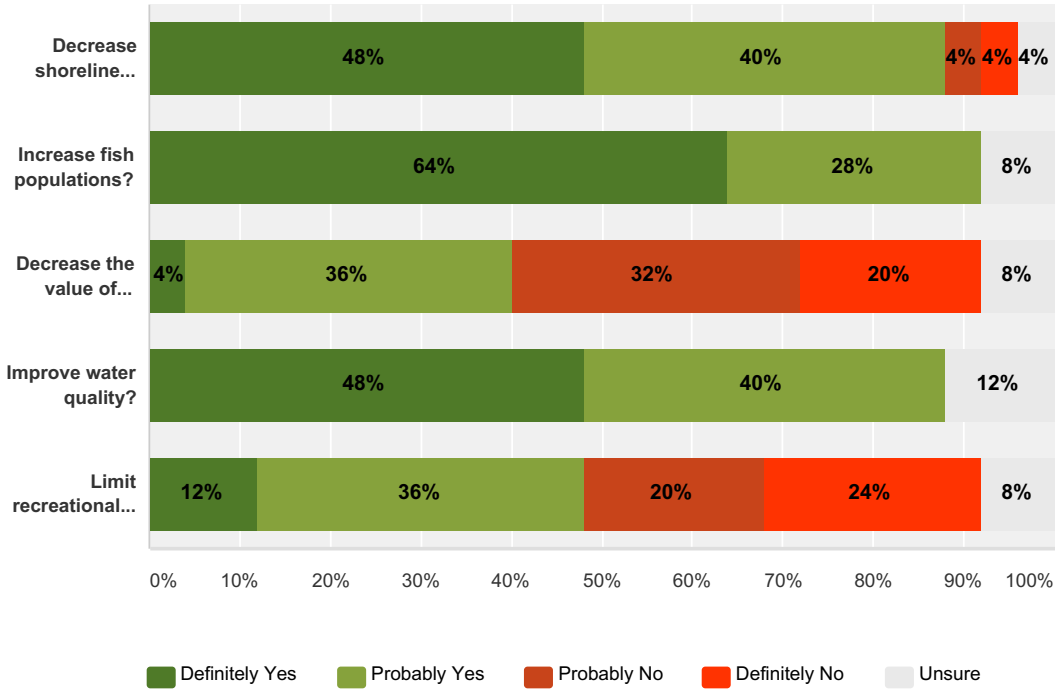


	Highly supportive	Somewhat supportive	Neutral	Somewhat unsupportive	Not supportive	Unsure, need more info	Total	Weighted Average
Herbicide (chemical) control	24% 6	24% 6	12% 3	16% 4	20% 5	4% 1	25	2.72
Dredging of bottom sediments	12% 3	8% 2	4% 1	16% 4	48% 12	12% 3	25	3.44
Hand-removal by divers	36% 9	28% 7	8% 2	4% 1	16% 4	8% 2	25	2.12
Manual removal by property owners	20% 5	40% 10	8% 2	8% 2	16% 4	8% 2	25	2.36
Biological control (milfoil weevil, loosestrife beetle, etc.)	32% 8	28% 7	8% 2	4% 1	24% 6	4% 1	25	2.48
Mechanical harvesting	4% 1	28% 7	4% 1	12% 3	48% 12	4% 1	25	3.60
Water level drawdown	0% 0	4% 1	0% 0	4% 1	88% 21	4% 1	24	4.63

Do nothing (do not manage plants)	**4%** 1	**4%** 1	**20%** 5	**12%** 3	**52%** 13	**8%** 2	25	3.80

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

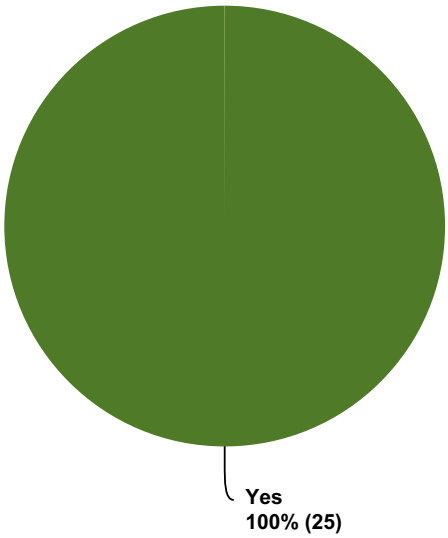
Answered: 25 Skipped: 3



	Definitely Yes	Probably Yes	Probably No	Definitely No	Unsure	Total
Decrease shoreline erosion?	**48%** 12	**40%** 10	**4%** 1	**4%** 1	**4%** 1	25
Increase fish populations?	**64%** 16	**28%** 7	**0%** 0	**0%** 0	**8%** 2	25
Decrease the value of shoreline property?	**4%** 1	**36%** 9	**32%** 8	**20%** 5	**8%** 2	25
Improve water quality?	**48%** 12	**40%** 10	**0%** 0	**0%** 0	**12%** 3	25
Limit recreational enjoyment?	**12%** 3	**36%** 9	**20%** 5	**24%** 6	**8%** 2	25

Q9 Have you ever heard of aquatic invasive species?

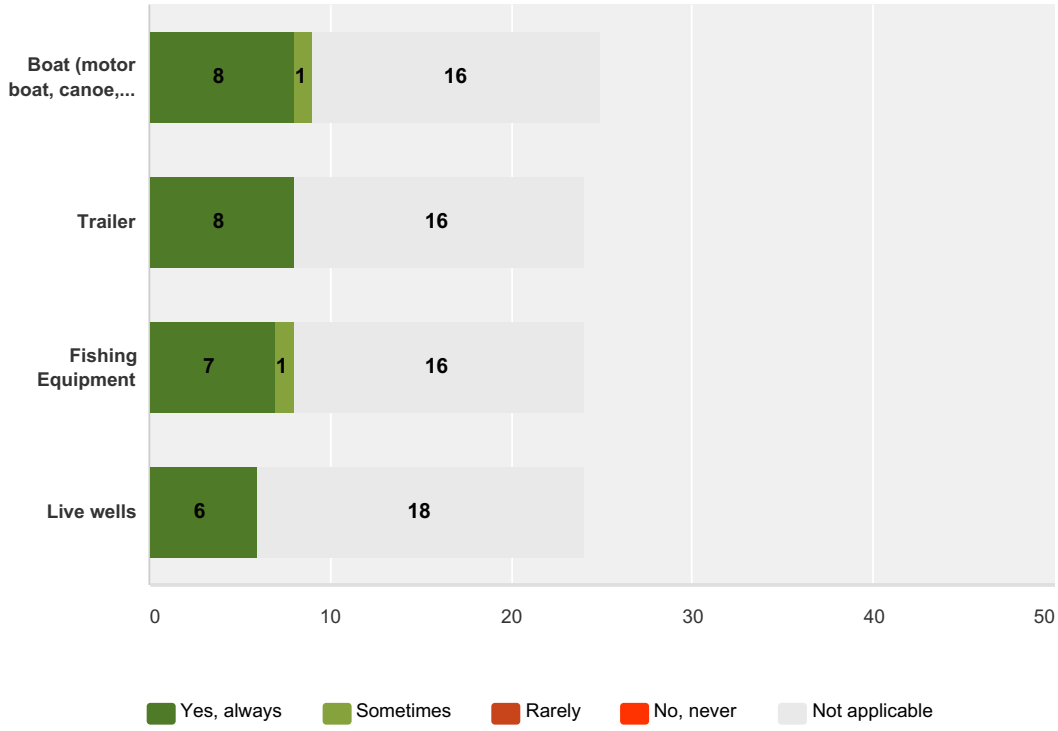
Answered: 25 Skipped: 3



Answer Choices	Responses	
Yes	**100%**	25
No	**0%**	0
Total		**25**

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

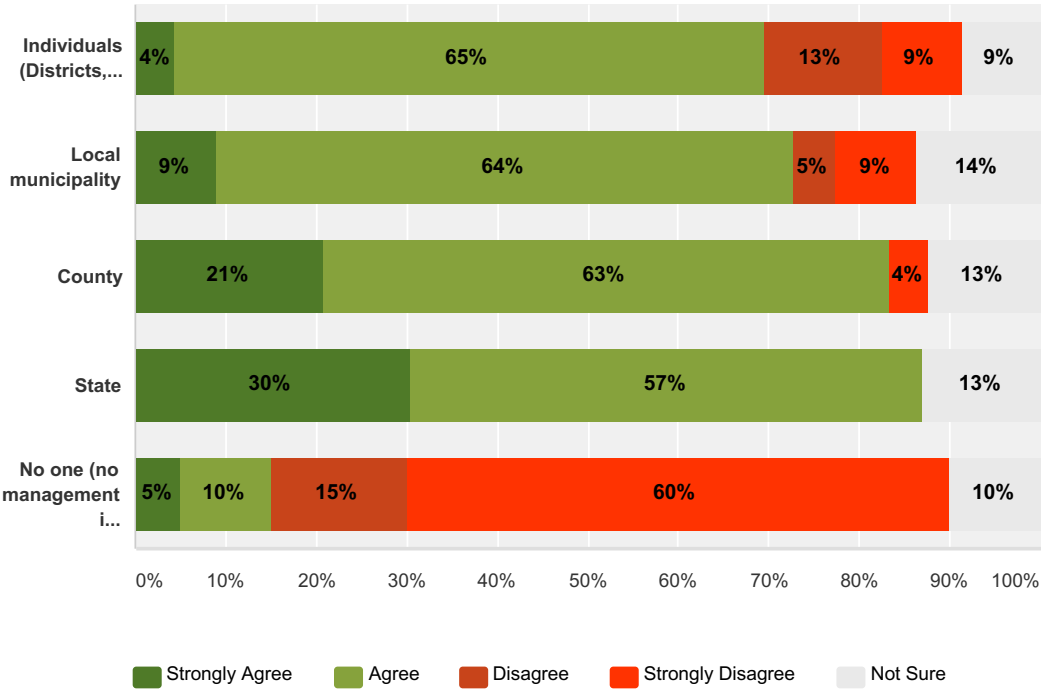
Answered: 24 Skipped: 4



	Yes, always	Sometimes	Rarely	No, never	Not applicable	Total Respondents
Boat (motor boat, canoe, kayak, etc.)	**33%** 8	**4%** 1	**0%** 0	**0%** 0	**67%** 16	24
Trailer	**33%** 8	**0%** 0	**0%** 0	**0%** 0	**67%** 16	24
Fishing Equipment	**29%** 7	**4%** 1	**0%** 0	**0%** 0	**67%** 16	24
Live wells	**25%** 6	**0%** 0	**0%** 0	**0%** 0	**75%** 18	24

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

Answered: 25 Skipped: 3

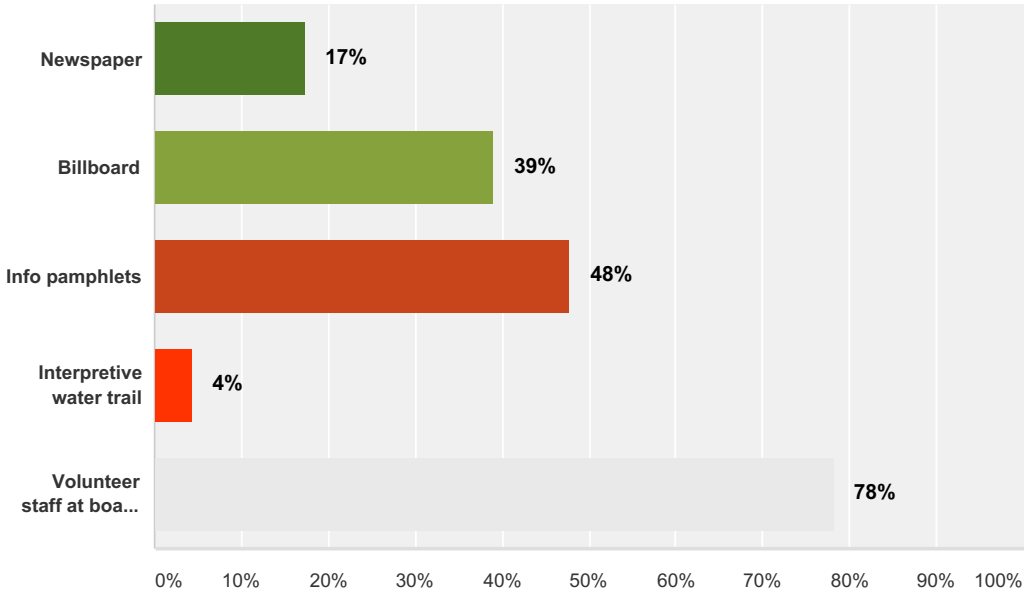


	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure	Total
Individuals (Districts, associations, lakefront property owners)	4% 1	65% 15	13% 3	9% 2	9% 2	23
Local municipality	9% 2	64% 14	5% 1	9% 2	14% 3	22
County	21% 5	63% 15	0% 0	4% 1	13% 3	24
State	30% 7	57% 13	0% 0	0% 0	13% 3	23
No one (no management is undertaken)	5% 1	10% 2	15% 3	60% 12	10% 2	20

#	Other (please specify)	Date
1	When there is open access to lakes all the above entities should hold responsibility?	10/1/2015 9:32 PM
2	Lake rights belong to the public therefore the public should pay for it.	10/1/2015 11:27 AM
3	DNR as they provided public access which caused milfoil	9/29/2015 2:13 PM
4	voluntary donation box by public boat launch	9/23/2015 12:40 PM
5	Money used to manage invasive species at Gilbert Lake and other lakes could be put to much better use in a myriad of other ways.	9/22/2015 9:22 AM
6	Township	9/21/2015 9:19 PM

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

Answered: 23 Skipped: 5

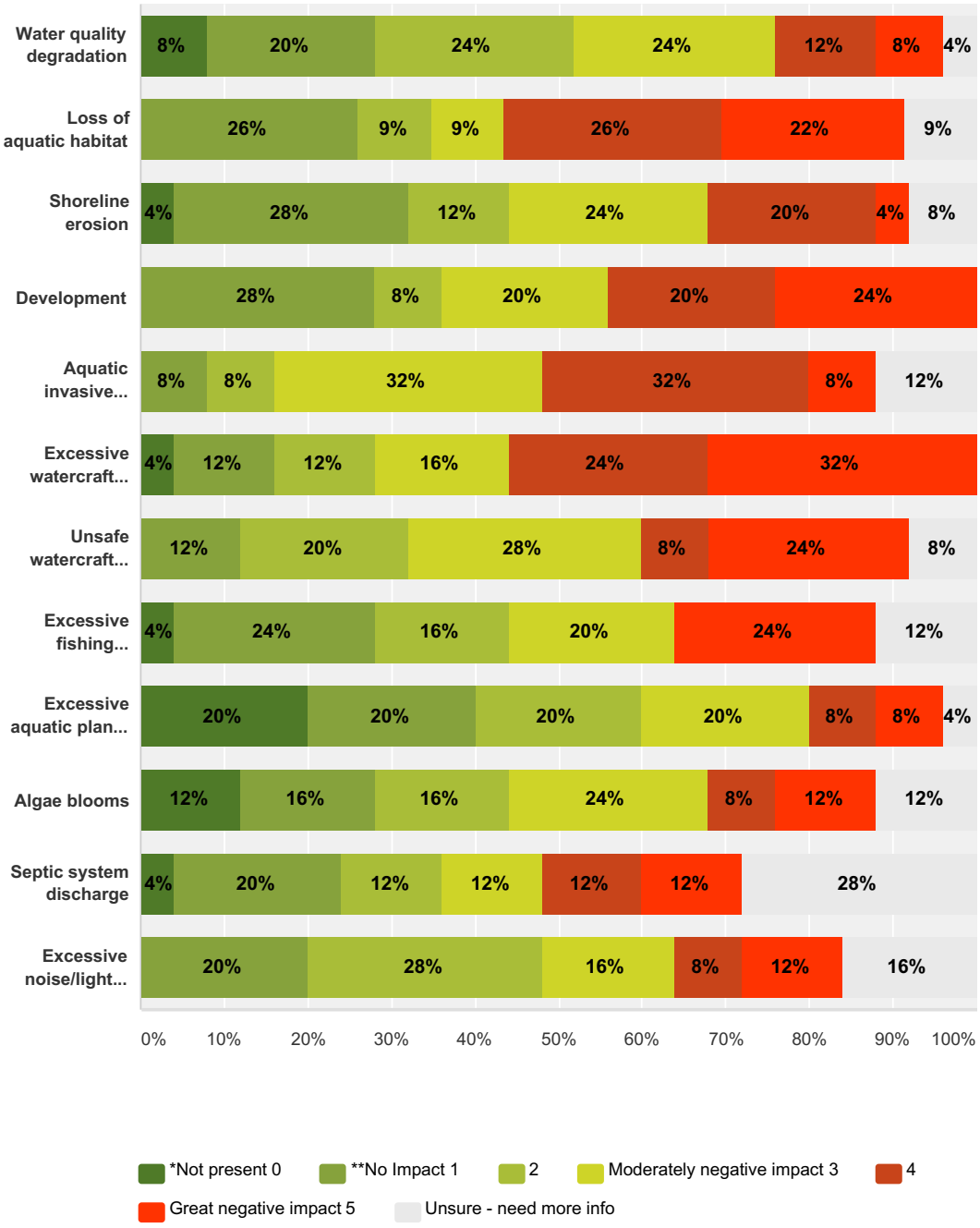


Answer Choices	Responses	
Newspaper	17%	4
Billboard	39%	9
Info pamphlets	48%	11
Interpretive water trail	4%	1
Volunteer staff at boat launch	78%	18
Total Respondents: 23		

#	Other (please specify)	Date
1	Emails	10/1/2015 9:32 PM
2	Lake new letters	10/1/2015 11:27 AM
3	mandatory checkoff box on boat registration renewals	9/23/2015 12:40 PM

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 Gilbert Lake? (Please rate 0 - 5)* Not Present means that you believe the issue does not exist on Gilbert Lake.**No Impact means that the issue may exist on Gilbert Lake but it is not negatively impacting the lake.

Answered: 25 Skipped: 3



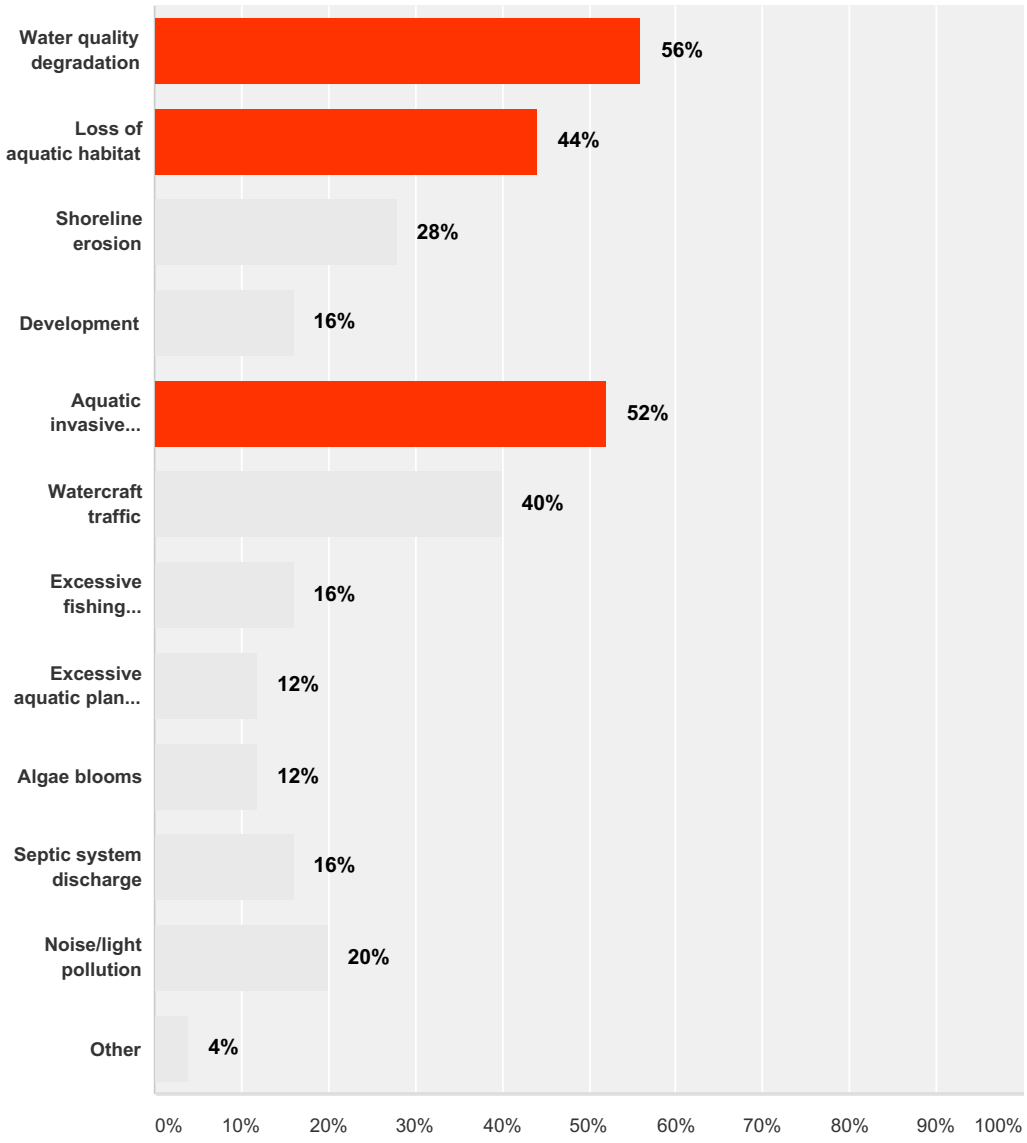
	*Not present 0	**No Impact 1	2	Moderately negative impact 3	4	Great negative impact 5	Unsure - need more info	Total	Weighted Average
Water quality degradation	8% 2	20% 5	24% 6	24% 6	12% 3	8% 2	4% 1	25	2.28
Loss of aquatic habitat	0% 0	26% 6	9% 2	9% 2	26% 6	22% 5	9% 2	23	2.83
Shoreline erosion	4% 1	28% 7	12% 3	24% 6	20% 5	4% 1	8% 2	25	2.24
Development	0% 0	28% 7	8% 2	20% 5	20% 5	24% 6	0% 0	25	3.04
Aquatic invasive species introduction	0% 0	8% 2	8% 2	32% 8	32% 8	8% 2	12% 3	25	2.88

Excessive watercraft traffic	**4%** 1	**12%** 3	**12%** 3	**16%** 4	**24%** 6	**32%** 8	**0%** 0	25	3.40
Unsafe watercraft practices	**0%** 0	**12%** 3	**20%** 5	**28%** 7	**8%** 2	**24%** 6	**8%** 2	25	2.88
Excessive fishing pressure	**4%** 1	**24%** 6	**16%** 4	**20%** 5	**0%** 0	**24%** 6	**12%** 3	25	2.36
Excessive aquatic plant growth (excluding algae)	**20%** 5	**20%** 5	**20%** 5	**20%** 5	**8%** 2	**8%** 2	**4%** 1	25	1.92
Algae blooms	**12%** 3	**16%** 4	**16%** 4	**24%** 6	**8%** 2	**12%** 3	**12%** 3	25	2.12
Septic system discharge	**4%** 1	**20%** 5	**12%** 3	**12%** 3	**12%** 3	**12%** 3	**28%** 7	25	1.88
Excessive noise/light pollution	**0%** 0	**20%** 5	**28%** 7	**16%** 4	**8%** 2	**12%** 3	**16%** 4	25	2.16

#	Other (please specify)	Date
1	Lawn herbicides	10/1/2015 3:00 PM
2	Septic Discharge should be nominal here. Most are quite a distance from the lake and pumping is now regulated.	10/1/2015 11:27 AM

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

Answered: 25 Skipped: 3



Answer Choices	Responses	
Water quality degradation	56%	14
Loss of aquatic habitat	44%	11
Shoreline erosion	28%	7
Development	16%	4
Aquatic invasive species introduction	52%	13
Watercraft traffic	40%	10
Excessive fishing pressure	16%	4

Excessive aquatic plant growth (excluding algae)	**12%**	3
Algae blooms	**12%**	3
Septic system discharge	**16%**	4
Noise/light pollution	**20%**	5
Other	**4%**	1
Total Respondents: 25		

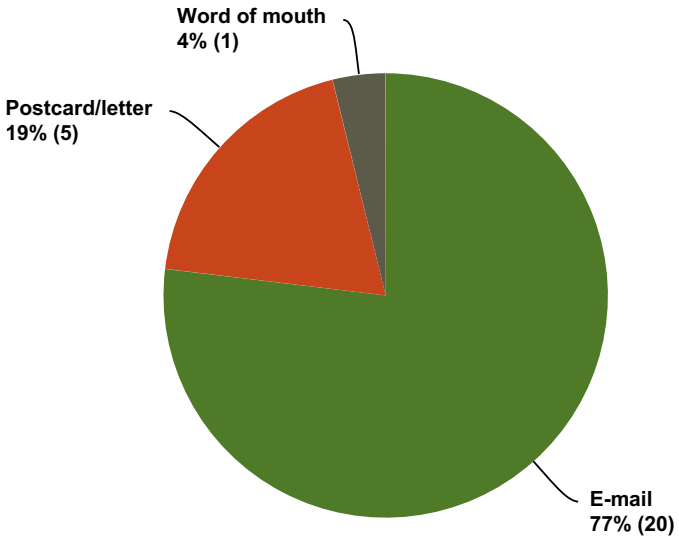
Q1 What is your Waushara County Lakes Study ID?

Answered: 26 Skipped: 0

#	Responses	Date
1	[redacted]	10/27/2015 7:24 AM
2	[redacted]	10/27/2015 7:20 AM
3	[redacted]	10/27/2015 7:09 AM
4	[redacted]	10/26/2015 9:05 PM
5	[redacted]	10/26/2015 8:13 PM
6	[redacted]	10/26/2015 5:36 PM
7	[redacted]	10/25/2015 6:21 PM
8	[redacted]	10/25/2015 12:20 PM
9	[redacted]	10/25/2015 7:34 AM
10	[redacted]	10/24/2015 10:48 AM
11	[redacted]	10/23/2015 1:57 PM
12	[redacted]	10/22/2015 6:24 PM
13	[redacted]	10/22/2015 4:43 PM
[redacted]	[redacted]	10/21/2015 3:16 PM
15	[redacted]	10/21/2015 12:01 PM
16	[redacted]	10/21/2015 9:40 AM
17	[redacted]	10/20/2015 7:41 PM
18	[redacted]	10/20/2015 7:24 PM
19	[redacted]	10/20/2015 7:01 PM
20	[redacted]	10/20/2015 6:25 PM
21	[redacted]	10/20/2015 6:13 PM
22	[redacted]	10/20/2015 5:56 PM
23	[redacted]	10/20/2015 12:56 PM
24	[redacted]	10/20/2015 11:28 AM
25	[redacted]	10/20/2015 10:21 AM
26	[redacted]	10/19/2015 9:37 PM

Q2 How did you hear about this survey?

Answered: 26 Skipped: 0

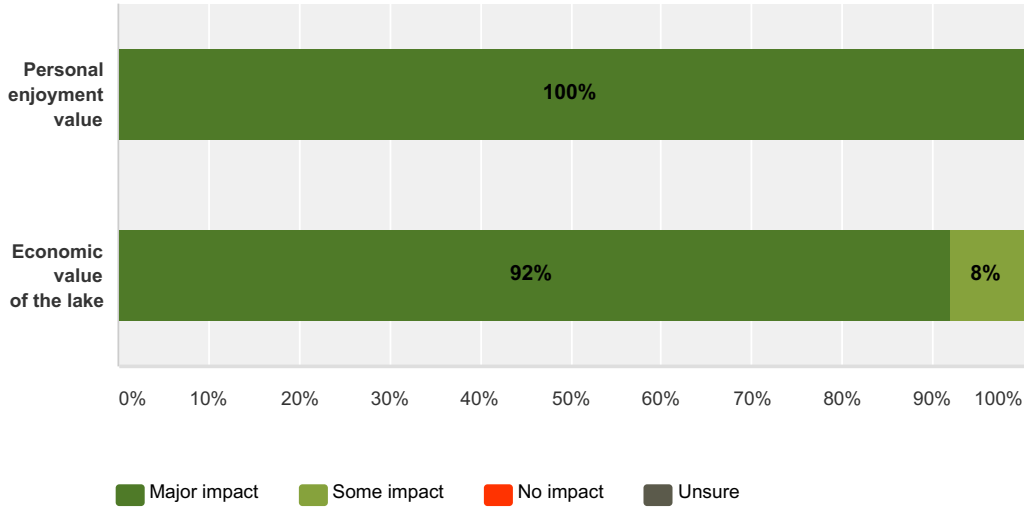


Answer Choices	Responses	
E-mail	77%	20
Newspaper	0%	0
Postcard/letter	19%	5
Facebook	0%	0
Radio	0%	0
Word of mouth	4%	1
Total		26

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

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

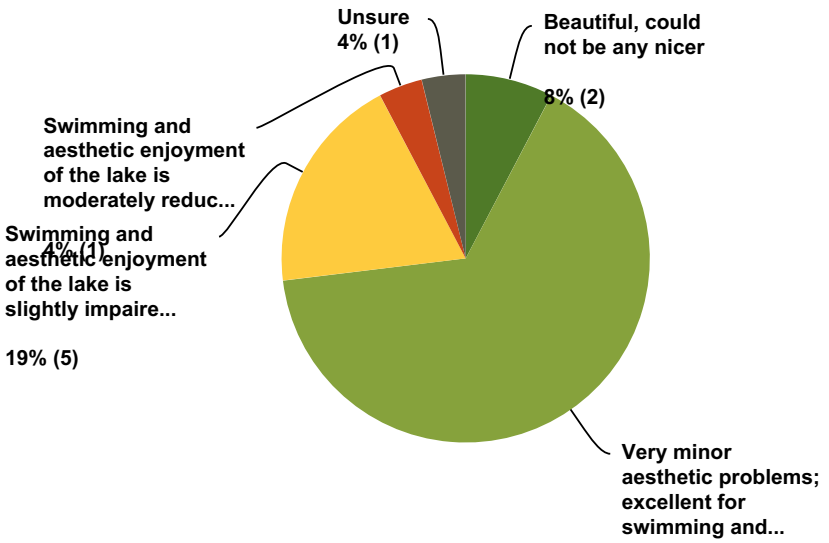
Answered: 26 Skipped: 0



	Major impact	Some impact	No impact	Unsure	Total
Personal enjoyment value	**100%** 26	**0%** 0	**0%** 0	**0%** 0	26
Economic value of the lake	**92%** 23	**8%** 2	**0%** 0	**0%** 0	25

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

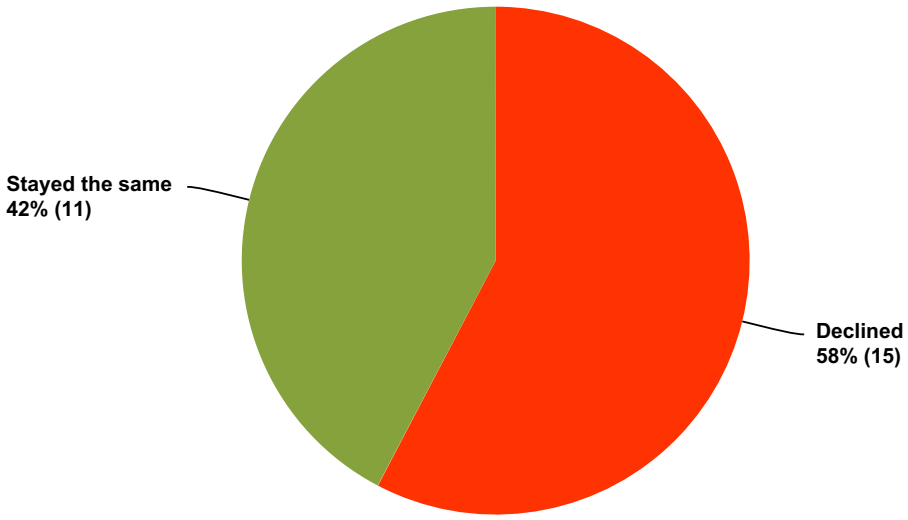
Answered: 26 Skipped: 0



Answer Choices	Responses	
Beautiful, could not be any nicer	8%	2
Very minor aesthetic problems; excellent for swimming and boating enjoyment	65%	17
Swimming and aesthetic enjoyment of the lake is slightly impaired because of algae	19%	5
Swimming and aesthetic enjoyment of the lake is moderately reduced because of algae	4%	1
Swimming and aesthetic enjoyment of the lake is substantially reduced because of algae	0%	0
None of the above	0%	0
Unsure	4%	1
Total		**26**

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

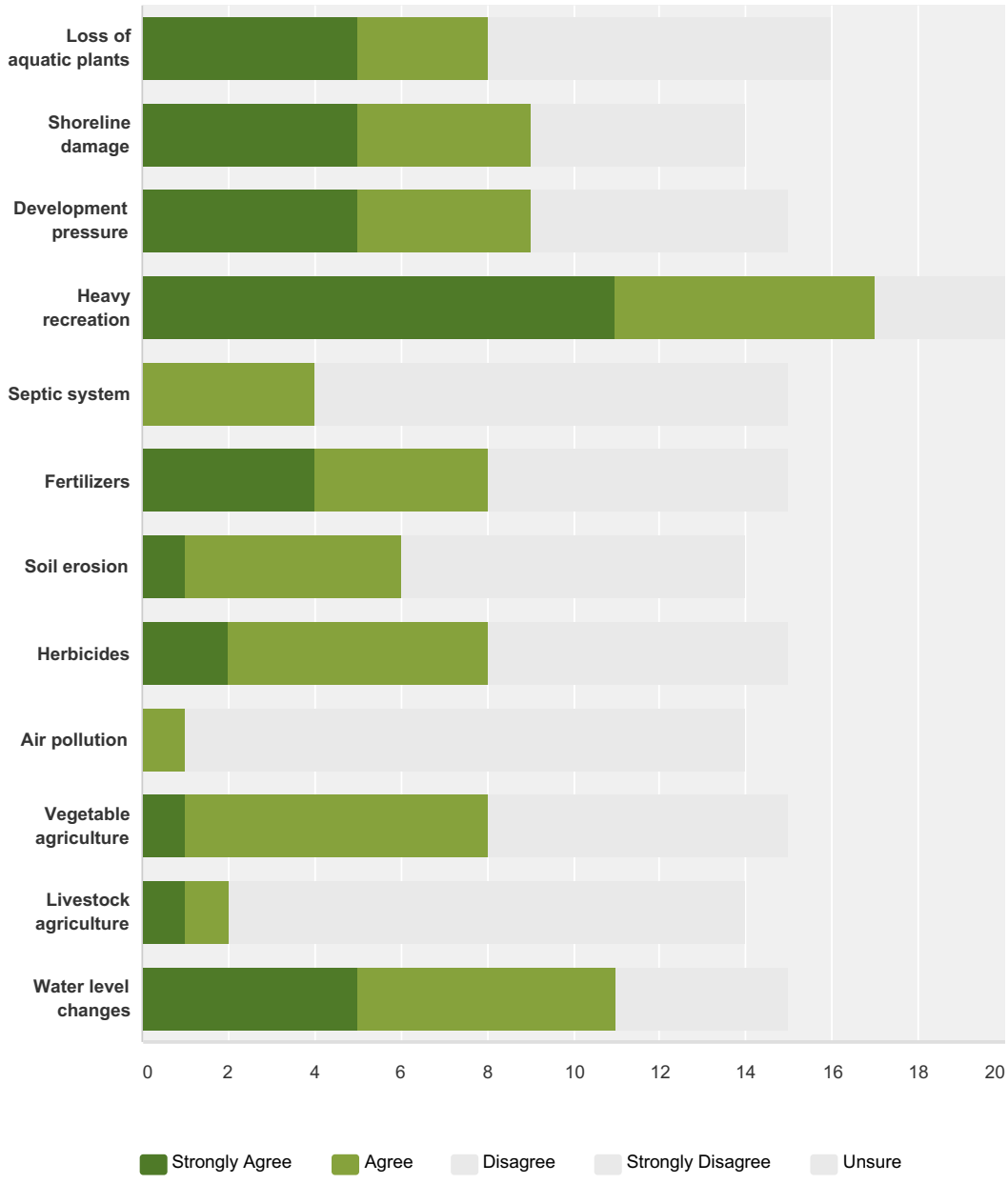
Answered: 26 Skipped: 0



Answer Choices	Responses	
Improved	0%	0
Declined	58%	15
Stayed the same	42%	11
Unsure	0%	0
Total		26

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

Answered: 21 Skipped: 5

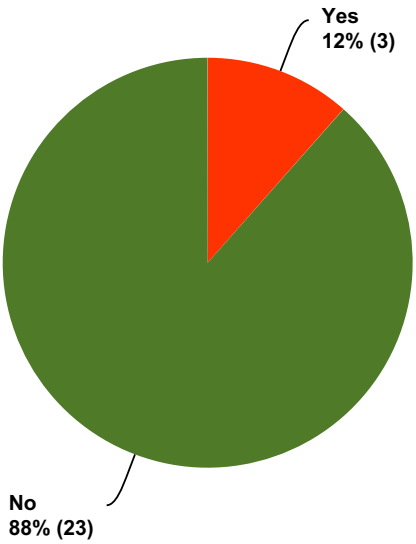


	Strongly Agree	Agree	Disagree	Strongly Disagree	Unsure	Total Respondents
Loss of aquatic plants	31% 5	19% 3	19% 3	0% 0	31% 5	16
Shoreline damage	36% 5	29% 4	21% 3	0% 0	14% 2	14
Development pressure	33% 5	27% 4	27% 4	7% 1	7% 1	15
Heavy recreation	55% 11	30% 6	10% 2	0% 0	5% 1	20

Septic system	**0%** 0	**27%** 4	**7%** 1	**7%** 1	**60%** 9	15
Fertilizers	**27%** 4	**27%** 4	**13%** 2	**0%** 0	**33%** 5	15
Soil erosion	**7%** 1	**36%** 5	**21%** 3	**0%** 0	**36%** 5	14
Herbicides	**13%** 2	**40%** 6	**20%** 3	**0%** 0	**27%** 4	15
Air pollution	**0%** 0	**7%** 1	**50%** 7	**14%** 2	**29%** 4	14
Vegetable agriculture	**7%** 1	**47%** 7	**13%** 2	**0%** 0	**33%** 5	15
Livestock agriculture	**7%** 1	**7%** 1	**36%** 5	**7%** 1	**43%** 6	14
Water level changes	**33%** 5	**40%** 6	**20%** 3	**0%** 0	**7%** 1	15

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

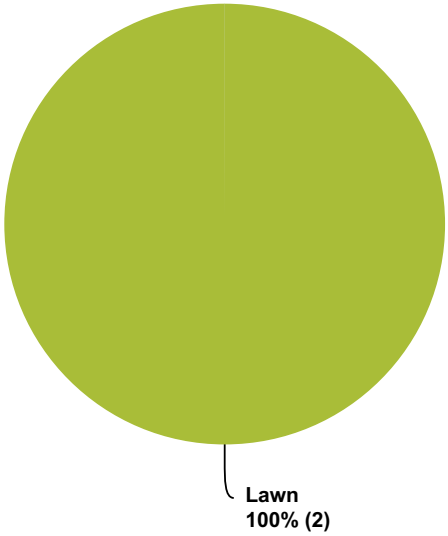
Answered: 26 Skipped: 0



Answer Choices	Responses	
Yes	12%	3
No	88%	23
Total		26

Q8 Where do you apply herbicides and/or pesticides?

Answered: 2 Skipped: 24

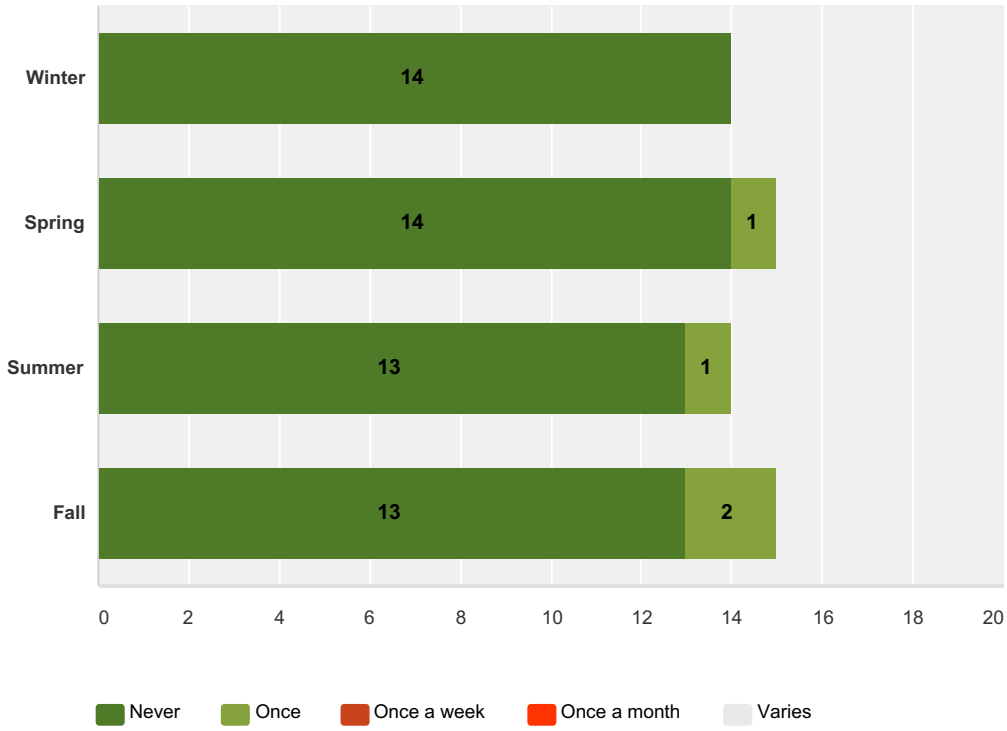


Answer Choices	Responses	
Agricultural fields	0%	0
Garden	0%	0
Lawn	100%	2
Total		2

#	Other (please specify)	Date
1	pesticide around the house for asian beetles	10/23/2015 2:02 PM
2	Don't use	10/22/2015 6:27 PM
3	Around house	10/22/2015 4:45 PM
4	Never use them anywhere	10/21/2015 12:08 PM
5	nowhere	10/21/2015 9:43 AM
6	None	10/20/2015 7:30 PM
7	none	10/20/2015 11:30 AM
8	do not use them	10/19/2015 9:40 PM

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

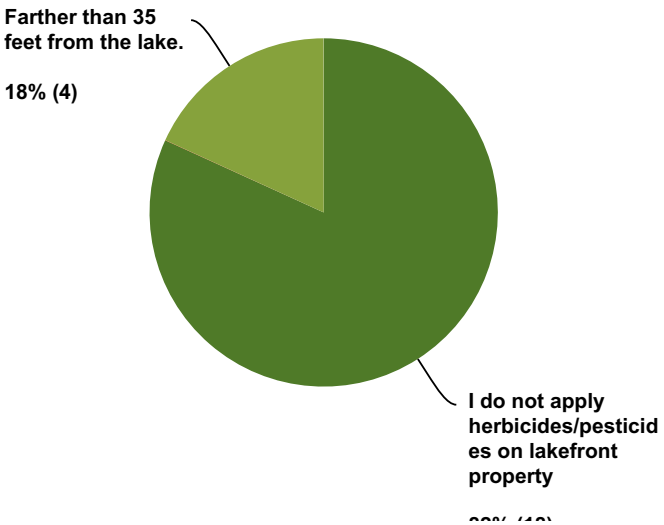
Answered: 16 Skipped: 10



	Never	Once	Once a week	Once a month	Varies	Total Respondents
Winter	**100%** 14	**0%** 0	**0%** 0	**0%** 0	**0%** 0	14
Spring	**93%** 14	**7%** 1	**0%** 0	**0%** 0	**0%** 0	15
Summer	**93%** 13	**7%** 1	**0%** 0	**0%** 0	**0%** 0	14
Fall	**87%** 13	**13%** 2	**0%** 0	**0%** 0	**0%** 0	15

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)?

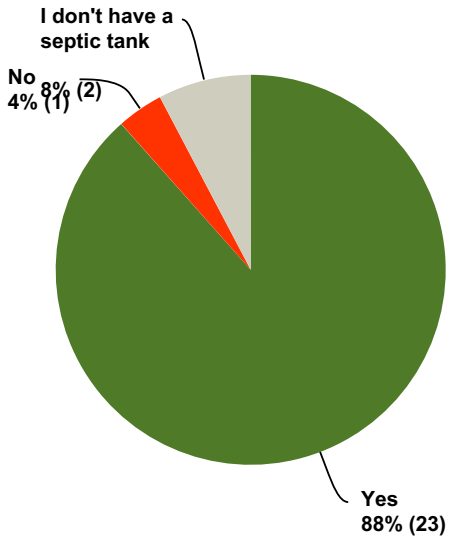
Answered: 22 Skipped: 4



Answer Choices	Responses	
I do not apply herbicides/pesticides on lakefront property	82%	18
Up to the lake	0%	0
Within 35 feet of the lake	0%	0
Farther than 35 feet from the lake.	18%	4
Total		22

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

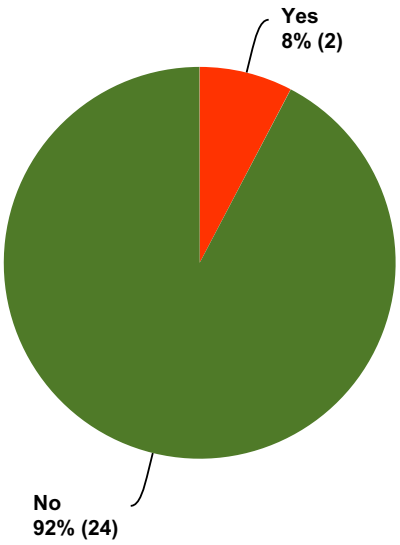
Answered: 26 Skipped: 0



Answer Choices	Responses	
Yes	88%	23
No	4%	1
I don't have a septic tank	8%	2
Total		26

Q12 Do you use fertilizer on your land?

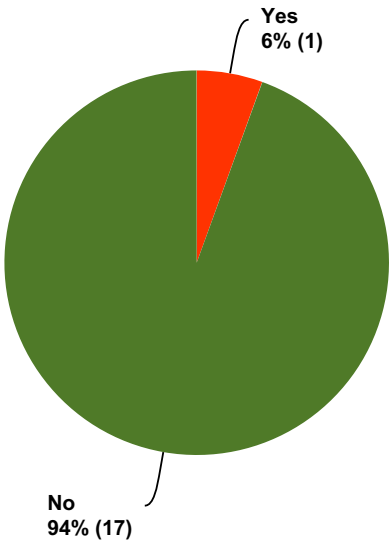
Answered: 26 Skipped: 0



Answer Choices	Responses	
Yes	8%	2
No	92%	24
Total		26

Q13 Do you use fertilizer which contains phosphorus?

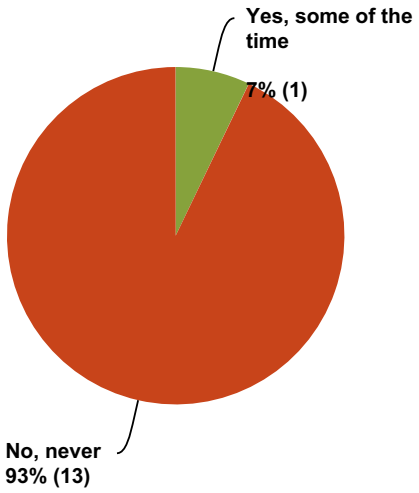
Answered: 18 Skipped: 8



Answer Choices	Responses	
Yes	6%	1
No	94%	17
I don't know	0%	0
Total		18

Q14 Do you have your soil tested before applying fertilizer?

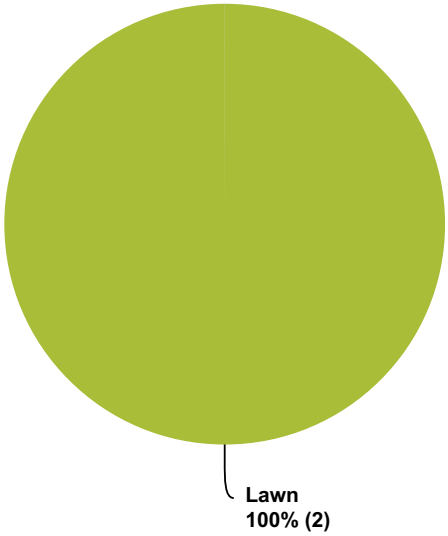
Answered: 14 Skipped: 12



Answer Choices	Responses	
Yes, all of the time	0%	0
Yes, some of the time	7%	1
No, never	93%	13
Total		14

Q15 Where do you apply fertilizer?

Answered: 2 Skipped: 24

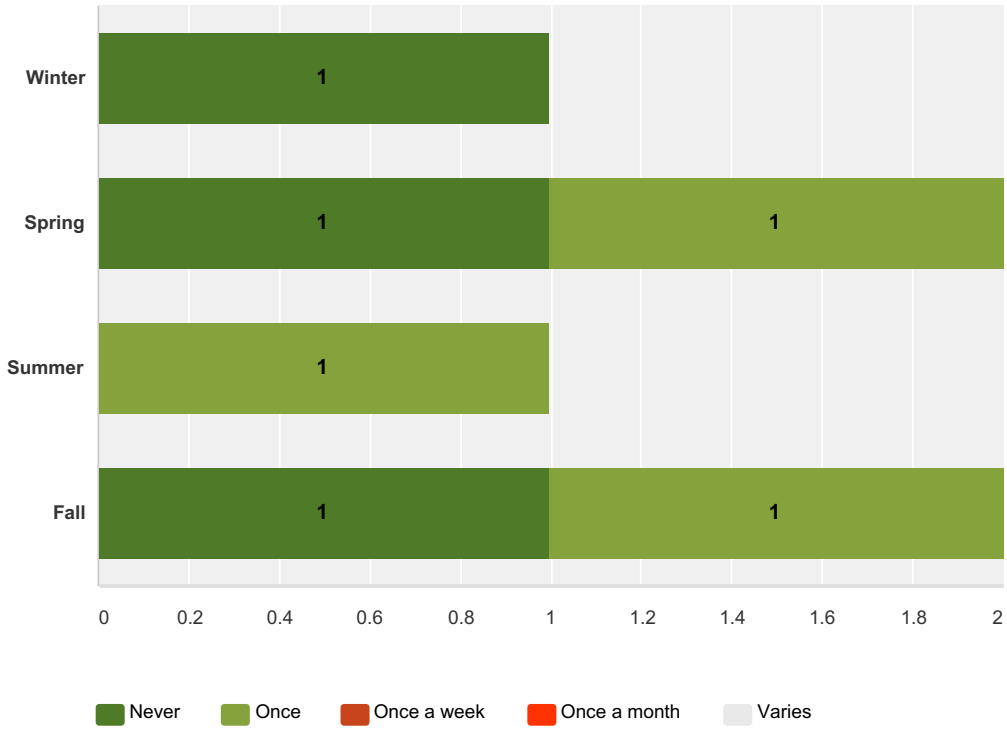


Answer Choices	Responses	
Agricultural fields	0%	0
Garden	0%	0
Lawn	100%	2
Total		2

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

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

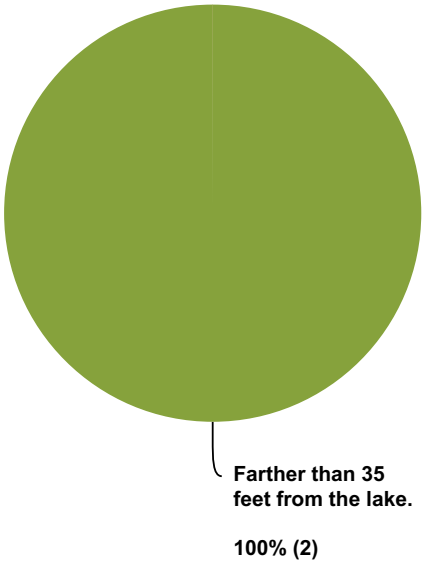
Answered: 2 Skipped: 24



	Never	Once	Once a week	Once a month	Varies	Total Respondents
Winter	100% 1	0% 0	0% 0	0% 0	0% 0	1
Spring	50% 1	50% 1	0% 0	0% 0	0% 0	2
Summer	0% 0	100% 1	0% 0	0% 0	0% 0	1
Fall	50% 1	50% 1	0% 0	0% 0	0% 0	2

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

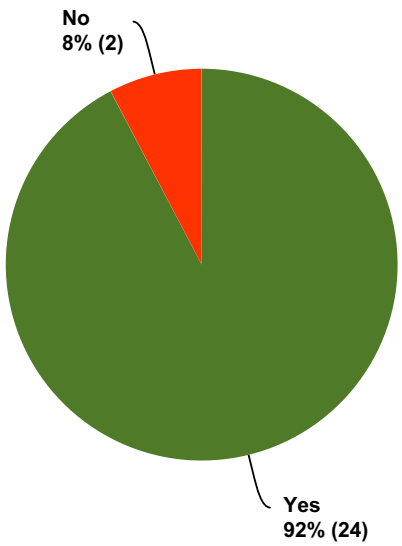
Answered: 2 Skipped: 24



Answer Choices	Responses	
I do not apply fertilizer on lakefront property	0%	0
Up to the lake	0%	0
Within 35 feet of the lake	0%	0
Farther than 35 feet from the lake.	100%	2
Total		2

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

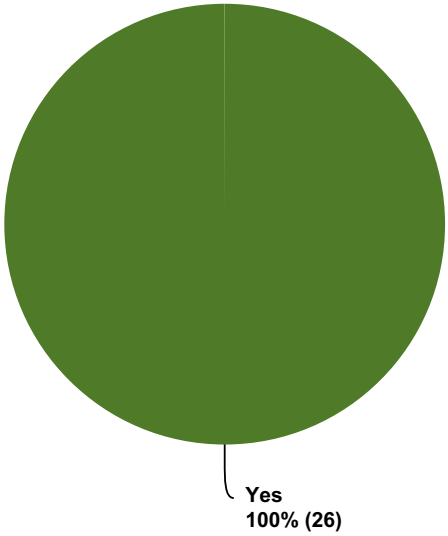
Answered: 26 Skipped: 0



Answer Choices	Responses	
Yes	92%	24
No	8%	2
Unsure	0%	0
Total		26

Q19 Do you own shoreland property?

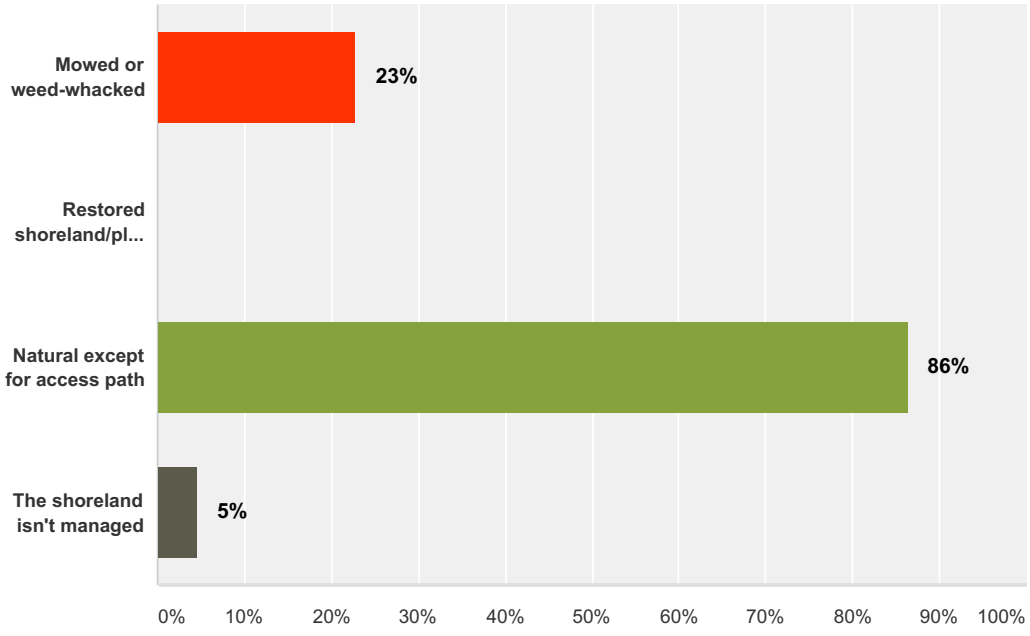
Answered: 26 Skipped: 0



Answer Choices	Responses	
Yes	100%	26
No	0%	0
Total		26

Q20 How do you currently manage the majority of your property within 35 feet of the lake?

Answered: 22 Skipped: 4

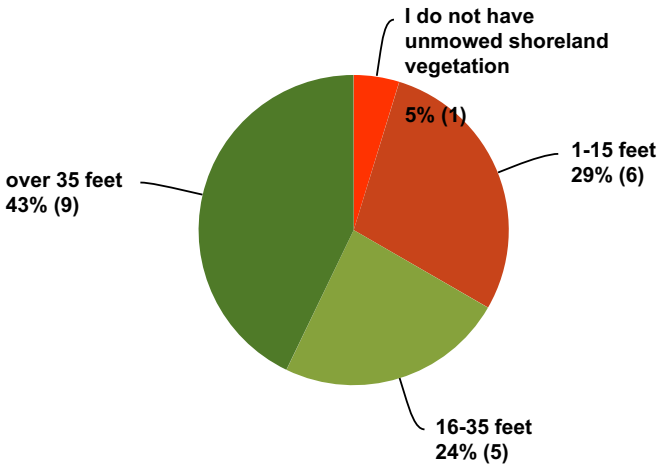


Answer Choices	Responses	
Mowed or weed-whacked	**23%**	5
Restored shoreland/planted	**0%**	0
Natural except for access path	**86%**	19
The shoreland isn't managed	**5%**	1
Total Respondents: 22		

#	Other (please specify)	Date
1	Swimming area is mowed. 1/2 property is natural	10/26/2015 5:43 PM

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

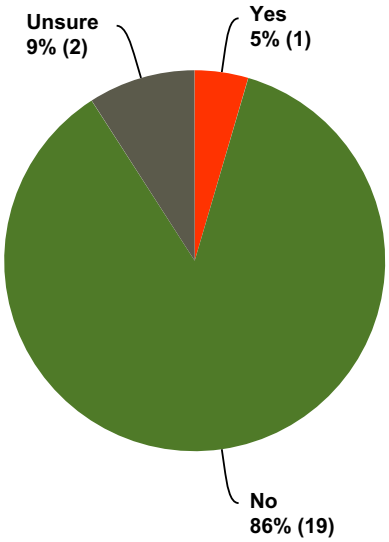
Answered: 21 Skipped: 5



Answer Choices	Responses	
I do not have unmowed shoreland vegetation	5%	1
1-15 feet	29%	6
16-35 feet	24%	5
over 35 feet	43%	9
Total		21

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

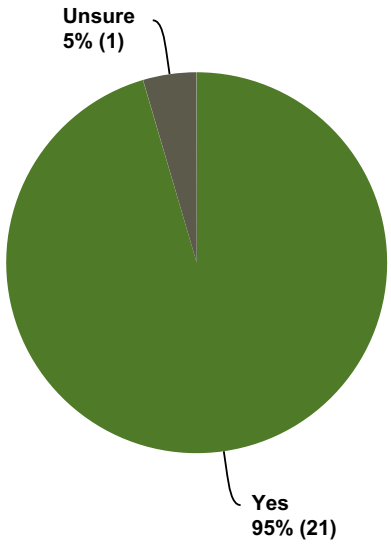
Answered: 22 Skipped: 4



Answer Choices	Responses	
I have no path	0%	0
Yes	5%	1
No	86%	19
Unsure	9%	2
Total		22

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

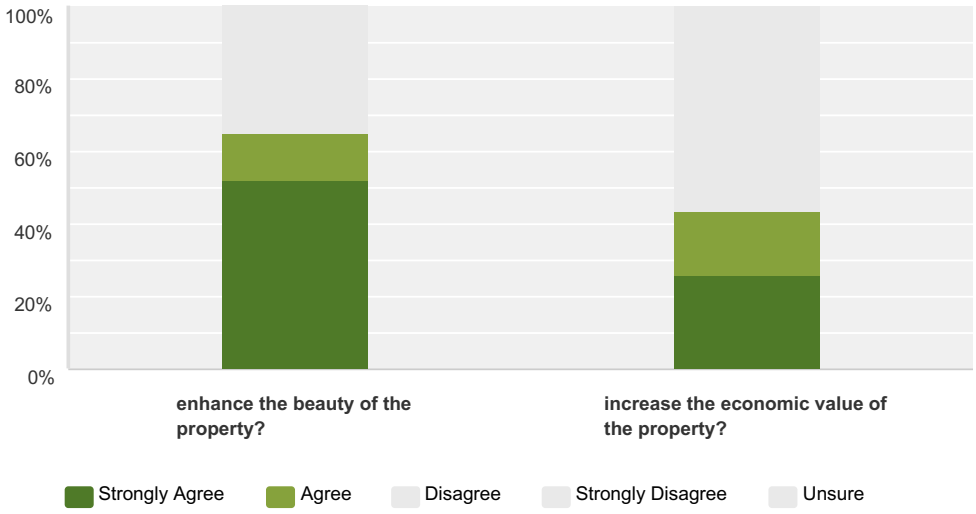
Answered: 22 Skipped: 4



Answer Choices	Responses	
Yes	95%	21
No	0%	0
Unsure	5%	1
Total		22

Q24 In your opinion, does shoreland vegetation...

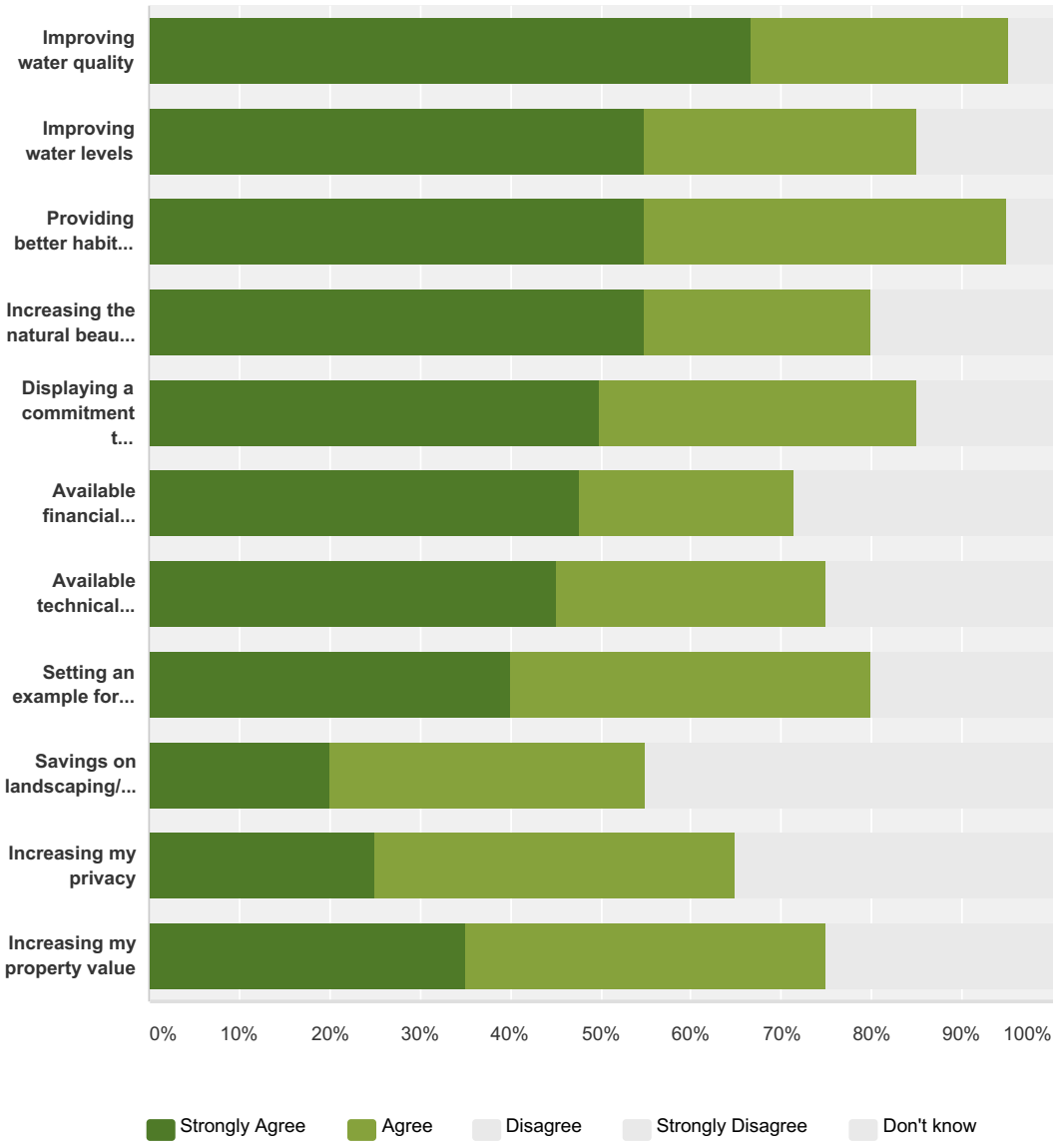
Answered: 23 Skipped: 3



	Strongly Agree	Agree	Disagree	Strongly Disagree	Unsure	Total
enhance the beauty of the property?	**52%** 12	**13%** 3	**22%** 5	**4%** 1	**9%** 2	23
increase the economic value of the property?	**26%** 6	**17%** 4	**26%** 6	**9%** 2	**22%** 5	23

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

Answered: 22 Skipped: 4



	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't know	Total
Improving water quality	67% 14	29% 6	0% 0	0% 0	5% 1	21
Improving water levels	55% 11	30% 6	5% 1	0% 0	10% 2	20
Providing better habitat for fish and wildlife	55% 11	40% 8	5% 1	0% 0	0% 0	20
Increasing the natural beauty of my property	55% 11	25% 5	20% 4	0% 0	0% 0	20
Displaying a commitment to the environment	50% 10	35% 7	5% 1	0% 0	10% 2	20

Available financial assistance	**48%** 10	**24%** 5	**10%** 2	**5%** 1	**14%** 3	21
Available technical assistance	**45%** 9	**30%** 6	**15%** 3	**0%** 0	**10%** 2	20
Setting an example for community members	**40%** 8	**40%** 8	**20%** 4	**0%** 0	**0%** 0	20
Savings on landscaping/maintenance costs	**20%** 4	**35%** 7	**30%** 6	**5%** 1	**10%** 2	20
Increasing my privacy	**25%** 5	**40%** 8	**30%** 6	**0%** 0	**5%** 1	20
Increasing my property value	**35%** 7	**40%** 8	**25%** 5	**0%** 0	**0%** 0	20

#	Other (please specify)	Date
1	Increase NO WAKE hours to improve water quality and shoreline erosion wave action.	10/27/2015 7:27 AM

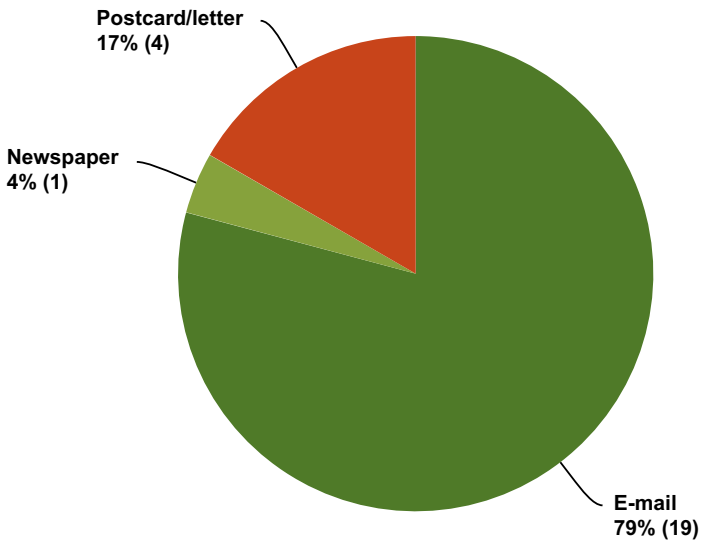
Q1 Enter your Waushara County Lakes Survey ID. Your survey cannot be processed without this information. If you've forgotten your ID or haven't created one yet, follow the instructions below.

Answered: 25 Skipped: 0

#	Responses	Date
1	[redacted]	11/29/2015 6:54 PM
2	[redacted]	11/29/2015 5:41 PM
3	[redacted]	11/29/2015 4:11 PM
4	[redacted]	11/29/2015 10:30 AM
5	[redacted]	11/29/2015 10:03 AM
6	[redacted]	11/29/2015 8:50 AM
7	[redacted]	11/28/2015 9:37 AM
8	[redacted]	11/28/2015 8:21 AM
9	[redacted]	11/26/2015 4:04 PM
10	[redacted]	11/25/2015 4:40 PM
11	[redacted]	11/25/2015 2:58 PM
12	[redacted]	11/25/2015 10:59 AM
13	[redacted]	11/25/2015 10:52 AM
14	[redacted]	11/25/2015 9:18 AM
15	[redacted]	11/24/2015 6:19 PM
16	[redacted]	11/24/2015 12:03 PM
17	[redacted]	11/24/2015 11:41 AM
18	[redacted]	11/24/2015 8:22 AM
19	[redacted]	11/24/2015 6:20 AM
20	[redacted]	11/23/2015 7:06 PM
21	[redacted]	11/23/2015 5:50 PM
22	[redacted]	11/18/2015 8:44 AM
23	[redacted]	11/16/2015 7:20 PM
24	[redacted]	11/16/2015 6:24 PM
25	[redacted]	11/16/2015 2:24 PM

Q2 How did you hear about this survey?

Answered: 24 Skipped: 1

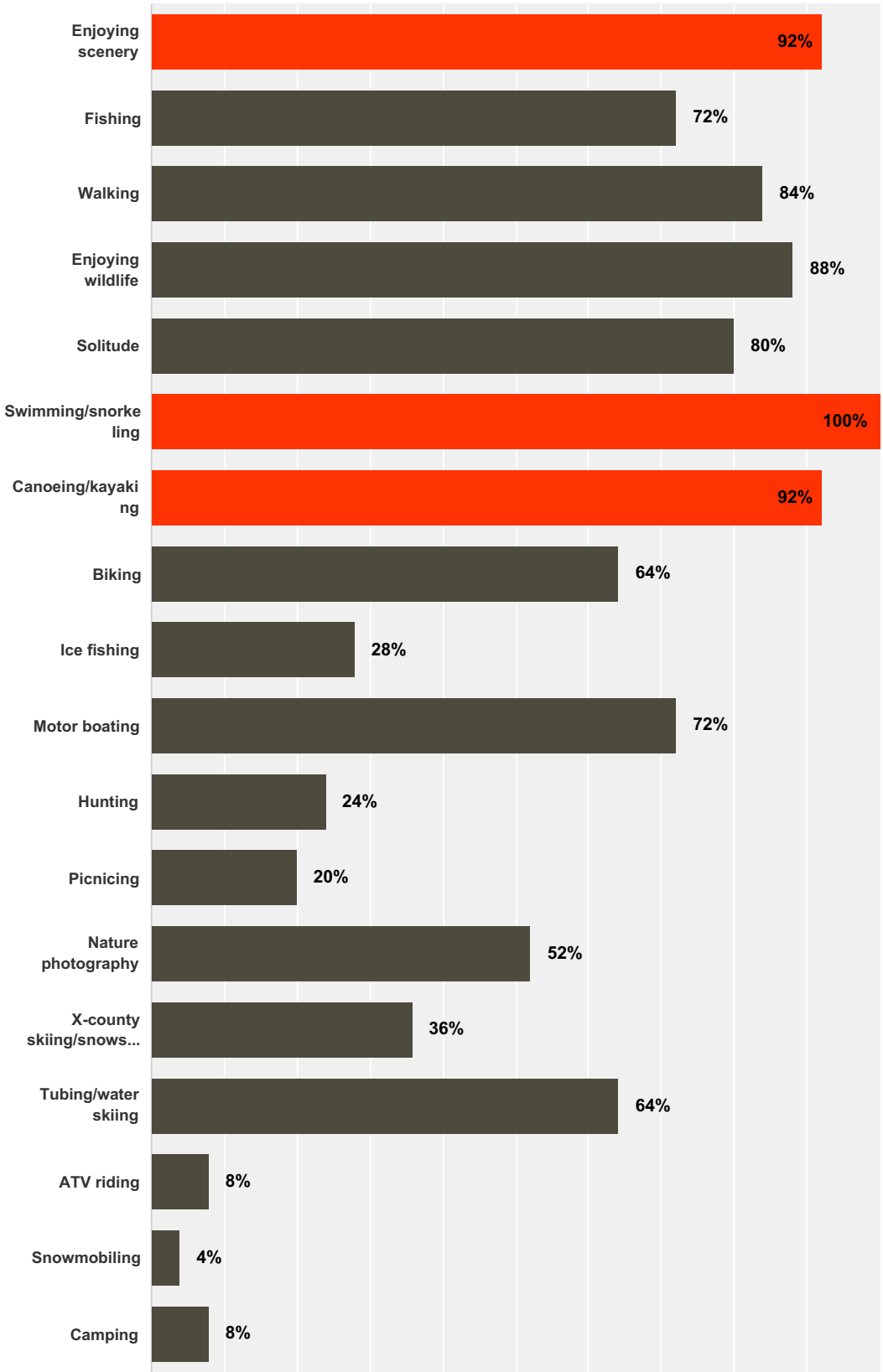


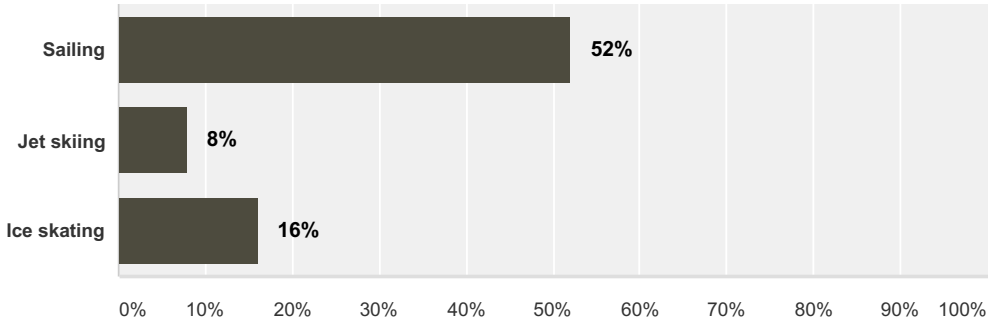
Answer Choices	Responses	
E-mail	79%	19
Newspaper	4%	1
Postcard/letter	17%	4
Facebook	0%	0
Radio	0%	0
Total		24

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

Q3 What recreational activities do you partake in on Gilbert Lake (check all that apply)?

Answered: 25 Skipped: 0



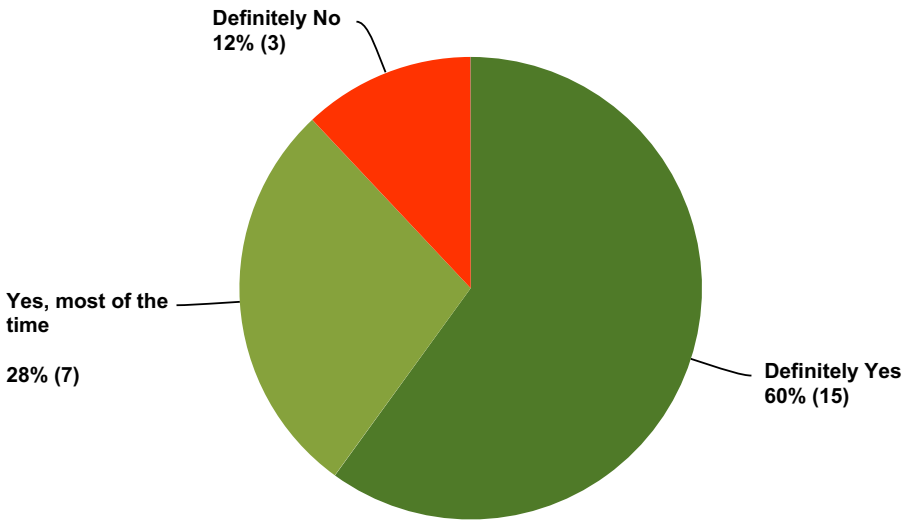


Answer Choices	Responses	
Enjoying scenery	**92%**	23
Fishing	**72%**	18
Walking	**84%**	21
Enjoying wildlife	**88%**	22
Solitude	**80%**	20
Swimming/snorkeling	**100%**	25
Canoeing/kayaking	**92%**	23
Biking	**64%**	16
Ice fishing	**28%**	7
Motor boating	**72%**	18
Hunting	**24%**	6
Picnicing	**20%**	5
Nature photography	**52%**	13
X-county skiing/snowshoeing	**36%**	9
Tubing/water skiing	**64%**	16
ATV riding	**8%**	2
Snowmobiling	**4%**	1
Camping	**8%**	2
Sailing	**52%**	13
Jet skiing	**8%**	2
Ice skating	**16%**	4
Total Respondents: 25		

#	Other (please specify)	Date
1	non-motor boating (pontoon)	11/24/2015 11:47 AM
2	bird watching	11/24/2015 6:41 AM

Q4 "No Wake" is allowed on Gilbert Lake between 5pm and 10am. Do you like the current "No Wake" rules as they are?

Answered: 25 Skipped: 0



Answer Choices	Responses	
Definitely Yes	60%	15
Yes, most of the time	28%	7
No, not most of the time	0%	0
Definitely No	12%	3
Unsure	0%	0
Total		25

Q5 If you think the "No Wake" rules should be adjusted...in what way?

Answered: 9 Skipped: 16

#	Responses	Date
1	We would be happy with less "wake" hours.	11/29/2015 6:59 PM
2	Need to allow more time for skiiers. Density between 10-5 is way to high and unsafe. If skiing hours are lengthened we wont have a great increase in activity, but it will be spread over a longer time and less congested - SAFER.	11/29/2015 10:08 AM
3	10-4 would be nice for "other" types of boating before supper.	11/26/2015 4:06 PM
4	No adjustment needed it is just right and has worked well for many years.	11/25/2015 3:00 PM
5	No wake 6P to 9A.	11/24/2015 6:25 PM
6	5:00 is perhaps a bit too early- especially in the summer when it doesn't get dark until 9:00 pm. I like the idea of a quiet dinner, but I think 6:00 is more logical.	11/24/2015 11:47 AM
7	Wake=very hard to define. Those big flat boats create little wake, and still go very fast, especially in the twilight hours. No one monitors wakes early in the am from boats coming from the east, presumably the landing.	11/24/2015 8:28 AM
8	They should be expanded. Allow more time for "No Wake" activities	11/18/2015 8:49 AM
9	Longer no wake time	11/16/2015 6:30 PM

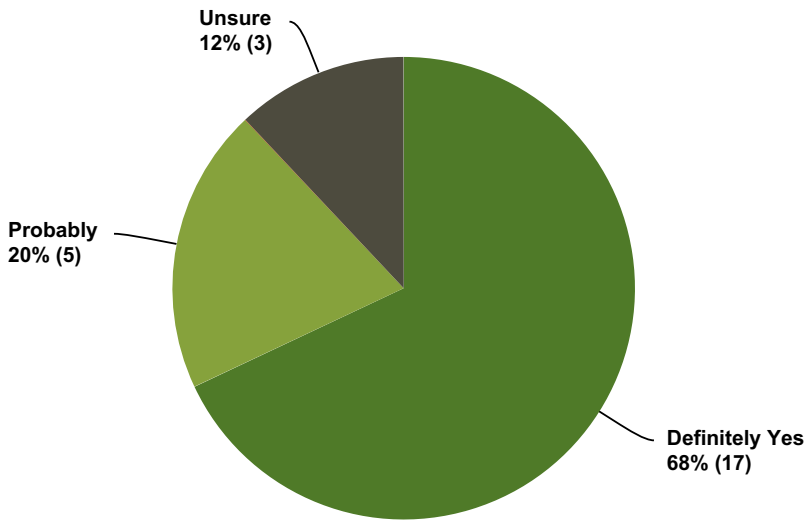
Q6 What could be done to improve your recreation experience on Gilbert Lake?

Answered: 17 Skipped: 8

#	Responses	Date
1	Fewer ski boats out at one time! A limit to horsepower on ski boats!! More police patrolling!	11/29/2015 6:59 PM
2	Keep npose levels down at night. Some evening boats have loud people (believe they are not Lake Gilbert residents) and ven had some 2 a.m. boaters talking loud enough that it was difficult to sleep. Not sure what can be done about that. though.	11/29/2015 5:47 PM
3	it's good as is	11/29/2015 10:32 AM
4	Less tubing. Tubers drive in an eratic pattern and causes excessive zig zagging. Also control over large wakes, which cause issues for other watercraft.	11/29/2015 10:08 AM
5	Go to a complete NO WAKE Lake	11/28/2015 9:38 AM
6	fewer watercrafts	11/28/2015 8:22 AM
7	We love Gilbert Lake and are pleased at all the recreational activities we can participate in	11/25/2015 4:42 PM
8	No recommendations at this time.	11/25/2015 3:00 PM
9	Improved boating courtesy on busy days (e.g. refrain from using sailboats during heavy traffic periods)	11/25/2015 9:21 AM
10	Reduce the parking area at the boat landing.	11/24/2015 6:25 PM
11	I feel boats are favored over swimmers; they often come too close to the piers. I don't understand why there are almost no native plant weed beds which are necessary to sustain fish populations. Is there a way to actually plant these? I think the no wake zone buoys should be placed even farther south toward the wider part of the lake; the properties where it is narrow get very strong waves.	11/24/2015 11:47 AM
12	I would like the buoys at the east end moved farther to the west because the size of the motors has increased and the wake from boats going east and turning and going west really impacts my shoreline=much more turbid, especially on the 4th which has a great deal of traffic. Boats come regularly very close to the raft whether there are folks out there or not. One Sat I counted 25+27 "passes" over a 2 hour period in the afternoon. The water went from several feet in clarity to about 2 feet. Plus, if you live on the east end, the noise from the motors gets blown at you all the time. I suspect if you live at the west end, you are entirely unaware of this--when the wind comes from the east, which is rare in the summer, I can't hear the noise from the west either. Really annoying on high traffic days. Not a word said about the jet skis, either.	11/24/2015 8:28 AM
13	Extend the summer season which I know is impossible.	11/23/2015 7:10 PM
14	Preserve the water level	11/23/2015 5:52 PM
15	If no wake hours were increased, it could allow more swimming, kayaking, fishing activities to be enjoyed during the afternoon hours.	11/18/2015 8:49 AM
16	Better habitat so lake has more fish.	11/16/2015 7:21 PM
17	Close public landing	11/16/2015 6:30 PM

Q7 Does a desire to provide better habitat for fish and wildlife motivate you to support (morally) efforts to improve Gilbert Lake?

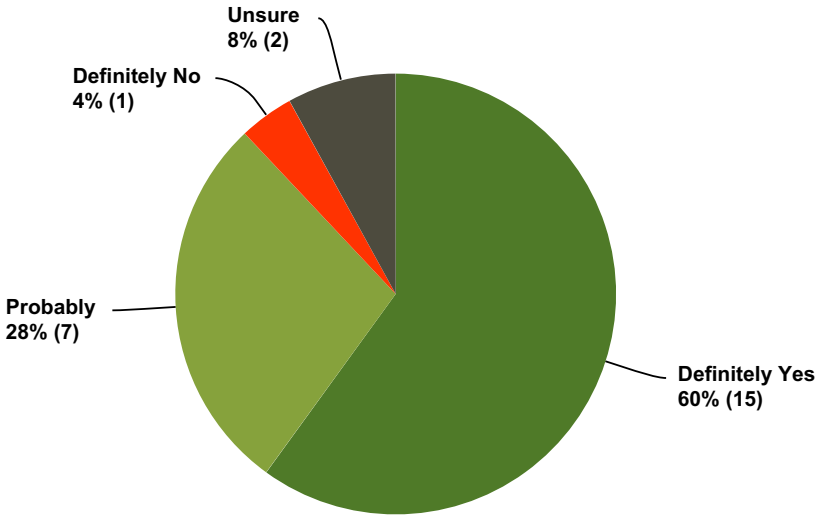
Answered: 25 Skipped: 0



Answer Choices	Responses	
Definitely Yes	68%	17
Probably	20%	5
Not Likely	0%	0
Definitely No	0%	0
Unsure	12%	3
Total		25

Q8 Does a desire to provide better habitat for fish and wildlife motivate you to support (by direct action) efforts to improve Gilbert Lake?

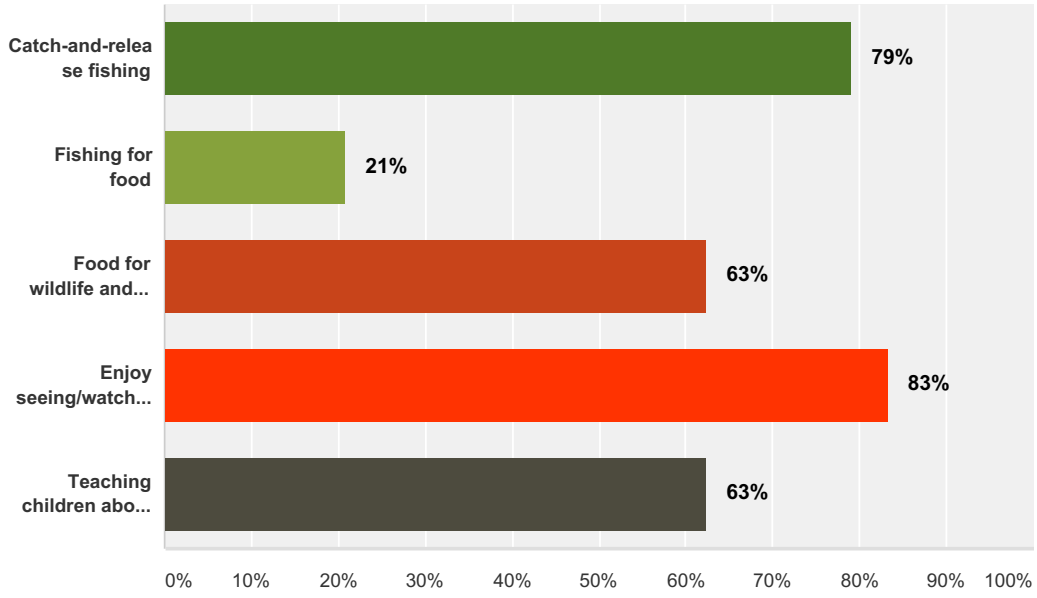
Answered: 25 Skipped: 0



Answer Choices	Responses	
Definitely Yes	60%	15
Probably	28%	7
Not Likely	0%	0
Definitely No	4%	1
Unsure	8%	2
Total		25

Q9 For what purposes do you value the fishery in Gilbert Lake? (Check all that apply.)

Answered: 24 Skipped: 1

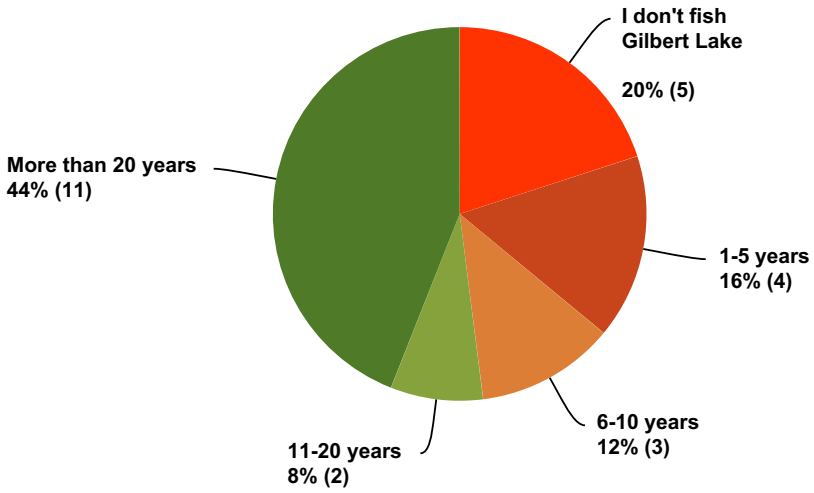


Answer Choices	Responses	
Catch-and-release fishing	**79%**	19
Fishing for food	**21%**	5
Food for wildlife and birds	**63%**	15
Enjoy seeing/watching fish	**83%**	20
Teaching children about fishing/lakes	**63%**	15
Total Respondents: 24		

#	Other (please specify)	Date
1	Don't fish.	11/26/2015 4:07 PM
2	healthy ecosystem	11/24/2015 8:29 AM

Q10 How many years of fishing experience do you have on Gilbert Lake?

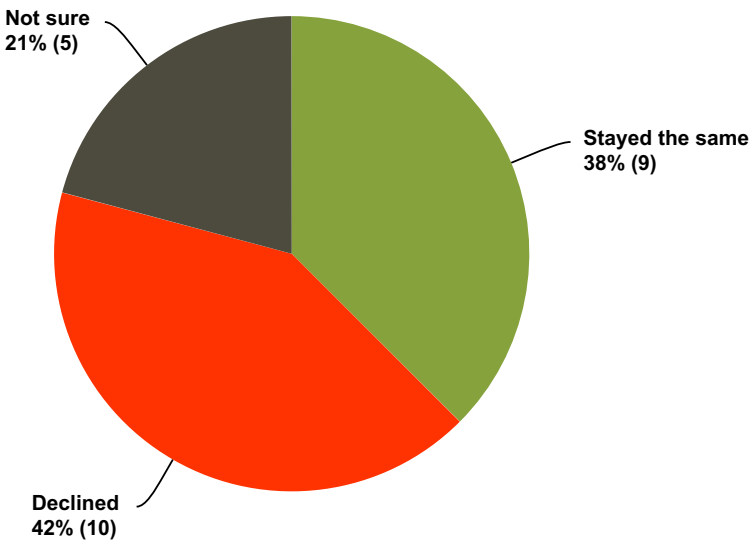
Answered: 25 Skipped: 0



Answer Choices	Responses	
I don't fish Gilbert Lake	20%	5
1-5 years	16%	4
6-10 years	12%	3
11-20 years	8%	2
More than 20 years	44%	11
Total		25

Q11 In the years you have been fishing Gilbert Lake, would you say the quality of fishing has...

Answered: 24 Skipped: 1



Answer Choices	Responses	
Improved	0%	0
Stayed the same	38%	9
Declined	42%	10
Not sure	21%	5
Total		24

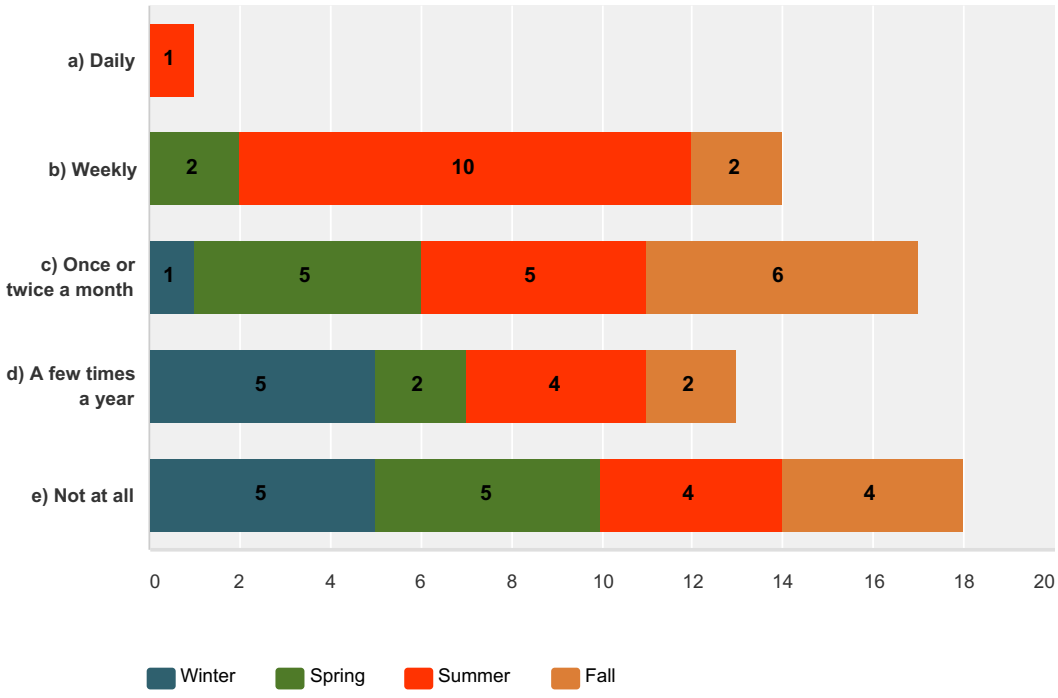
Q12 What factors do you feel have contributed to the change in fishing?

Answered: 15 Skipped: 10

#	Responses	Date
1	Overfishing by fishermen. More ice fishing than in the past. Loss of habitat.	11/29/2015 7:07 PM
2	Development (new houses) where shoreline is too clean as opposed to natural. Too much use of herbicides. Lower lake levels.	11/29/2015 5:54 PM
3	I do not know	11/29/2015 4:16 PM
4	less habitat, structure	11/29/2015 10:39 AM
5	Number of fisherman both from the lake and off the lake.	11/29/2015 10:15 AM
6	overfished	11/28/2015 9:40 AM
7	increase in boat size and traffic, watercrafts	11/28/2015 8:30 AM
8	Have heard that closing the connection to Little Gilbert hurt, also heavy wake boating (not against speed boats but some are too big for this sized lake). Between boat and well groomed shorelines there is not enough natural shoreline left.	11/26/2015 4:12 PM
9	Lack of habitat I suspect.	11/25/2015 3:03 PM
10	Fewer blue gill	11/25/2015 9:24 AM
11	excessive fishing in spring when fish are spawning. Implement catch and release for all species until July 1.	11/24/2015 6:34 PM
12	lack of weed beds and other structures; lake levels are down so the amount of water around the perimeter that is shallow is less, over fishing	11/24/2015 11:52 AM
13	I'm not sure. When I was a child, my dad caught a Northern Pike that measured over 40 inches. That wasn't uncommon. I assume that all of those fish have been caught over the years, and the lake does not sustain that kind of fish now.	11/23/2015 5:56 PM
14	Habitat destruction, overdevelopment, too many large ski boats, 2,4-d herbicide pellets used to kill milfoil.	11/16/2015 6:46 PM
15	Too many undersized fish	11/16/2015 2:28 PM

Q13 When and how often do you typically fish Gilbert Lake?(Please answer a-e)

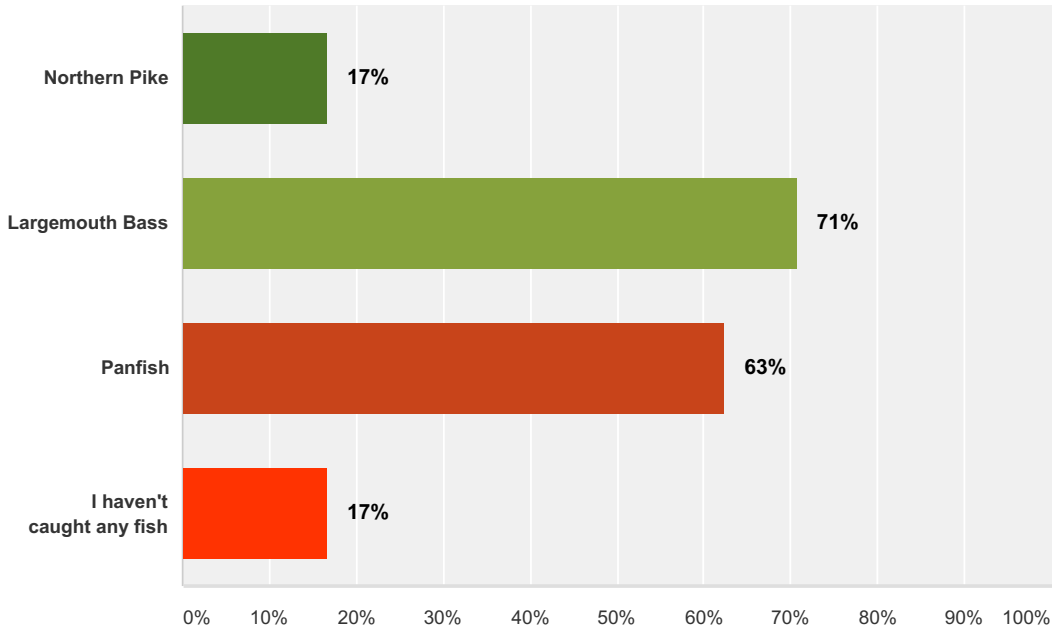
Answered: 24 Skipped: 1



	Winter	Spring	Summer	Fall	Total Respondents
a) Daily	**0%** 0	**0%** 0	**100%** 1	**0%** 0	1
b) Weekly	**0%** 0	**18%** 2	**91%** 10	**18%** 2	11
c) Once or twice a month	**11%** 1	**56%** 5	**56%** 5	**67%** 6	9
d) A few times a year	**56%** 5	**22%** 2	**44%** 4	**22%** 2	9
e) Not at all	**83%** 5	**83%** 5	**67%** 4	**67%** 4	6

Q14 What fish do you typically catch at Gilbert Lake? Check all that apply.

Answered: 24 Skipped: 1

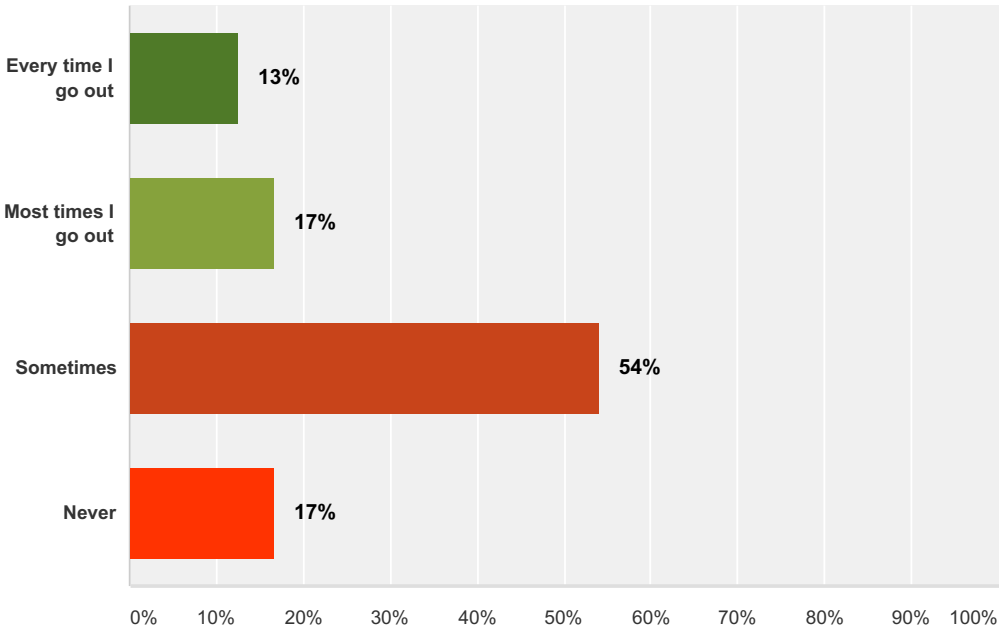


Answer Choices	Responses	
Northern Pike	17%	4
Largemouth Bass	71%	17
Panfish	63%	15
I haven't caught any fish	17%	4
Total Respondents: 24		

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

Q15 In general, how often do you catch fish on Gilbert Lake?

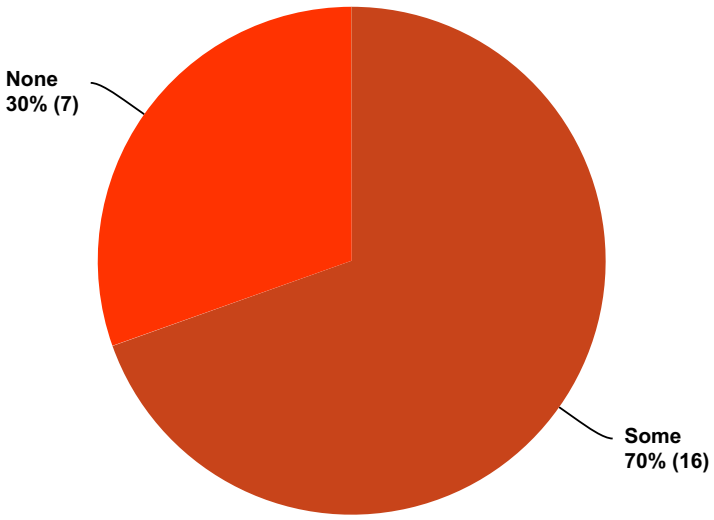
Answered: 24 Skipped: 1



Answer Choices	Responses	
Every time I go out	13%	3
Most times I go out	17%	4
Sometimes	54%	13
Never	17%	4
Total Respondents: 24		

Q16 In general, how many of the fish you catch are big enough to keep?

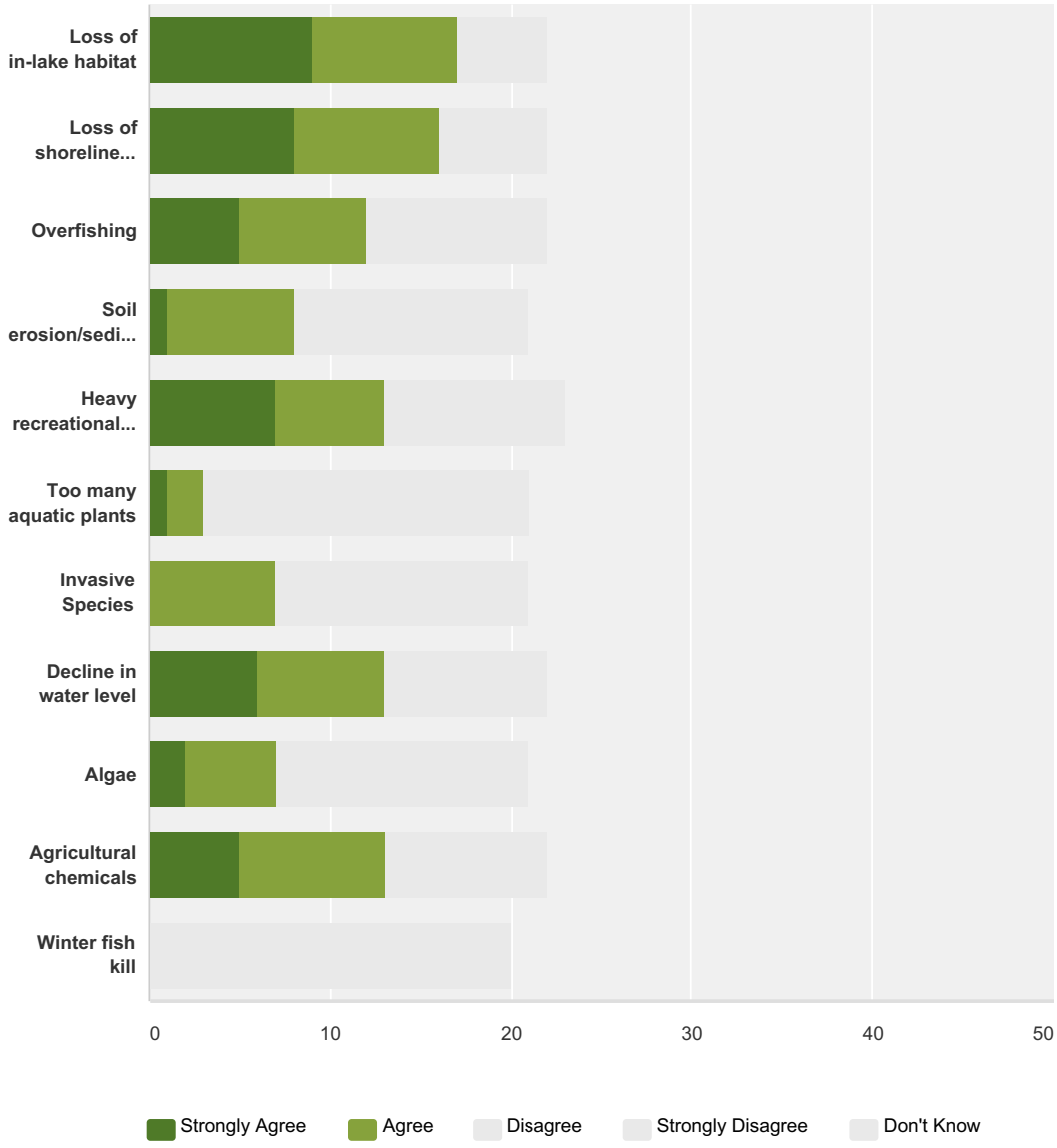
Answered: 23 Skipped: 2



Answer Choices	Responses	
All	0%	0
Most	0%	0
Some	70%	16
None	30%	7
Total		23

Q17 What do you believe is the greatest threat to the fishery in Gilbert Lake in the next 10 years?

Answered: 23 Skipped: 2



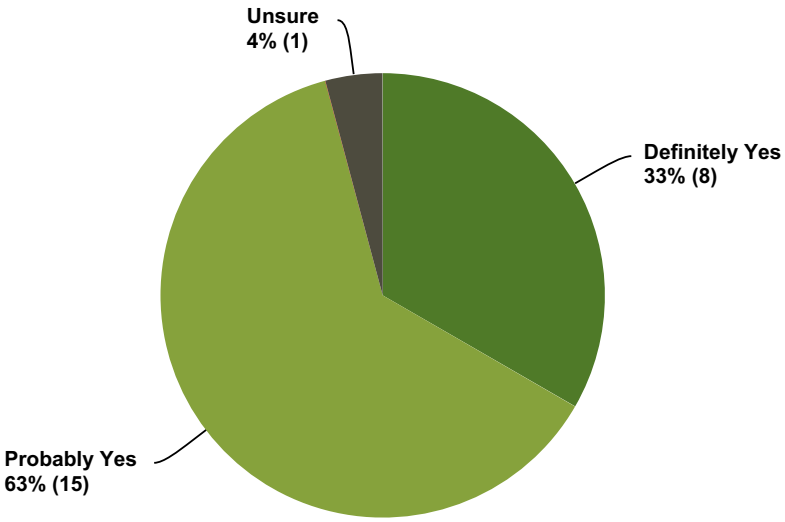
	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know	Total Respondents
Loss of in-lake habitat	**41%** 9	**36%** 8	**5%** 1	**5%** 1	**14%** 3	22
Loss of shoreline habitat	**36%** 8	**36%** 8	**9%** 2	**9%** 2	**9%** 2	22
Overfishing	**23%** 5	**32%** 7	**5%** 1	**5%** 1	**36%** 8	22
Soil erosion/sedimentation	**5%** 1	**33%** 7	**19%** 4	**10%** 2	**33%** 7	21

Heavy recreational use	**30%** 7	**26%** 6	**22%** 5	**9%** 2	**13%** 3	23
Too many aquatic plants	**5%** 1	**10%** 2	**33%** 7	**29%** 6	**24%** 5	21
Invasive Species	**0%** 0	**33%** 7	**14%** 3	**19%** 4	**33%** 7	21
Decline in water level	**27%** 6	**32%** 7	**14%** 3	**9%** 2	**18%** 4	22
Algae	**10%** 2	**24%** 5	**24%** 5	**10%** 2	**33%** 7	21
Agricultural chemicals	**23%** 5	**36%** 8	**5%** 1	**14%** 3	**23%** 5	22
Winter fish kill	**0%** 0	**0%** 0	**10%** 2	**30%** 6	**60%** 12	20

#	Other (please specify)	Date
1	Not loss of habitat, lack of sufficient habitat	11/29/2015 8:55 AM
2	Stocking with too many predators and not enough "food fish"	11/25/2015 4:46 PM
3	I feel the limiting factor in increasing the size and number of fish in Gilbert Lake is the lake of natural vegetation and / or man-made cover and the lack of diversity in bottom content - 90% plus is simply sand. Also the heavy boating pressure on the weekends stirs up sediment throughout the lake which settles onto the leaves of natural vegetation which limits the plants ability to photosythesize.	11/24/2015 12:26 PM

Q18 Do you believe fish from Gilbert Lake are safe to eat?

Answered: 24 Skipped: 1



Answer Choices	Responses	
Definitely Yes	33%	8
Probably Yes	63%	15
Probably No	0%	0
Definitely No	0%	0
Unsure	4%	1
Total		24

Q19 Do you have any additional comments regarding the fishery in Gilbert Lake?

Answered: 7 Skipped: 18

#	Responses	Date
1	continued efforts to stock walleye	11/29/2015 10:39 AM
2	I have good fishing by my dock. I also have a lot of off lake fisherman fishing off my pier and I also have one of the larger Milfoil colonies on the lake. If we are going to improve fishing we need to also deal with the milfoil problem and make sure that boars entering the lake are milfoil free.	11/29/2015 10:15 AM
3	Address support morally question	11/25/2015 4:46 PM
4	No	11/25/2015 3:03 PM
5	As everyone knows Gilbert Lake has a large population of small, slow growing largemouth bass. Due to the lakes low nutrient base, cooler water, pelagic forage and limited natural vegetation, I would think smallmouth bass would be more suited to Gilbert Lakes environment and as a result would grow faster and provide better recreational opportunities than largemouth bass.	11/24/2015 12:26 PM
6	I would contribute more money to a stocking program or a fund to plant more native aquatic plants.	11/24/2015 11:52 AM
7	I've noticed a decline in the bluegill population, also turtles, frogs and crayfish.	11/16/2015 6:46 PM