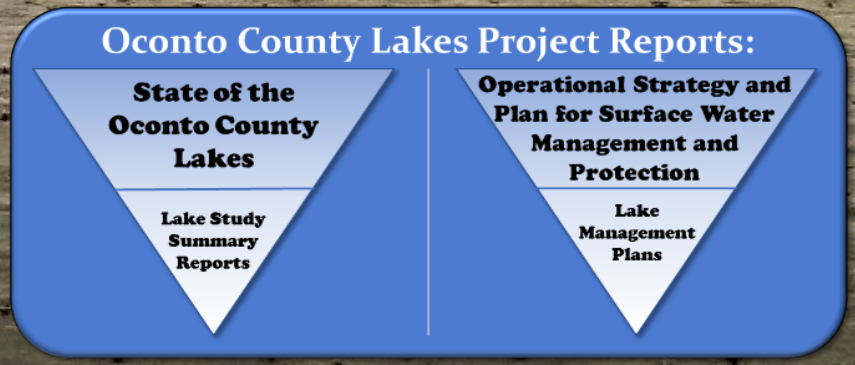
Oconto County Lakes Project

ROST LAKE MANAGEMENT PLAN

2018



VISION

Rost Lake will remain clean and clear; a place where families and friends gather to enjoy the outdoors, watersports and nature.

Rost Lake Management Plan

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

This plan was prepared by the Center for Watershed Science and Education at University of Wisconsin – Stevens Point.

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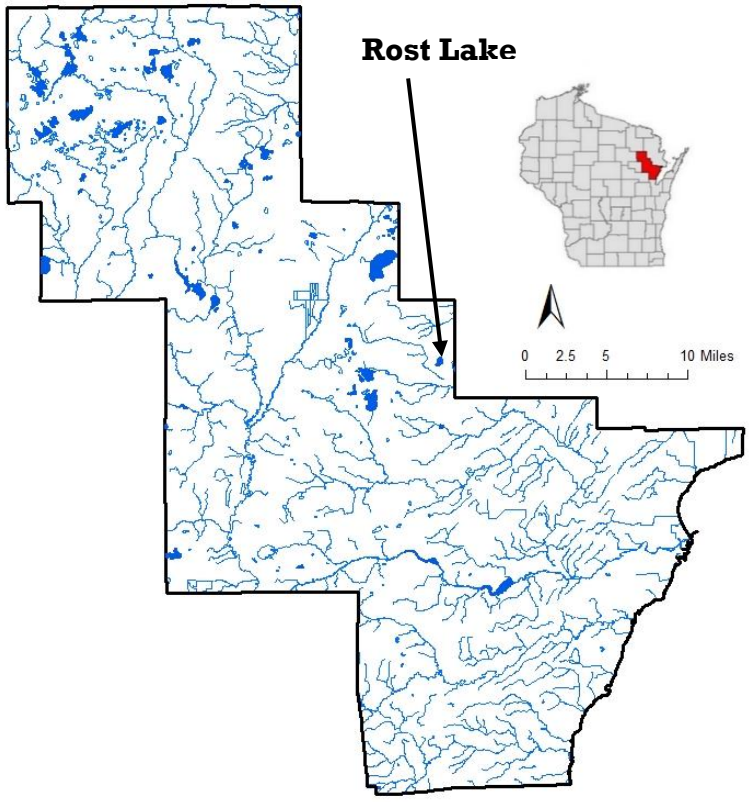
Resource	Acronym or Truncated Name
Citizen Lake Monitoring Network	CLMN
Clean Boats Clean Waters	CBCW
Lumberjack Resource Conservation & Development	LRCD
Oconto County Land Conservation Dept.	OC LCD
Oconto County Board of Supervisors	OC Board
Oconto County Lakes and Waterways Association	OCLAWA
Town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

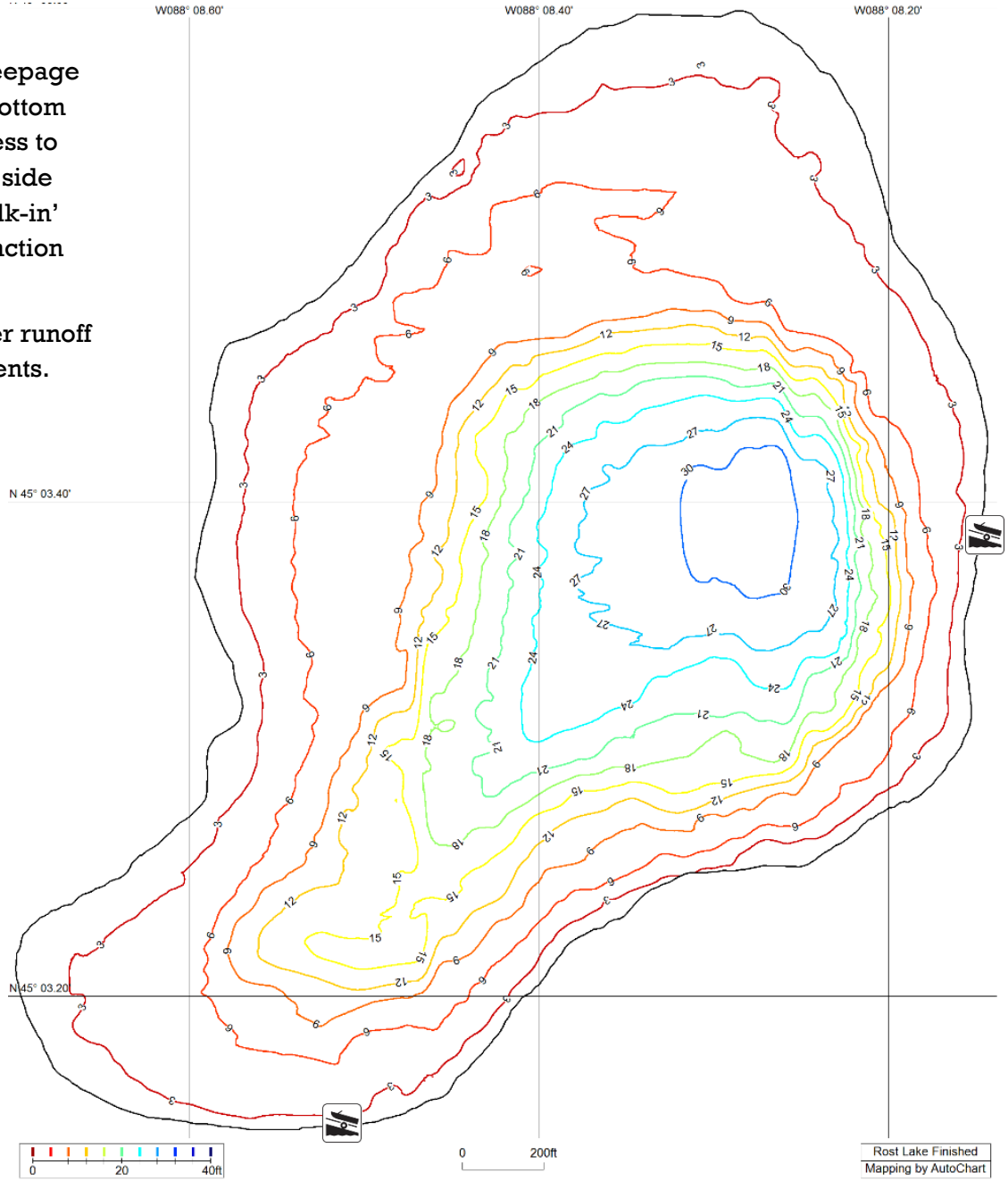
Background

ABOUT ROST LAKE

Rost Lake is located in the Town of Brazeau. This 99-acre seepage lake has a maximum depth of 29 feet with clear water. Its bottom sediments are primarily muck and sand. Visitors have access to the lake from one public boat landing located on the south side which is owned by the Town of Brazeau. A 'carry-in' or 'walk-in' only public access is also located on the east side at the junction of East Rost Lake Road.

Most water enters Rost Lake via groundwater. Surface water runoff and direct precipitation also contribute water to lesser extents.





What Is A Lake Management Plan?

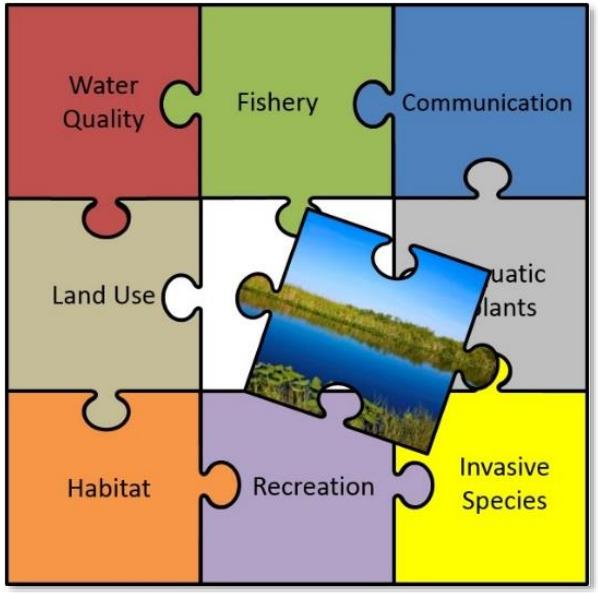
LAKE MANAGEMENT PLANS (LMP)

What is an LMP?

A management plan is a living document that changes over time to meet the current needs, challenges and desires of the lake and its community. Although each lake is different, the WDNR requires that each comprehensive lake management plan address a specific list of topics affecting the character of the lake, whether each topic has been identified as a priority, or as simply something to consider. In this way, every LMP considers the many aspects associated with lakes.

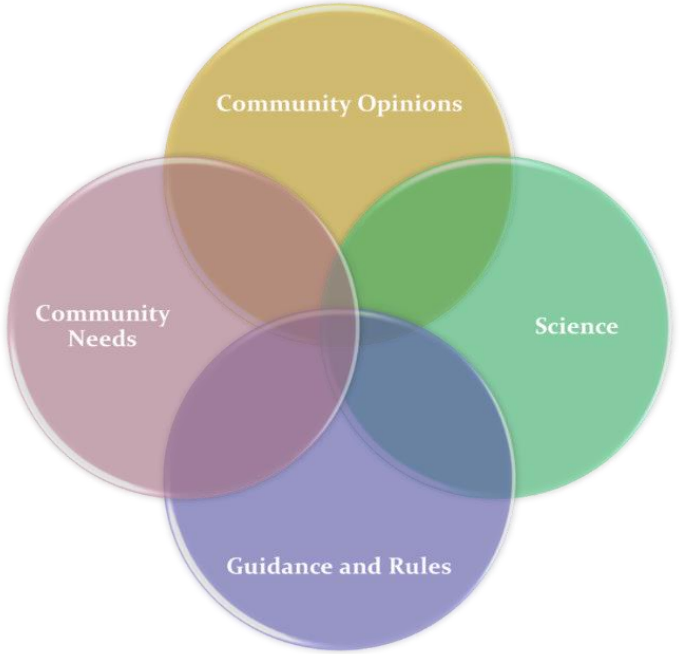
What is the purpose of this LMP?

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



Implementing the content of this LMP will enable citizens and others to work together to achieve the vision for Rost Lake now and in the years to come. It is a dynamic document that identifies goals and action items for the purpose of maintaining, protecting and/or creating desired conditions in the lake and identifies steps to correct past problems, improve on current conditions, and provide guidance for future boards, lake users, and technical experts.

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



How Was This Plan Created?

ABOUT THIS PLAN

One of the first steps in creating this plan was to gather and compile data about the lake and its ecosystem to understand past and current conditions. This was done in 2016-2017 alongside 8 other lakes as part of the Oconto County Lakes Project. The project was initiated by citizens in the Oconto County Lakes and Waterways Association who encouraged Oconto County to prioritize lake interests. This effort led to funding from the WDNR Lake Protection Grant Program. There was insufficient data available for many of the lakes to evaluate current water quality, aquatic plant communities, invasive species, and shorelands. The data that were available had been collected at differing frequencies or periods of time, making it difficult to compare lake conditions. Professionals and students from UW-Stevens Point, Oconto County Land Conservation Department, UW Extension, Oconto County citizens and WDNR staff collected the data for use in the development of lake management plans. Sources of information used in the planning process are listed at the end of this document.

Reports from the Rost Lake Study and the materials associated with the planning process and reports can be found on the Oconto County website: **www.co.oconto.wi.us** and navigating to Departments>Land Conservation>County Waterways>County-wide Lake Study.

THE PLANNING PROCESS

Who created the strategic plan?

This plan is the result of a stakeholder-driven effort which involved many partners combining insight, knowledge, and expertise throughout the process. Members of the lake association, area residents, lake users, and representatives of local municipalities gathered at a public meeting held on August 24, 2018 at the Brazeau Town Hall to learn from one another and make decisions about the fishery, water quality, habitat, and land management in the Rost Lake watershed. Technical assistance during the planning process was provided by the Oconto County Conservationist, and staff from WDNR, UWEX, and the CWSE.

How were various opinions incorporated?

Participation in the planning process was open to everyone and was encouraged by letters mailed to Rost Lake waterfront property owners and by press releases in local newspapers. In addition, those individuals and organizations who provided their information were provided with emails about upcoming meetings, which could be forwarded to additional contact lists. To involve and collect input from as many people as possible, including those who might not be able to attend the public meetings, an online survey was conducted. Property owners and interested lake users were notified about the survey and how to access it via direct mailings to waterfront property owners and associated lake organizations and press releases in local newspapers. The surveys could be filled out anonymously online, or paper copies were available upon request. Survey questions and responses were shared at the planning sessions and can be found in the Appendix.

How Is This Management Plan Used?

Who will use this plan?

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

Who can help implement this plan?

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

Management Plan Structure

GOALS FOR ROST LAKE

The foundation of any effective strategic plan is clear identification of goals and the steps needed to achieve the goals. The selected goals should achieve the overall vision for Rost Lake. This plan also identifies available resources within each objective.

The topics comprise the chapters in this plan and have been grouped as follows:

In-Lake Habitat and a Healthy Lake

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

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

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

Landscapes and the Lake

Water Quality—water chemistry, clarity, contaminants, lake levels

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

Watershed—land use, management practices, conservation programs

People and the Lake

Recreation—access, sharing the lake, informing lake users, rules

Communication and Organization—maintaining connections for partnerships, implementation, community involvement

Updates & Revisions—plan for maintaining a living document

Rost Lake Management Plan Goals

Goals for Rost Lake

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

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

List of Goals

Goal 1	**Rost Lake will maintain a healthy, self-sustaining fishery.**
Goal 2	**Maintain a healthy and diverse aquatic plant community.**
Goal 3	**Sensitive areas that provide essential habitat and/or water quality benefits in Rost Lake will be protected.**
Goal 4	**Watershed and shoreland property owners will understand their connection to the lake and will know about/utilize resources for healthy land management practices.**
Goal 5	**Rost Lake will have healthy shorelands that protect water quality and provide essential habitat.**
Goal 6	**Maintain or improve water quality in Rost Lake.**
Goal 7	**Lake users will be informed about and respectful of Rost Lake.**
Goal 8	**Increase participation in lake stewardship.**
Goal 9	**Review plan annually and update as needed.**

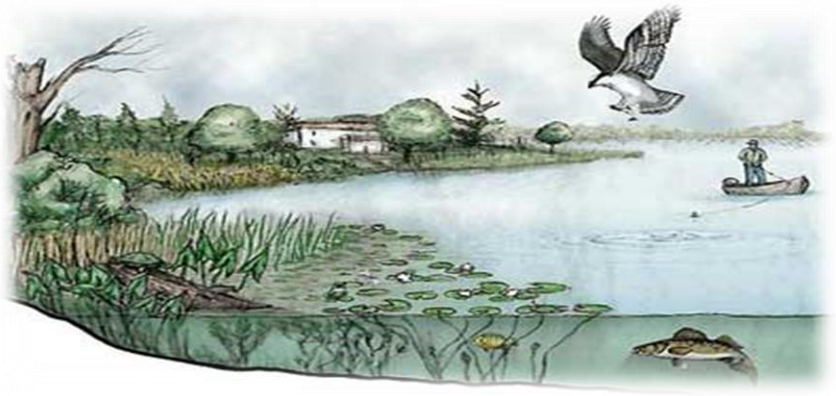
Fish Community

IN-LAKE HABITAT AND A HEALTHY LAKE

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

What is lake-habitat?

Healthy lake-habitat in Rost Lake includes native aquatic plants and shoreland vegetation, as well as tree branches/limbs above and below the water. Habitat exists within the lake, along the shoreland, and even extends into its watershed for some wildlife species. Native vegetation (including wetlands) along the shoreline and connected to the lake provides shelter and food for waterfowl, small mammals, turtles, frogs, and fish. Native plants in and near the lake can also improve water quality and balance water quantity. Aquatic plants infuse oxygen into the water, which is essential for the fish community. Some lake visitors such as birds, frogs, and turtles use limbs from trees that are sticking out of the water for perches or to warm themselves in the sun. The types and abundance of plants and animals that comprise the lake



community also vary based on the water quality, and the health and characteristics of the shoreland and watershed.

What People Value about Rost Lake

Health of the lake
Changing of the seasons, migrating birds, and the neighbors
Clean water
Size, lake clarity, proximity to home
Clean water, quiet, nature/wildlife, people.

Habitat provides shelter and food for fish and wildlife.

The Fish Community

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

What can affect the fishery?

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

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

Fish Community

Can the fishery be improved?

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.

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

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

Stocking Date	Species	# Stocked	Avg. Length (in)
1974	Northern pike	400	15
1975	Northern pike	400	-
1993	Walleye	500	8
2017	Yellow Perch	1000	6
2017	Black Crappie	1000	6
2018	Yellow Perch	1000	6
2018	Black Crappie	1000	6

Rost Lake 2016 Fish Survey Highlights

- ✓ The most recent previous survey was conducted in 1998.
- ✓ Nine species were observed. The five most abundant species were bluegill (40%), northern pike (21%), yellow bullhead (12%), largemouth bass (11%), and black crappie (10%).
- ✓ Bluegill averaged 7.3” with good size structure and above average growth rate.
- ✓ Black crappie averaged 8.5” with a slower than average growth rate.
- ✓ Northern pike averaged 15.3” with poor size structure and below average growth rates.
- ✓ Largemouth bass averaged 10.8” with poor size structure and below average growth rates (8 years to reach 14”).
- ✓ Continuing to manage for panfish is recommended.
- ✓ Changing regulations to 5 bag/no minimum size for largemouth bass may help to reduce competition and increase growth rates for bass.
- ✓ The next fish survey is scheduled for 2026.

Fish Community

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

Goal 1. Rost Lake will maintain a healthy, self-sustaining fishery.

Objective 1.1 Enhance fish habitat in Rost Lake. 40 fish stick clusters will be installed over the next 5 years (currently Rost Lake has 4 logs/mile, 250 logs/mile is recommended).

Actions	Lead person/group	Resources	Timeline
Identify willing property owners for fish stick installations (east side of lake is best suited). Neighboring property owners can place them on lot lines away from docks/swimming areas. Also identify properties seeking tree removal (>35 feet from water's edge) as a source of material or they can be purchased from local foresters and reimbursed by grants.	RLAA	WDNR-Tammie Paoli Healthy Lakes Program Grants	2019-2024
Educate property owners about healthy shoreland habitat and its importance to having a healthy fishery. See **Shorelands** section.	RLAA	WDNR-Tammie Paoli	Ongoing

Objective 1.2 Continue active management of this quality bluegill fishery.

Actions	Lead person/group	Resources	Timeline
Explore reducing the size limit of largemouth bass.	RLAA	WDNR-Tammie Paoli Conservation Congress	Ongoing

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

Aquatic Plant Community

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

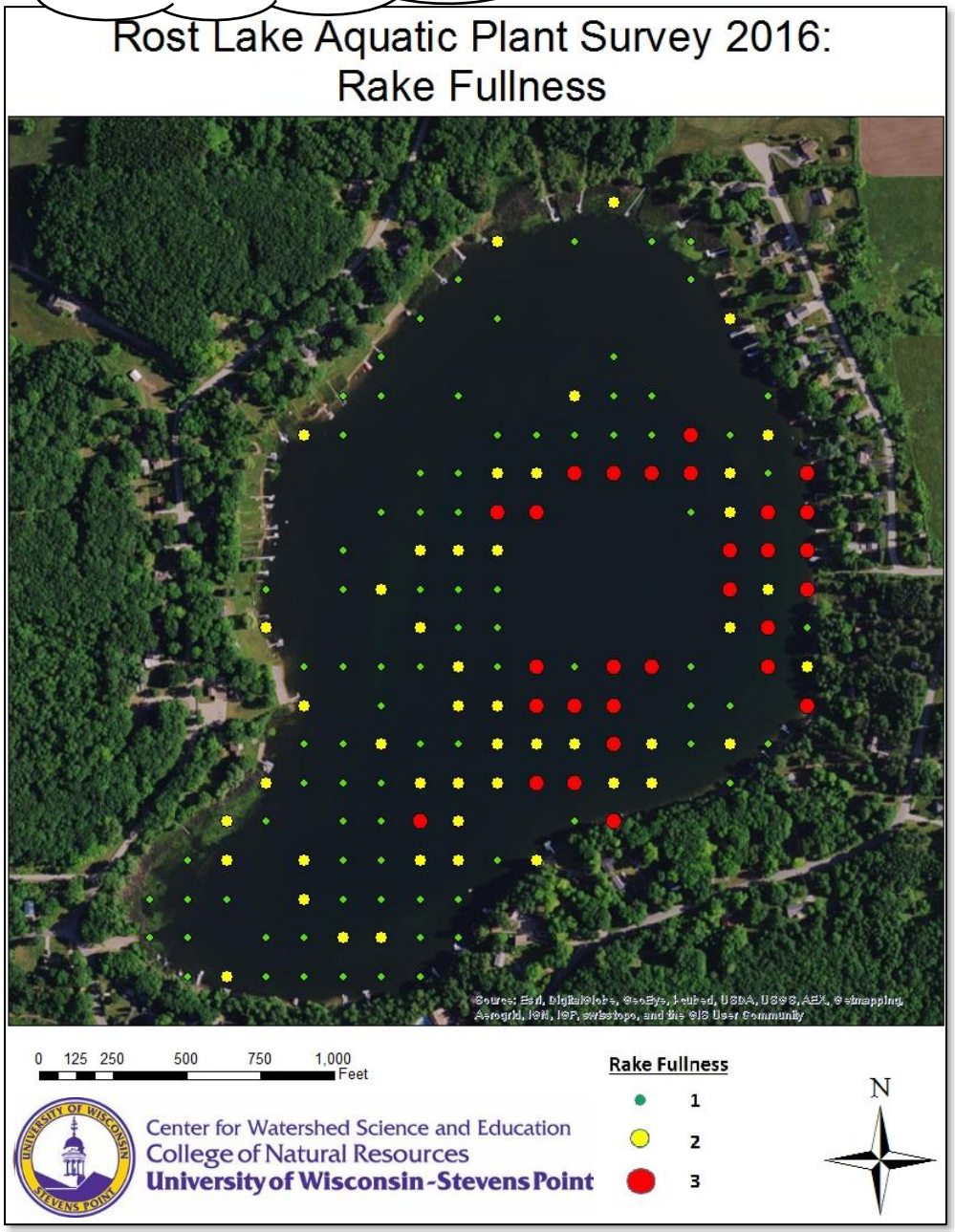
Aquatic Plants

Aquatic plants provide the forested landscape within Rost Lake. They provide food and habitat for spawning, breeding, and survival for a wide range of inhabitants and lake visitors including fish, waterfowl, turtles, amphibians, as well as invertebrates and other animals. They improve water quality by releasing oxygen into the water and utilizing nutrients that would otherwise be used by algae. A healthy lake typically has a variety of aquatic plant species, which makes the aquatic plant community more resilient and can help to prevent the establishment of non-native aquatic species. Additionally, they stabilize the bottom sediment and help filter out the suspended sediment from the water column.

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

Rost Lake 2016 Aquatic Plant Survey Highlights

- ✓ 65% (161 of 246) of the sites visited had vegetative growth.
- ✓ Greatest depth aquatic plants were found was 28 feet.
- ✓ 26 species of aquatic plants were identified. This is above the North Central Hardwood average of 16.2.
- ✓ The three most dominate species were chara (49%), slender naiad (36%), and wild celery (18%).
- ✓ The Floristic Quality Index (FQI) was 25. The North Central Hardwood average is 23.3.



Aquatic Plant Community

Chara is a type of macro-algae that grows attached to muddy lake bottoms and has a musky odor. Muskgrass, as it is known, filters the lake water, helps prevent the establishment of invasive species, and provides excellent habitat for small fish and other organisms.

Slender naiad has glossy, finely toothed leaves appearing as whorls near the end of stems. Also known as the water-nymph, the whole plant is eaten by waterfowl and provides shelter for small fish and insects.

Wild celery has long, thin, ribbon-like leaves that are commonly up to four feet long. The seeds, roots and leaves are consumed by ducks and other waterfowl.

Aquatic Invasive Species (AIS)

Aquatic invasive species are non-native aquatic plants and animals that are most often unintentionally introduced into lakes by lake users. This commonly occurs on trailers, boats, equipment, and from the release of bait. In some lakes, 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.

Aquatic Plant Management in Rost Lake

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

Management Options for Excessive Native Aquatic Plants

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

Hand-pulling. No permit required.

Lakefront property owners are allowed to manually remove aquatic plants from an area no more than 30 feet wide without a permit for swimming and boat access. Any denuded lakebed is prime real estate for invasive species, however, and close monitoring is necessary to ensure no populations are established.

Mechanical Harvesting. Permit required.

While harvesting, operators should take care (by raising and lowering the harvesting bar) to minimize the impact on habitat and to reduce sediment disturbance. Harvesting in depths less than 3 feet should be avoided, but may be done with care in accordance with WDNR guidance, keeping in mind sediment resuspension can lead to additional plant growth and algae blooms. A second pass should be made on harvested areas to remove plant fragments and floaters. **Areas with EWM should be avoided to prevent its fragmentation and spread** unless it is specified in the plan. In some lakes the EWM can't be targeted for control due to flow or location. This is when the harvester is recommended. It is another tool in the toolbox and works when used properly.

Mechanical Harvesting Plan for Navigation: Harvesting of dense plant beds that are not comprised of EWM/HWM may be conducted as needed to provide navigation. Paths from piers to open water may be cut to improve navigation and the fishery. Lanes should be no wider than 15 yards. To minimize disturbances to sediment and important fish habitat, harvesting should be avoided or conducted carefully in water depths less than 3 feet. A depth finder on the cutter end of the harvester can aid in evaluating water depths.

Skimming, target: dense floating plant material, filamentous algae. Permit required.

This mechanical removal method would be applied when targeting uprooted aquatic plants that have accumulated in parts of Rost Lake. Skimming of floating plant material can be conducted by mechanical or non-mechanical means in areas where sediment and emergent plants would not be disturbed by this activity.

The surface of the lake is skimmed to collect plant material for removal from the lake. When skimming with a harvester, aquatic plants are not cut.

Be part of the solution!

Practices designed to deter establishment of invasive species:

- ✓ Learn to identify invasive species and routinely look for them when on the lake.
- ✓ Do not remove native aquatic vegetation beyond what is necessary to access the lake. Any denuded areas should be monitored closely for invasive species.

Aquatic Plant Management Plan Review

A good aquatic plant management plan strategy should reduce the amount of management activity needed as time goes on. In Rost Lake, a series of successful strategies should lead to a balance between healthy aquatic habitat, water quality, and recreation with minimal annual management. To evaluate if management strategies are succeeding, updates to aquatic plant point-intercept surveys should be conducted at least every five years. If chemical treatments are pursued, more frequent (pre- and post-treatment) surveys are necessary. It is important to separate the herbicide applicator from the consultant to ensure an unbiased review of the treatment. Assistance in updating surveys can be provided by the WDNR Aquatic Plant Specialist and/or consultants.

Aquatic Plant Community

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

Objective 2.1 Ensure no AIS are introduced to Rost Lake and minimize disturbance to native aquatic plants.

Actions	**Lead person/group**	**Resources**	**Timeline**
Encourage/host training, post signage at boat landing, develop coasters or placemats for area businesses, provide brochures for rental properties, etc. on how to identify and properly remove invasive species, particularly EWM. The more people who know how to recognize EWM, the more eyes there are on the lake.	RLAA	WDNR-Brenda Nordin LRCD	Summer 2019
Educate lake users on importance of native aquatic plants for preventing AIS. Bring in speaker for annual meeting, mail literature to property owners, include information in a newsletter, etc.	RLAA	WDNR-Brenda Nordin UWEX-Lakes LRCD	Ongoing, Summer 2019
Participate in Clean Boats Clean Waters program. Identify volunteers or consider paying someone (this can be paid for with a WDNR grant) to staff the boat launch on busy days. Perhaps OCLWA can apply for the grant and distribute the hours over different landings throughout the county.	RLAA	CBCW OCLWA	Ongoing, in summer
If new AIS is suspected or observed, follow the guidance in **Appendix B.**	RLAA	WDNR-Brenda Nordin	As needed
Inform property owners of the importance of native aquatic vegetation to impede the establishment of AIS, provide food and habitat for wildlife, and protect the shoreline via educational materials provided at the annual meeting, direct mailings and in a newsletter.	RLAA	WNDR-Brenda Nordin	Ongoing
Encourage landowners to limit plant removal to invasive species or skimming off those that have become unrooted and free-floating. If plants severely impede recreation, consider hand-pulling small areas around private docks (within WDNR guidelines). Cleared lakebed is ideal habitat for AIS to become established, so be vigilant about watching for AIS in these areas.	RLAA	WDNR-Brenda Nordin	Ongoing
Regularly monitor aquatic plant community to detect any changes in lake conditions and ensure stable populations. A point-intercept survey is recommended.	RLAA	WDNR-Brenda Nordin Consultants	Every 5-10 years.
Reduce nutrient and sediment loading to lake by improving shoreland buffers (see **Shorelands** section) and implementing BMPs in the watershed (see **Watershed** section).	RLAA	WDNR-Brenda Nordin OCLCD	Ongoing

Critical Habitat

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

Critical Habitat

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

Although Rost Lake does not have an official critical habitat area designation, there are areas within Rost Lake that are important for fish and wildlife. Natural, minimally-impacted areas with woody habitat such as logs, branches, and stumps; areas with emergent and other forms of aquatic vegetation; areas with overhanging vegetation; and wetlands are elements of good quality habitat. Identifying other important areas around the lake that are important habitat and informing lake users of their value can help raise awareness for the protection of these areas.

Goal 3. Sensitive areas that provide essential habitat and/or water quality benefits in Rost Lake will be protected.

Objective 3.1 Identify and inform others of quality habitat areas in and around Rost Lake.

Actions	Lead person/group	Resources	Timeline
Request a Critical Habitat Designation from WDNR.	RLAA	WDNR-Brenda Nordin	2019
If critical habitat is designated on Rost Lake, communicate to property owners, visitors, and Town Board as to why these areas are important.	RLAA		TBD
Support landowners (particularly those with large stretches of natural shoreline such as the southeast side) interested in preserving natural and sensitive areas around the lake.	RLAA	WDNR UWEX Northeast Wisconsin Land Trust	As available.

Watershed

LANDSCAPES AND THE LAKE

Rost Lake Watershed

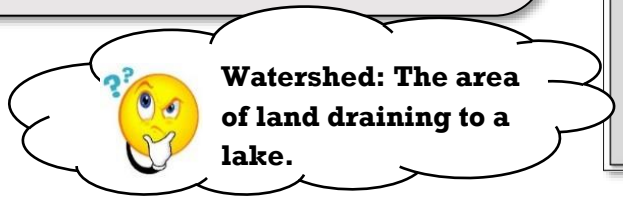
A Lake is a Reflection of its Watershed…

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

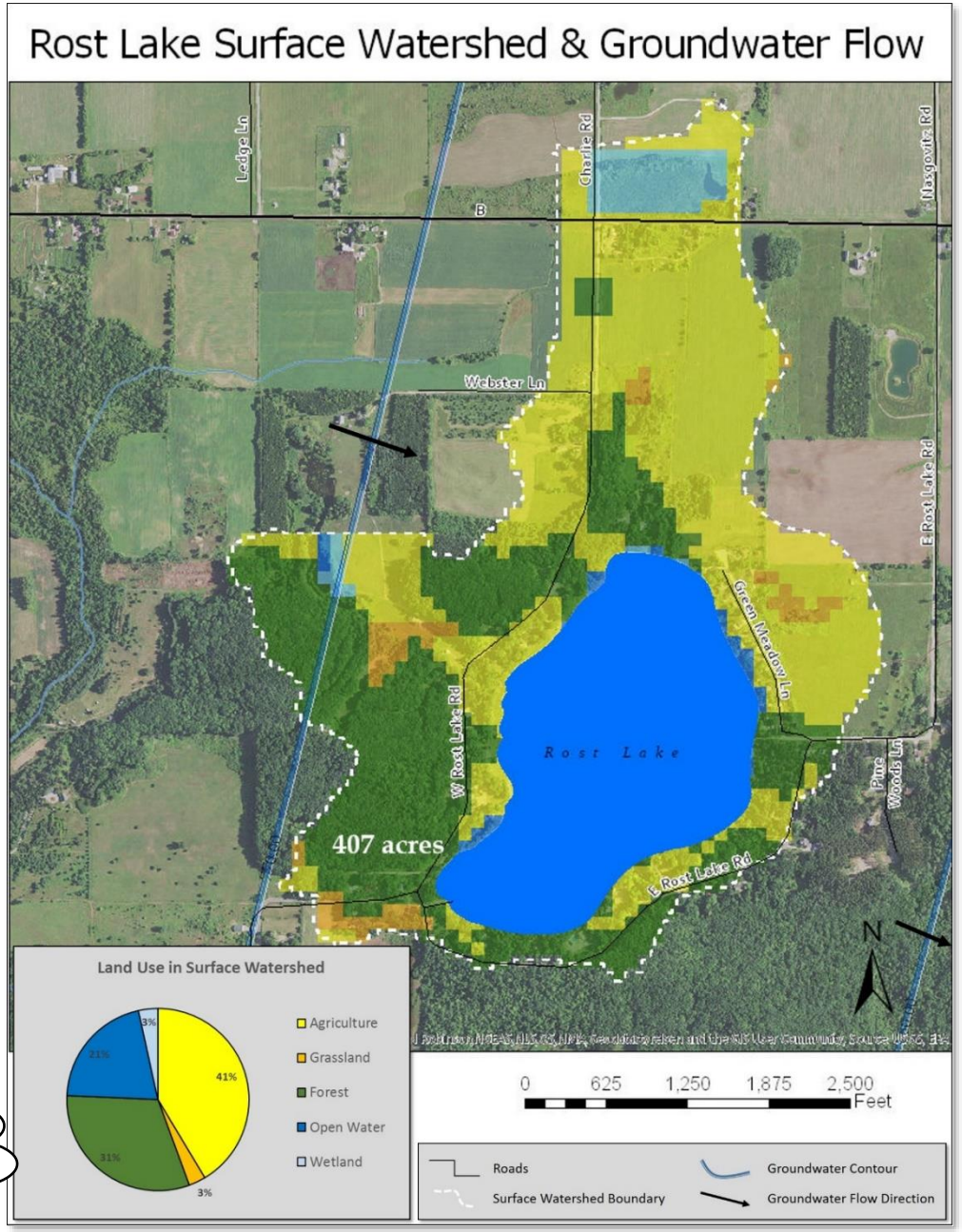
Less runoff is desirable because it allows more water to recharge the groundwater, which feeds the lake year-round - even during dry periods or when the lake is covered with ice. The capacity of the landscape to shed or hold water and contribute or filter particles determines the amount of erosion that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

Rost Lake's Watershed

The Rost Lake watershed is 407 acres. Primary land use is agriculture. The lake's shoreland is surrounded primarily by developed residential lots. In general, the land closest to the lake has the greatest immediate impact on water quality.



Watershed: The area of land draining to a lake.



Watershed

Why does land matter?

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

Soil and Erosion

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

Development

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

What can be done?

Land management practices can be put into place that mimic some of the natural processes, and reduction or elimination of nutrients added to the landscape will help prevent the nutrients from reaching the water. In general, the land nearest the lake has the greatest impact on the lake water quality and habitat.

Be Part of the Solution!

Practices designed to reduce runoff include:

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

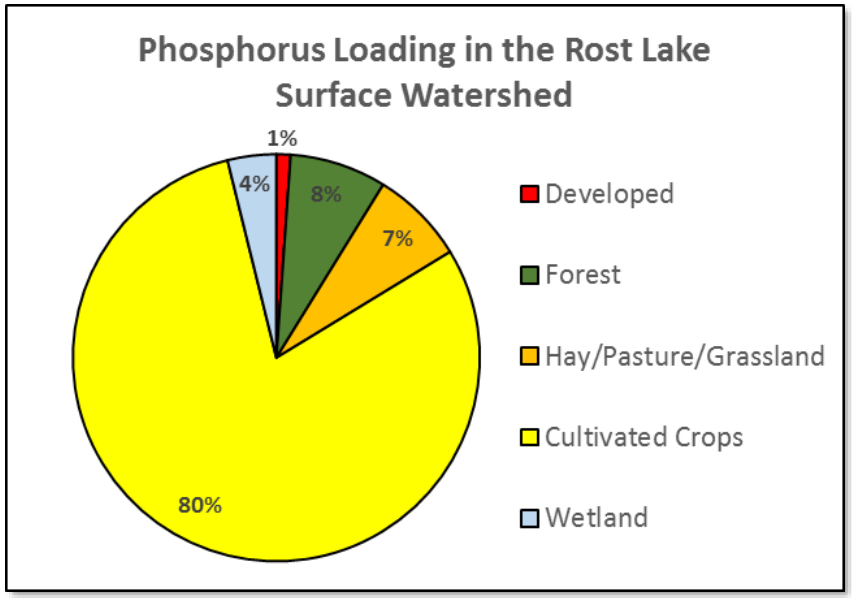
Practices used to help reduce nutrients from moving across the landscape towards the lake include:

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

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

Phosphorus Modeling

Estimates of phosphorus from the landscape can help to understand the phosphorus sources to Rost 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, agriculture had the greatest percentage of phosphorus contributions from the watershed. The phosphorus contributions by land use category, called phosphorus export coefficients, have been obtained from studies throughout Wisconsin (Panuska and Lillie, 1995).



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

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

Actions	Lead person/group	Resources	Timeline
Encourage the County to support and follow-up with water quality-based best management practices (BMPs) within the watershed.	RLAA	OCLCD County Board Supervisors	Ongoing
Support landowners (consider financial support) in the watershed 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).	RLAA	WDNR Lake Protection Grants Knowles-Nelson Stewardship Fund Northeast WI Land Trust	As needed
Encourage any new developments to manage runoff on site and consider ways to minimize impacts from septic systems.	RLAA	TOB Developers/Builders	As needed
Protect wetlands to maintain the water budget of Rost Lake. Any altered wetlands should be mitigated within the lake's watershed.	RLAA	WDNR	As needed
Encourage design of road and construction projects that will minimize impacts to the lakes.	RLAA	TOB OC Highway Department/WDOT	As needed

Shorelands

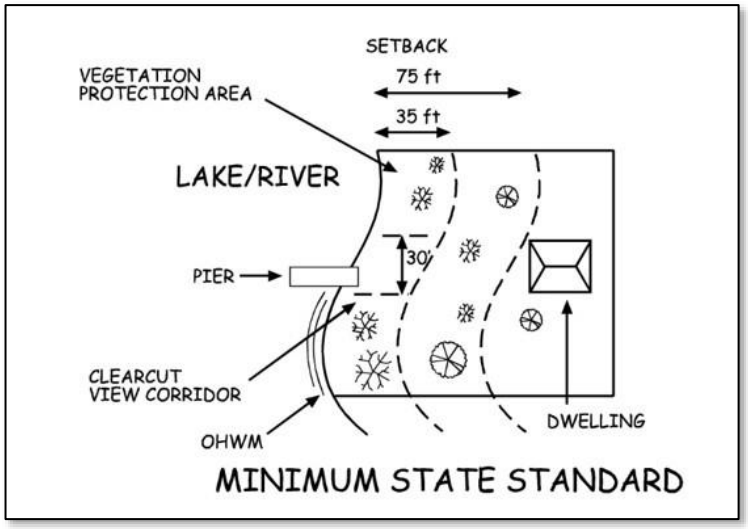
90% of lake life spends all or part of their life in the near shore zone.

Shorelands

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

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

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



Be Part of the Solution!

Follow Healthy Shoreland Practices

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

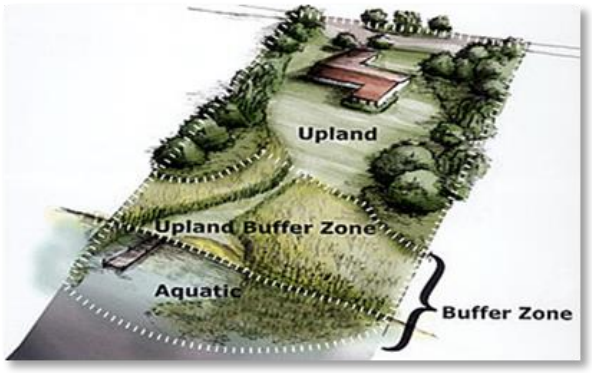
State Shoreland Zoning Ordinance

NR 115 Wisc. Adm. Code for Unincorporated Municipalities

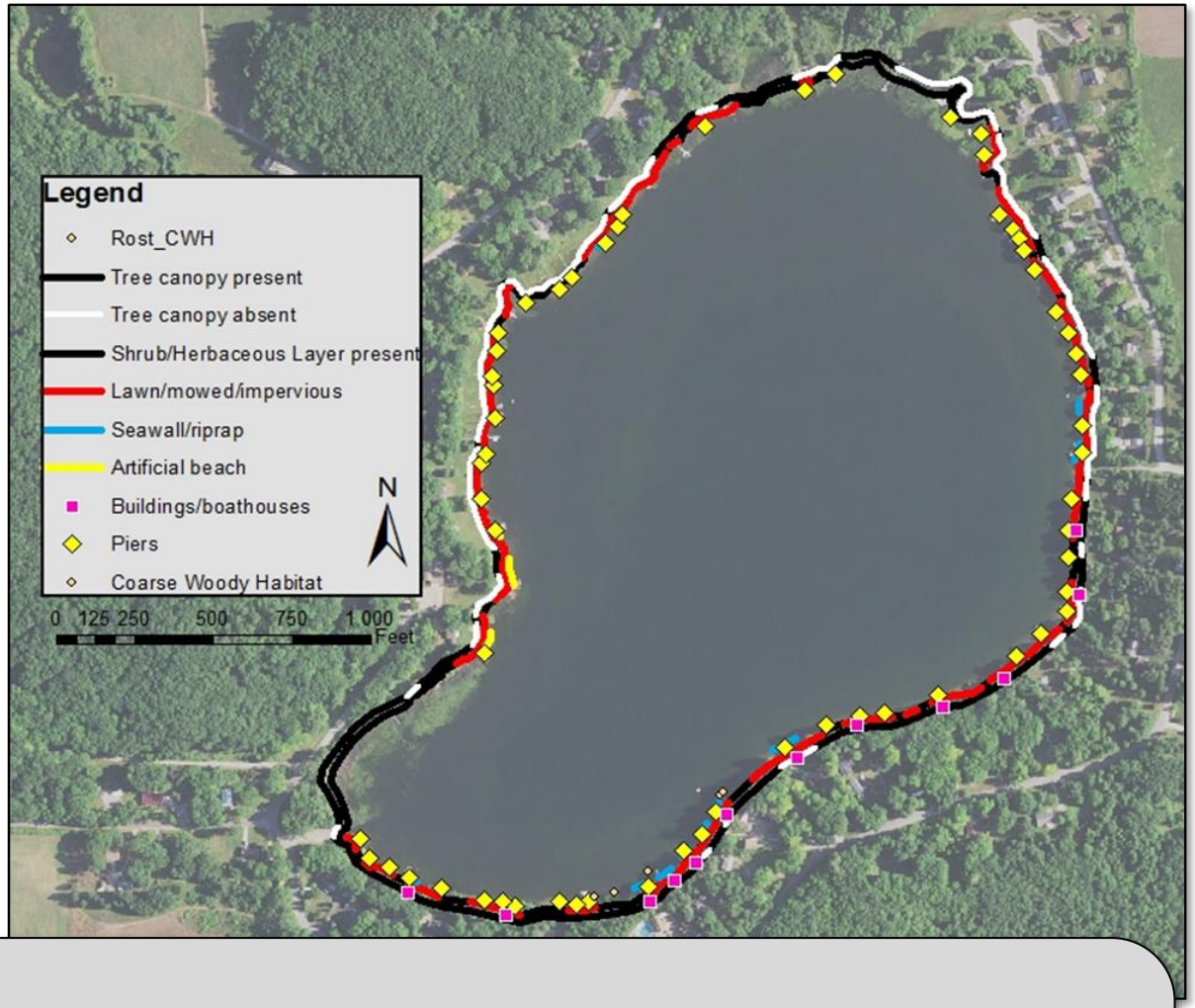
No vegetation within 35 feet of the lake's edge shall be removed except for:

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

Shorelands



Modifications, Structures, Erosion	Measured Occurrence
Artificial Beach	230 ft
Rip Rap	245 ft
Sea Wall	145 ft
Impervious Surface	43 ft
Mowed Lawn	4,011 ft
Erosion	35 ft
Nonconforming Buildings	13
Piers	62
Coarse Woody Habitat	4 logs/mile



Rost Lake's Shorelands

To better understand the health of Rost Lake, shorelands were evaluated. The survey inventoried shoreland vegetation, erosion, riprap, barren ground, seawalls, structures, and docks. The majority of the 1.5 miles of shoreline is developed as homes and seasonal cottages. A total of 62 piers were counted during the survey (1/125 ft).

- With 94 lakefront lots, 2,820 feet (37%) of disturbed shoreland is permitted. Based on the 2017 shoreland inventory, 65% (4,993 feet) of Rost Lake's shoreland was disturbed.
- As a whole, Rost Lake had poorer shoreland health compared to other lakes in the study. Some stretches of Rost Lake's shorelands are in good shape, but many portions have challenges that should be addressed.

Shorelands

Rost Lake 2017 Shoreland Survey Results			
Total lakefront footage	**# Riparian lots**	**Total allowable (NR115) disturbed shoreland**	**Measured disturbed shoreland**
7,723 feet	94	2,820 feet or 37%	4,993 feet or 65%

Goal 5. Rost Lake will have healthy shorelands that protect water quality and provide essential habitat.

Objective 5.1 Shoreland property owners will be knowledgeable about and make good decisions regarding their shoreland practices that result in good water quality and habitat. Over the next 5 years, approximately 2,000 feet of disturbed shoreland will be restored (approximately 26 lakeshore properties will need restoration to meet 37% goal above).

Actions	Lead person/group	Resources	Timeline
Provide informational materials to all shoreland property owners about basic lake stewardship including healthy shorelands and their composition (wildflowers, shrubs, trees, etc.). Include information on cost share programs. These materials can be paid for with WDNR grants.	RLAA	OCLWA UWEX Lakes WDNR Healthy Lakes grants	Ongoing
Encourage and support shoreland owners interested in shoreland restoration (including rain gardens, diversion practices, infiltration practices, native plantings, no mow, or fish sticks). Include information on how and why to create healthy shorelands in a welcome packet to new property owners.	RLAA	UWEX Lakes OCLCD WDNR Healthy Lakes Grants	Ongoing
Encourage those interested in shoreland restorations to contact the OCLCD for available resources.	RLAA	OCLCD WDNR Healthy Lakes Grants	Ongoing
Host a speaker/demonstration: "How to restore your shoreline."	RLAA	UWEX Lakes-Pat Goggin	2019
Consider restoring and showcasing a "demonstration site" with a sign at the water's edge about shoreland restoration (perhaps at the boat launch or on one of the commercial properties).	RLAA	OCLCD UWEX Lakes-Pat Goggin WDNR Healthy Lakes Grants	2019
Explore purchase of undeveloped shoreland property.	RLAA	UWEX Lakes Knowles-Nelson Stewardship Fund	As available
Work with town (public launch) and property owner (private launch) to design and install a water diversion structure at the boat ramp to keep runoff from flowing directly into lake.	RLAA	TOB WDNR	2019

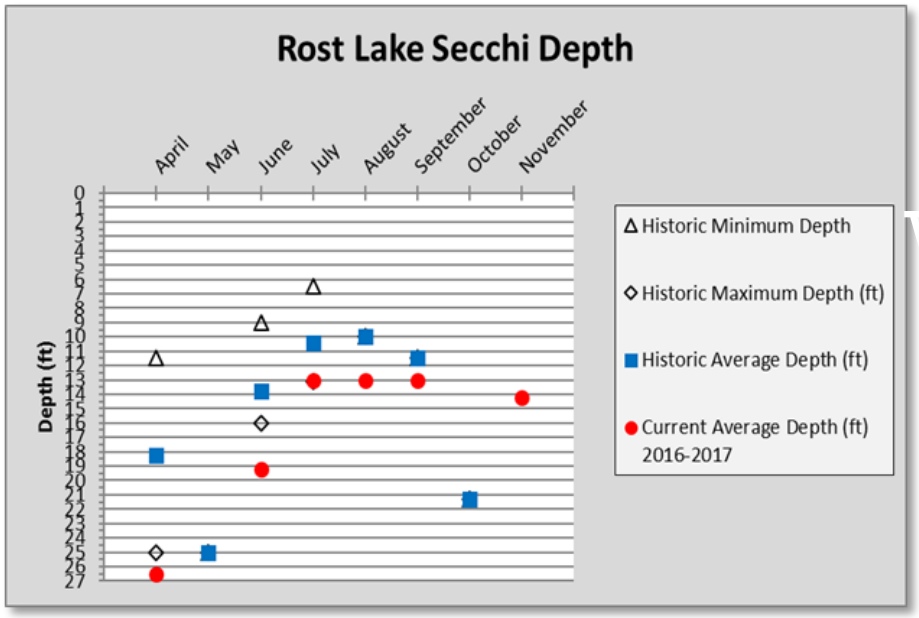
Water Quality

Water Quality

A variety of water chemistry measurements were used to characterize the water quality in Rost Lake. Water quality was assessed during the 2016-2017 lake study and involved a number of measures including temperature, dissolved oxygen, water chemistry, and nutrients (phosphorus and nitrogen). Nutrients are important measures of water quality in lakes because they contribute to algae and aquatic plant growth. Each of these interrelated measures plays a part in the lake's overall water quality. In addition, water quality data collected in past years was also reviewed to determine trends in Rost Lake's water quality.

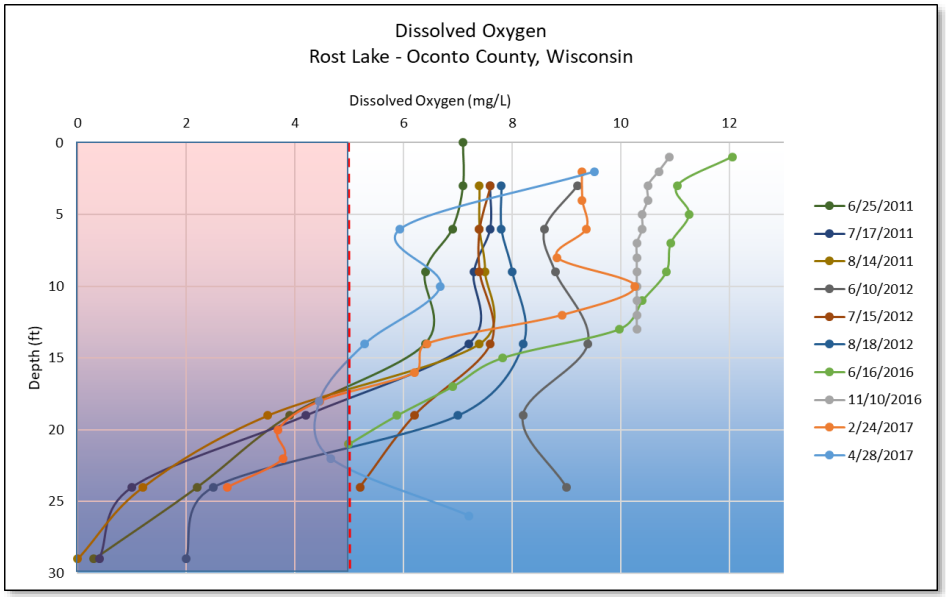
Water Clarity

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



Dissolved oxygen

Dissolved oxygen is an important measure in Rost 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.



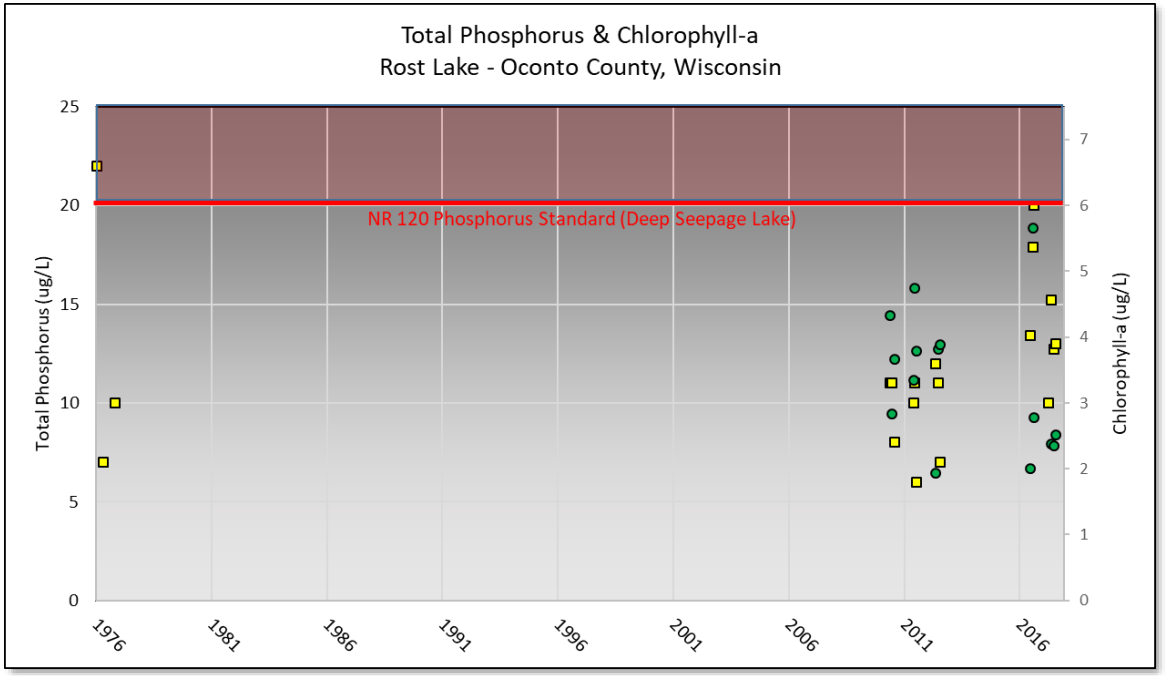
Contaminants

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

lake from either surface runoff or via groundwater. Measurements of contaminants were low.

Nutrients

Phosphorus is an element that is essential in trace amounts to most living organisms, including aquatic plants and algae. Naturally-occurring sources of phosphorus include soils and wetlands, and groundwater. Common sources from human activities include soil erosion, animal waste, fertilizers, and septic systems. Although a variety of compounds are important to biological growth, phosphorus receives so much attention because it is commonly the "limiting nutrient" in many Wisconsin lakes. Due to its relatively short supply compared to other substances necessary for growth, relatively small increases in phosphorus result in significant increases in aquatic plants and algae. NR 120, Wisconsin Administrative Code lists phosphorus limits for different lake types. Deep seepage lakes such as Rost have a standard of 20 ug/L they must remain stay to remain healthy. Limited data available show concentrations in Rost to be generally below this standard. Continued monitoring is necessary to verify this and establish trends. Concentrations of 0.3 mg/L inorganic nitrogen in spring are sufficient to fuel algal blooms throughout the summer. Sources of inorganic nitrogen include animal waste, septic systems/waste treatment effluent, and fertilizers. In Rost Lake, inorganic nitrogen (0.22 mg/L) remained below this threshold during the study.



Rost Lake's Water Quality Summary

- ✓ Sufficient **dissolved oxygen** was present in at least the upper 14 feet of water at all times during the study.
- ✓ **Water clarity** ranged from 13-19.25 feet (considered very good), which is consistent with historic measurements.
- ✓ Slightly elevated concentrations of **contaminants** were measured during the study. Atrazine was not detected.
- ✓ **Phosphorus** concentrations remained below the Wisconsin state standard of 20 ug/L throughout the study. Inorganic nitrogen was below concentrations that spur algal blooms.

Water Quality

Be part of the solution!

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

Goal 6. Maintain or improve water quality in Rost Lake.

Objective 6.1 Maintain median summer phosphorus concentrations below 20 ug/L and inorganic nitrogen concentrations below 0.3 mg/L.

Actions	Lead person/group	Resources	Timeline
Inform others around the lake about the impact of nutrients and land management on water quality through the distribution of an Association newsletter and/or hosting a guest speaker at the annual meeting.	RLAA	OCLWA WNDR UWEX Lakes	Ongoing, 2019
Refrain from the use of fertilizers. Encourage soil testing to determine if fertilizer is necessary.	RLAA	OC UWEX	Ongoing
Encourage the restoration of unmowed vegetation to slow and absorb runoff and pollutants.	RLAA	UWEX Lakes	Ongoing

Objective 6.1 Continue to build a robust water quality data set for Rost Lake to monitor trends, declines and improvements over time.

Actions	Lead person/group	Resources	Timeline
Continue participation in CLMN and support volunteers collecting total phosphorus and chlorophyll-a data.	RLAA Trained volunteer	CLMN	3+ times annually-summer
Submit all collected data to WDNR for archival and use by scientists and resource managers.	RLAA Trained volunteer	WDNR	Ongoing

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

PEOPLE AND THE LAKE

The people who interact with the lake are a key component of the lake and its management. In essence a lake management plan is a venue by which people decide how they would like people to positively impact the lake. The plan summarizes the decisions of the people to take proactive steps to improve their lake and their community. Individual decisions by lake residents and visitors can have positive impacts on the lake and on those who enjoy this common resource. Collaborative efforts may have bigger positive impacts; therefore, communication and cooperation between the lake district, community, and suite of lake users are essential to maximize the effects of plan implementation.

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

Recreation

According to survey responses, the lake is enjoyed for its scenery, wildlife, boating and fishing. There is one public boat launch located on the south side which is owned by the Town of Brazeau. No Wake is allowed between 6pm and 10am.

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

Objective 7.1 Create an environment of compliance amongst lake users.

Actions	Lead person/group	Resources	Timeline
Work with other lake groups and towns to support a recreational officer and municipal court for enforcement of regulations, including 'No Wake' and safe boat operation.	RLAA	TOB OCLWA OC UWEX	Ongoing
Inform residents and consider posting signage of "DNR Hotline" to report unlawful behavior. (1-800-TIP-WDNR)	RLAA	WDNR	Ongoing
Create and install signage at boat landing regarding 'No Wake' zones (within 100 feet of shore). Landowners can install a swim dock up to 200 feet from shore to help protect this zone.	RLAA	TOB WDNR	2019
Ensure signage is up-to-date and clear. Consider updating sign board/kiosk with basic information on regulations and expectations. This can convey to lake users that there is an active and watchful group on the lake.	RLAA	TOB UWEX Lakes	Ongoing
Work with Town to upkeep boat ramp. This may include a water diversion structure to keep runoff from flowing directly to lake. Boat	RLAA	TOB	2019, as needed

ramps in disrepair can be unhealthy to the lake if it results in spinning tires, power loading, loose sediment and debris, etc.			

Communication & Organization

Communication and Organization

Working together on common values will help to achieve the goals outlined in this plan. This will involve communication between individuals, the Association, the Town of Brazeau, Oconto County, resource managers, and elected officials. In addition, staying informed about lake- and groundwater-related topics will be essential to achieving the goals laid out in this plan. See the Oconto County Lake Information Directory in the Appendices for contact information.

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

Goal 8. Increase participation in lake stewardship.

Objective 8.1 Develop opportunities and incentives for active participation in the management of Rost Lake.

Actions	Lead person/group	Resources	Timeline
Maintain a RLAA website to provide a common source of communication.	RLAA	LakeKit.net OC UWEX	Ongoing
Maintain an email list of shoreland property owners and others interested in Rost Lake.	RLAA	OC UWEX	Ongoing
Share minutes (or meeting notes) from annual meeting on website and/or newsletter.	RLAA		As needed
Distribute a welcome packet/mailing to all new shoreland property owners with basic lake stewardship information/brochures. WDNR small-scale planning grants can pay for this.	RLAA	OC UWEX OC Zoning Dept. OCLCD	Ongoing
Communicate updates to lake management plan and management activities to residents and users of the lake via email list and/or newsletter (and to WDNR).	RLAA		Ongoing
Host an annual meeting to discuss lake management and opportunities for shoreland property owners.	RLAA		Annually
Host gatherings to learn about topics identified in this plan. Invite speakers or conduct demonstrations.	RLAA	UWEX Lakes WDNR OCLCD	As needed

Identify ways to recruit 'next generation' of water quality monitors and AIS removers. Support interested persons in Lake Leaders Institute and/or Wisconsin Lakes Convention.	RLAA	UWEX Lakes Lake Leaders	Ongoing

Objective 8.2 Maintain good, clear communication between PLAA, its residents, clubs, municipalities, agency staff, elected officials and organizations interested in Rost Lake.

Actions	**Lead person/group**	**Resources**	**Timeline**
Network with other lake groups in Oconto County by having Rost Lake represented at OCLWA.	RLAA	OC UWEX	Quarterly
Network with other lakes in the state to learn lake management strategies, etc. by having a representative attend the Wisconsin Lakes Convention.	RLAA	UWEX Lakes	Annually in April
Consider nominating an individual from Rost Lake for the Lake Leaders Institute. Encourage members of OCLWA to attend Lake Leaders Institute.	RLAA	UWEX Lakes	2020

Updates and Revisions

Updates and Revisions

A management plan is a living document that changes over time to meet the current needs, challenges and desires of the lake and its community. The goals, objectives and actions listed in this plan should be reviewed annually and updated with any necessary changes. Partners listed in the plan should be contacted annually, and updated information complied. A list of changes/updates to the plan should be documented. To ensure that everyone is informed about changes, appropriate approval for changes should be acquired by all partners signing on to this plan.

Goal 9. Review plan annually and update as needed.

Objective 9.1 Maintain an up-to-date and relevant lake management plan and communicate updates to the lake community, Oconto County and WDNR.

Actions	Lead person/group	Resources	Timeline
Review plan at annual meeting and discuss accomplishments and identification of goals/objectives/actions for coming year.	RLAA		Annually
Formally update this plan every 5 years.	RLAA	OC UWEX UWEX Lakes WDNR	2023

REFERENCES

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APPENDICES

Appendix A

Appendix A. Oconto County Lake Information Directory

Algae - Blue-Green

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

Website: http://dnr.wi.gov/lakes/bluegreenalgae

Contact: Wisconsin Department of Health Services
1 West Wilson Street, Madison, WI 53703
Phone: 608-267-3242

Website:
www.dhs.wisconsin.gov/eh/bluegreenalgae/contactus.htm

Aquatic Invasive Species/Clean Boats Clean Water

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

Website: http://dnr.wi.gov/topic/Invasives/

Aquatic Plant Management

(Native and Invasive)

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

Website: http://dnr.wi.gov/lakes/plants/

Aquatic Plant Identification

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

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

Aquatic Plant Surveys/Management

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

Website: http://dnr.wi.gov/lakes/plants/

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

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

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

Boat Landings, Signage, Permissions (County)

Contact: Monty Brink
Oconto County Forestry/Park/Recreation
301 Washington Street, Oconto, WI 54153
Phone: 920-834-6995
E-mail: monty.brink@co.oconto.wi.us

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

Appendix A

Boat Landings (State)

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

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

Boat Landings (Town)

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

Conservation Easements

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

Website: http://gatheringwaters.org/

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

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

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

Website: www.newlt.org

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

Critical Habitat and Sensitive Areas

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

Website: http://dnr.wi.gov/lakes/criticalhabitat/

Dams

Contact: Meg Galloway
Wisconsin Department of Natural Resources
PO Box 7921, Madison, WI 53707
Phone: 608-266-7014
E-mail: meg.galloway@wisconsin.gov

Website: http://dnr.wi.gov/org/water/wm/dsfm/dams/

Fertilizers/Soil Testing

Contact: Dale Mohr
Oconto County UW- Extension
301 Washington Street, Oconto, WI 54153
Phone: 920-835-6845
E-mail: dale.mohr@co.oconto.wi.us

Website: http://oconto.uwex.edu

Fisheries Biologist (management, habitat)

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

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

Appendix A

Frog Monitoring—Citizen Based

Contact: Andrew Badje
Wisconsin Department of Natural Resources
Phone: 608-785-9472
E-mail: Andrew.badje@wisconsin.gov

Website: WFTS@wisconsin.gov

Grants

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

Website: http://dnr.wi.gov/Aid/Grants.html

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

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

Groundwater Quality

Contact: Kevin Masarik
UWSP Center for Watershed Science & Education
TNR 224, 800 Reserve St., Stevens Point, WI 54481
Phone: 715-346-4276
E-mail: kmasarik@uwsp.edu

Website: http://www.uwsp.edu/cnr/watersheds/

Groundwater Levels/Quantity

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

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

Contact: George Kraft
UWSP Center for Watershed Science & Education
TNR 224, 800 Reserve St., Stevens Point, WI 54481
Phone: 715-346-2984
E-mail: george.kraft@uwsp.edu

Informational Packets

Contact: UW Extension - Lakes
TNR 224, 800 Reserve St. Stevens Point, WI 54481
Phone: 715-346-2116
E-mail: uwexlakes@uwsp.edu

Lake Groups – Friends, Associations, Districts

Contact: Dale Mohr
Oconto County UW- Extension
301 Washington Street, Oconto, WI 54153
Phone: 920-835-6845
E-mail: dale.mohr@co.oconto.wi.us

Website: http://oconto.uwex.edu

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

Website: http://www.uwsp.edu/cnr/uwexlakes/organizations/

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

Website: http://www.uwsp.edu/cnr/uwexlakes/organizations/

Contact: Susan Tesarik
Wisconsin Lakes
4513 Vernon Blvd., Suite 101, Madison, WI 53705

Phone: 1-800-542-5253
E-mail: lakeinfo@wisconsinlakes.org

Website: http://wisconsinlakes.org/

Lake Levels

See: Groundwater

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

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

Website: http://www.wigamewarden.com/

Land Use Plans and Zoning Ordinances

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

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

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

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

Nutrient Management Plans

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

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

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

Parks (County)

Contact: Monty Brink
Oconto County Forestry/Park/Recreation
301 Washington Street, Oconto, WI 54153
Phone: 920-834-6995
E-mail: monty.brink@co.oconto.wi.us

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

Purchase of Development Rights

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

Website: www.newlt.org

Purchase of Land

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

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

Rain Gardens and Stormwater Runoff

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

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

Appendix A

Septic Systems/Onsite Waste

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

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

Shoreland Management

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

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

Shoreland Vegetation

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

Shoreland Zoning Ordinances

See: Land Use Plans and Zoning Ordinances

Soil Fertility Testing

Contact: Dale Mohr
Oconto County UW- Extension
301 Washington Street, Oconto, WI 54153
Phone: 920-835-6845
E-mail: dale.mohr@co.oconto.wi.us

Website: http://oconto.uwex.edu

Water Quality Monitoring

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

Water Quality Problems

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

Wetlands

Contact: Jason Fleener
Wisconsin Department of Natural Resources
GEF2 DNR Central Office, Madison, WI 53707
Phone: 608-266-7408
E-mail: Jason.fleener@wisconsin.gov

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

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

Wetland Inventory

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

Woody Habitat

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

Appendix B. Rapid Response Plan

REPORTING A SUSPECTED INVASIVE SPECIES

1. Collect specimens or take photos.

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

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

-OR-

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

-OR-

Take detailed photos (digital or film).

2. Note the location where the specimen was found.

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

Provide one or more of the following:

- Latitude & Longitude
- UTM (Universal Transverse Mercator) coordinates
- County, Township, Range, Section, Part-section
- Precise written site description, noting nearest city & road names, landmarks, local topography

3. Gather information to aid in positive species identification.

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

Appendix B

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

Wisconsin Dept. Natural Resources
2984 Shawano Avenue,
Green Bay, WI 54313
Phone: (920) 662-5100

UW-Stevens Point Herbarium
301 Trainer Natural Resources Building
800 Reserve Street
Stevens Point, WI 54481
Phone: 715-346-4248
E-Mail: ejudziew@uwsp.edu

Wisconsin Invasive Plants Reporting & Prevention Project
Herbarium-UW-Madison
430 Lincoln Drive
Madison, WI 53706
Phone: (608) 267-7612
E-Mail: invasiveplants@mailplus.wisc.edu

Appendix C

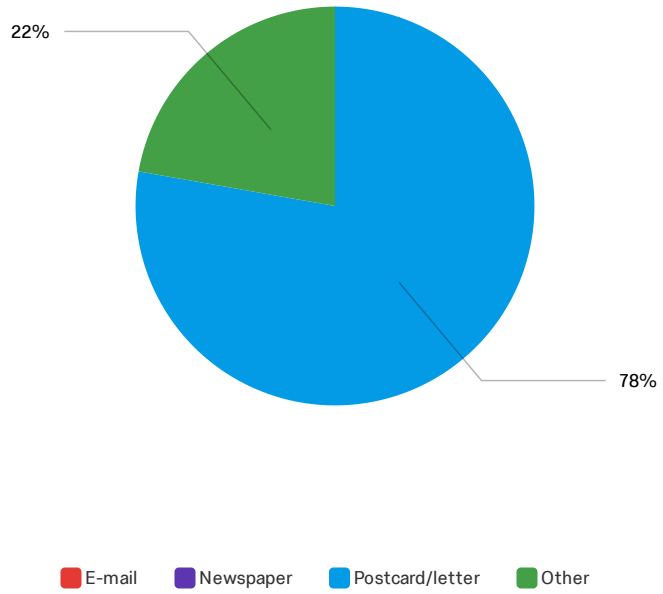
Appendix C. Lake User Survey Results

Default Report

Rost Lake Survey - Oconto County Lakes Project

November 20, 2018 11:45 AM MST

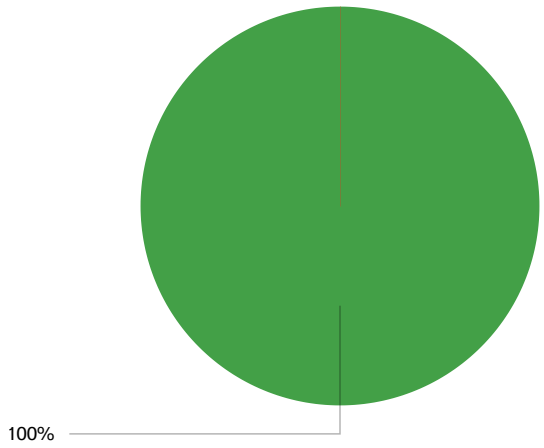
Q2 - How did you hear about this survey?



#	Field	Choice Count	
1	E-mail	0.00%	0
2	Newspaper	0.00%	0
3	Postcard/letter	77.78%	7
4	Other	22.22%	2
			9

Showing rows 1 - 5 of 5

Q3 - Do you own or rent property...

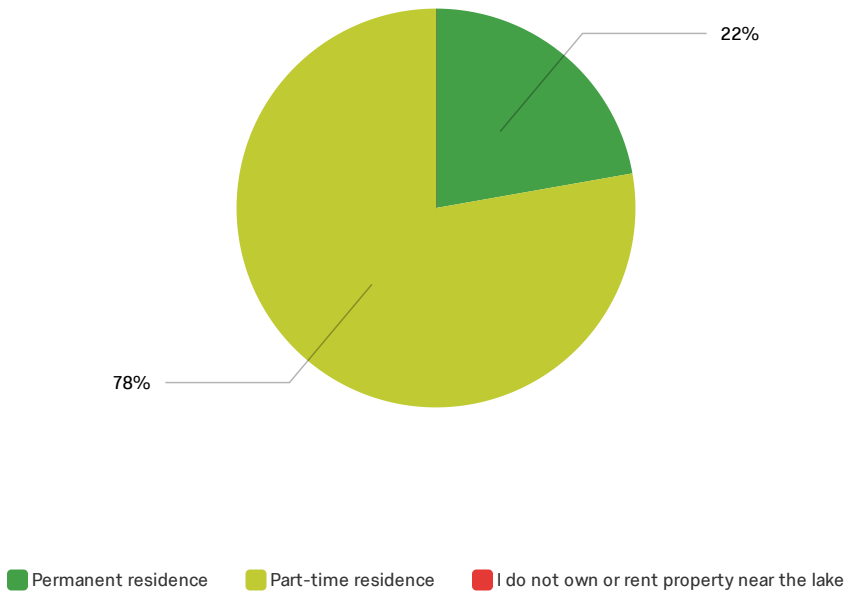


Around the lake | Less than 1/2 mile from the lake | Near the lake, but more than 1/2 mile away | I do not own or rent property near the lake

#	Field		Choice Count
1	Around the lake	100.00%	9
2	Less than 1/2 mile from the lake	0.00%	0
3	Near the lake, but more than 1/2 mile away	0.00%	0
4	I do not own or rent property near the lake	0.00%	0
			9

Showing rows 1 - 5 of 5

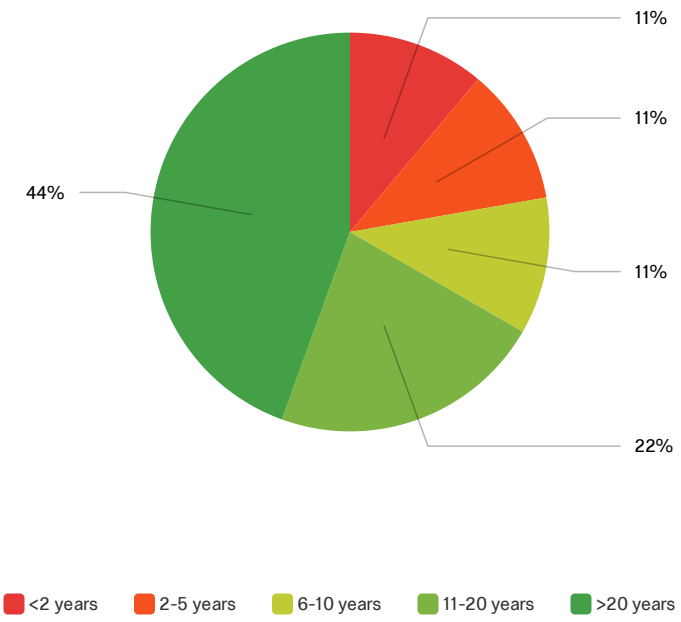
Q4 - If you own or rent property near the lake, is this property your...



#	Field	Choice Count	
1	Permanent residence	22.22%	2
2	Part-time residence	77.78%	7
3	I do not own or rent property near the lake	0.00%	0
			9

Showing rows 1 - 4 of 4

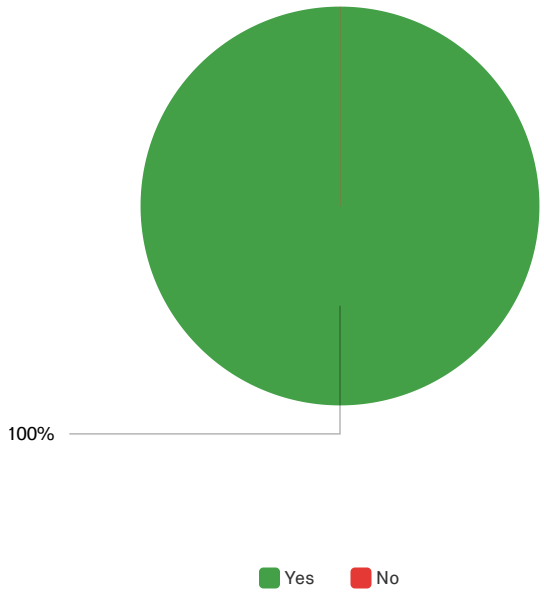
Q5 - How long have you lived on, visited or recreated on the lake?



#	Field	Choice Count	
1	<2 years	11.11%	1
2	2-5 years	11.11%	1
3	6-10 years	11.11%	1
4	11-20 years	22.22%	2
5	>20 years	44.44%	4
			9

Showing rows 1 - 6 of 6

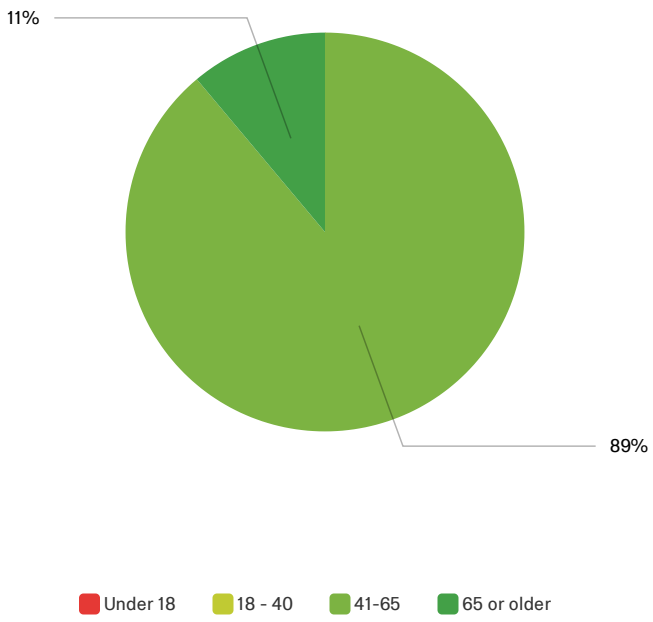
Q6 - Are you a member of the Rost Lake Advancement Association?



#	Field		Choice Count
1	Yes	100.00%	8
2	No	0.00%	0
			8

Showing rows 1 - 3 of 3

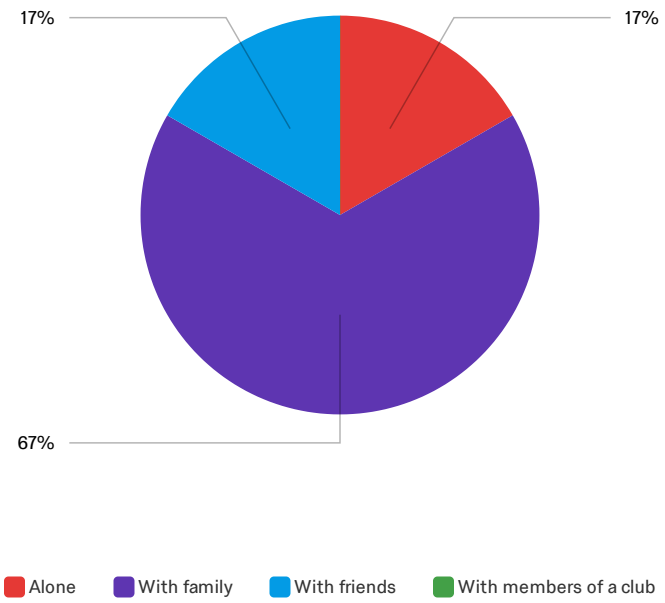
Q8 - Which category below includes your age?



#	Field	Choice Count	
1	Under 18	0.00%	0
2	18 - 40	0.00%	0
3	41-65	88.89%	8
4	65 or older	11.11%	1
			9

Showing rows 1 - 5 of 5

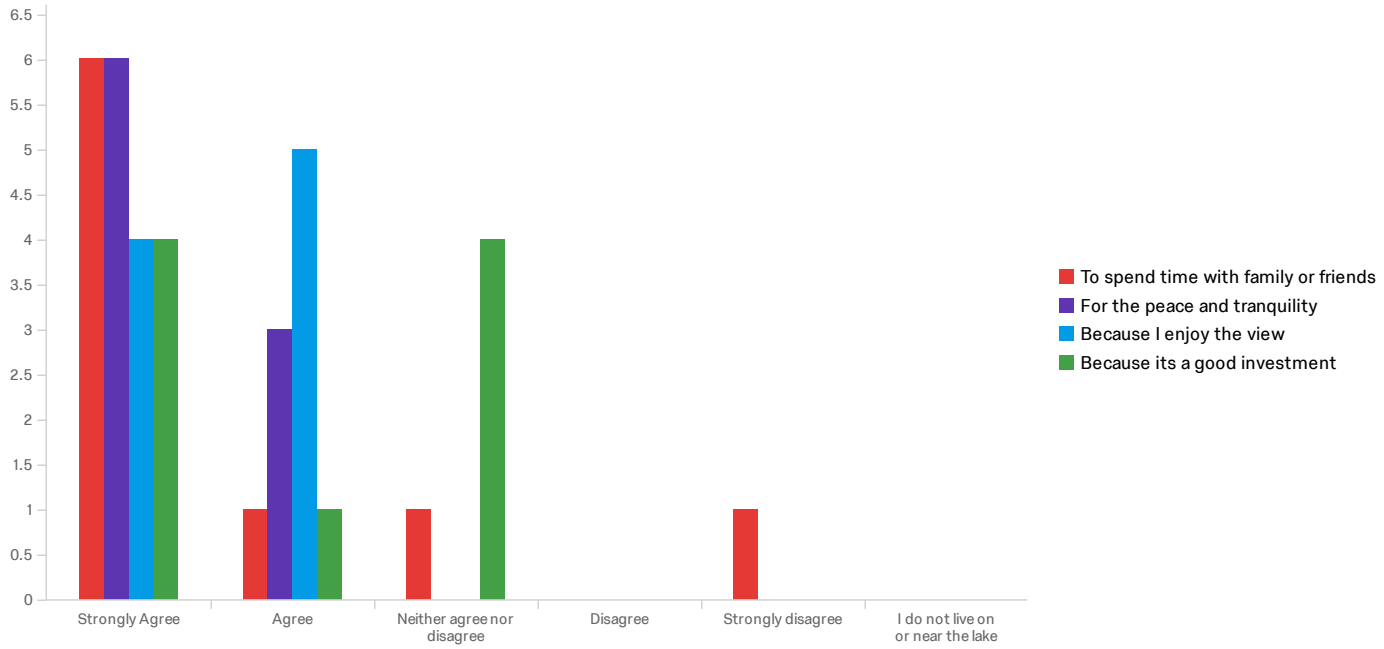
Q9 - When you visit Rost Lake, are you typically ...(check all that apply)



#	Field	Choice Count	
1	Alone	16.67%	2
2	With family	66.67%	8
3	With friends	16.67%	2
4	With members of a club	0.00%	0
			12

Showing rows 1 - 5 of 5

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



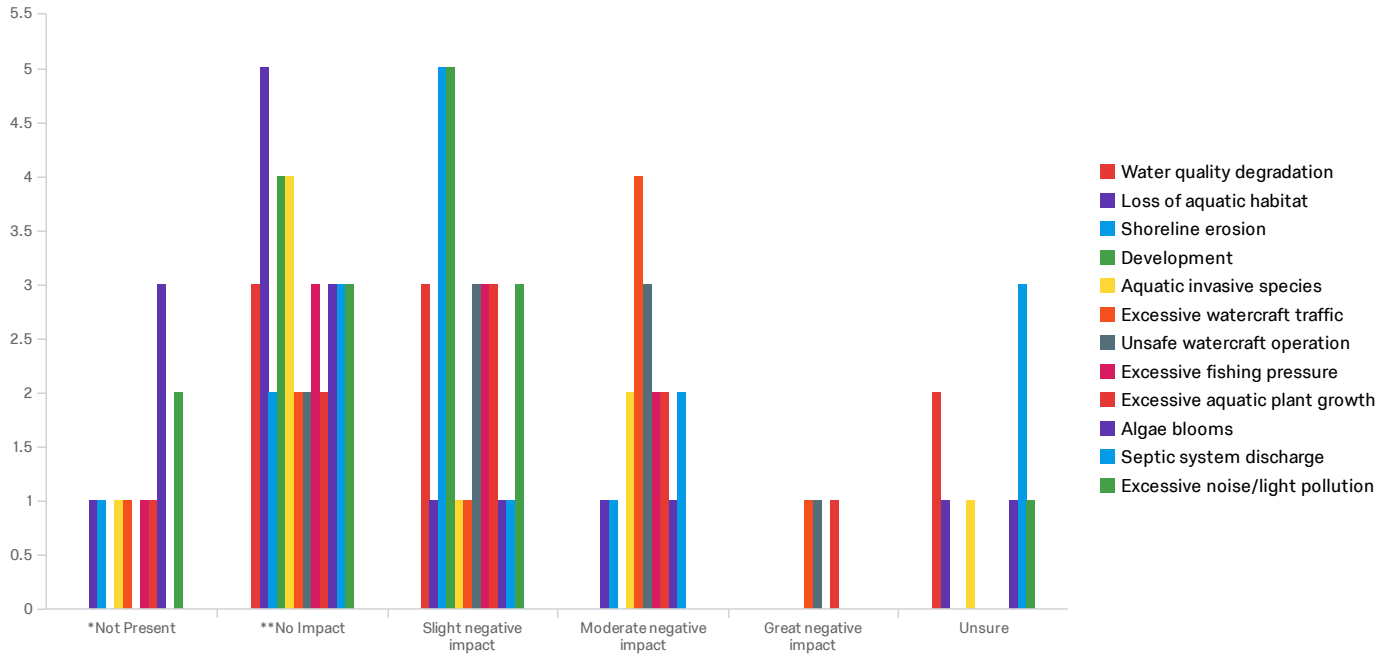
#	Field	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I do not live on or near the lake	Total
1	To spend time with family or friends	66.67% 6	11.11% 1	11.11% 1	0.00% 0	11.11% 1	0.00% 0	9
2	For the peace and tranquility	66.67% 6	33.33% 3	0.00% 0	0.00% 0	0.00% 0	0.00% 0	9
3	Because I enjoy the view	44.44% 4	55.56% 5	0.00% 0	0.00% 0	0.00% 0	0.00% 0	9
4	Because its a good investment	44.44% 4	11.11% 1	44.44% 4	0.00% 0	0.00% 0	0.00% 0	9

Showing rows 1 - 4 of 4

Q11 - What do you value most about Rost Lake?

What do you value most about Rost Lake?
The health of the lake
the changing of the seasons, and migrating of birds. neighbors are good too.
Clean Water
Size, lake clarity, proximity to my home
Clean water, quiet, nature/wildlife, people.
waterskiing, watersports
Peace and Tranquility
Having a place to gather with our family, relax, and enjoy the outdoors year round.

Q42 - Below is a list of negative impacts commonly found in Wisconsin lakes. To what level do you believe each of the following factors may be impacting Rost Lake? *Not Present means that you believe the issue does not exist on Rost Lake**No Impact means that the issue may exist, but is not negatively impacting Rost Lake

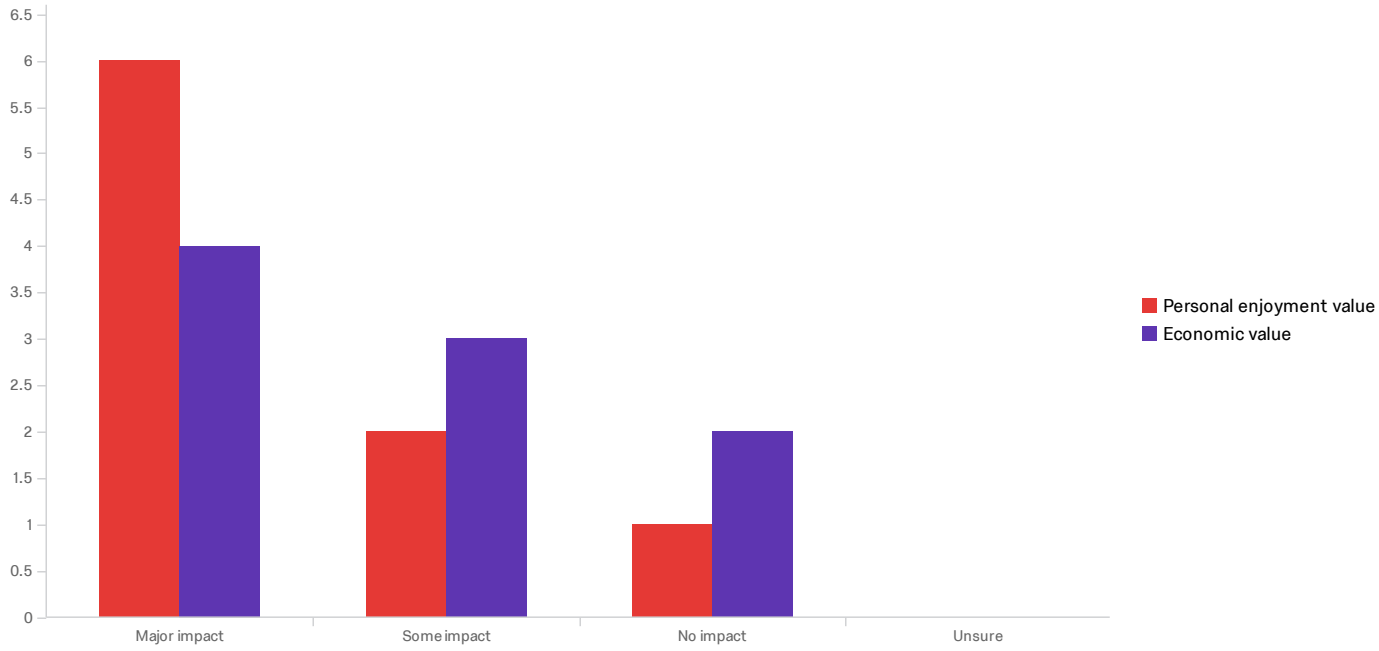


#	Field	*Not Present	**No Impact	Slight negative impact	Moderate negative impact	Great negative impact	Unsure	Total
1	Water quality degradation	0.00% 0	37.50% 3	37.50% 3	0.00% 0	0.00% 0	25.00% 2	8
2	Loss of aquatic habitat	11.11% 1	55.56% 5	11.11% 1	11.11% 1	0.00% 0	11.11% 1	9
3	Shoreline erosion	11.11% 1	22.22% 2	55.56% 5	11.11% 1	0.00% 0	0.00% 0	9
4	Development	0.00% 0	44.44% 4	55.56% 5	0.00% 0	0.00% 0	0.00% 0	9
5	Aquatic invasive species	11.11% 1	44.44% 4	11.11% 1	22.22% 2	0.00% 0	11.11% 1	9
6	Excessive watercraft traffic	11.11% 1	22.22% 2	11.11% 1	44.44% 4	11.11% 1	0.00% 0	9
7	Unsafe watercraft operation	0.00% 0	22.22% 2	33.33% 3	33.33% 3	11.11% 1	0.00% 0	9
8	Excessive fishing pressure	11.11% 1	33.33% 3	33.33% 3	22.22% 2	0.00% 0	0.00% 0	9

#	Field	*Not Present	**No Impact	Slight negative impact	Moderate negative impact	Great negative impact	Unsure	Total
9	Excessive aquatic plant growth	11.11% 1	22.22% 2	33.33% 3	22.22% 2	11.11% 1	0.00% 0	9
10	Algae blooms	33.33% 3	33.33% 3	11.11% 1	11.11% 1	0.00% 0	11.11% 1	9
11	Septic system discharge	0.00% 0	33.33% 3	11.11% 1	22.22% 2	0.00% 0	33.33% 3	9
12	Excessive noise/light pollution	22.22% 2	33.33% 3	33.33% 3	0.00% 0	0.00% 0	11.11% 1	9

Showing rows 1 - 12 of 12

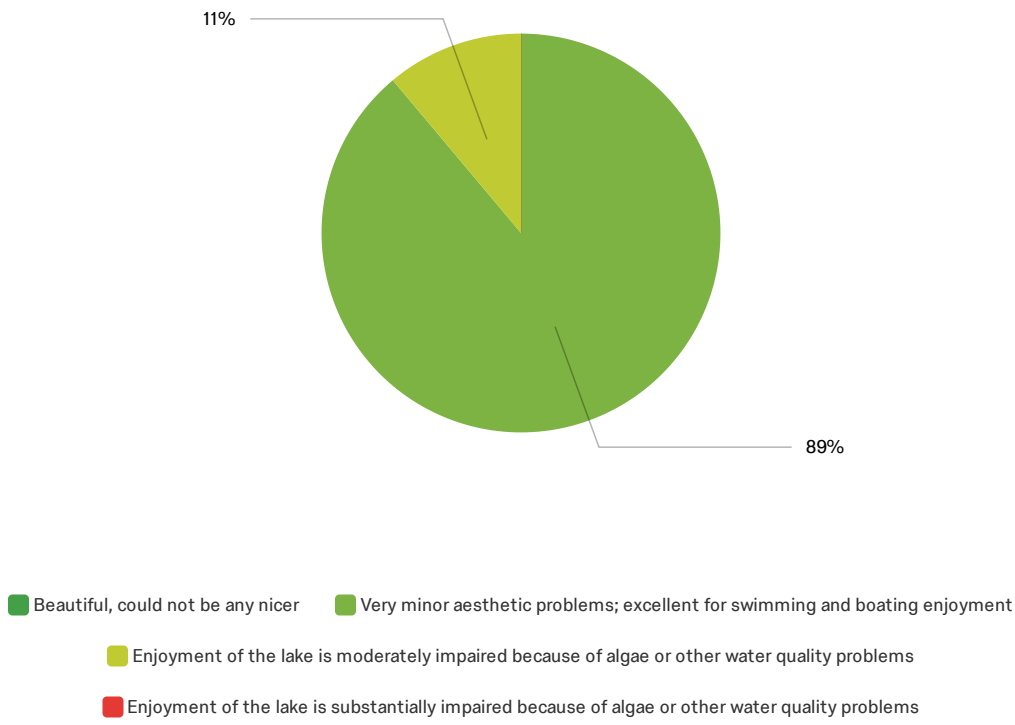
Q16 - How much impact does the water quality of Rost Lake have on the following?



#	Field	Major impact	Some impact	No impact	Unsure	Total
1	Personal enjoyment value	66.67% 6	22.22% 2	11.11% 1	0.00% 0	9
2	Economic value	44.44% 4	33.33% 3	22.22% 2	0.00% 0	9

Showing rows 1 - 2 of 2

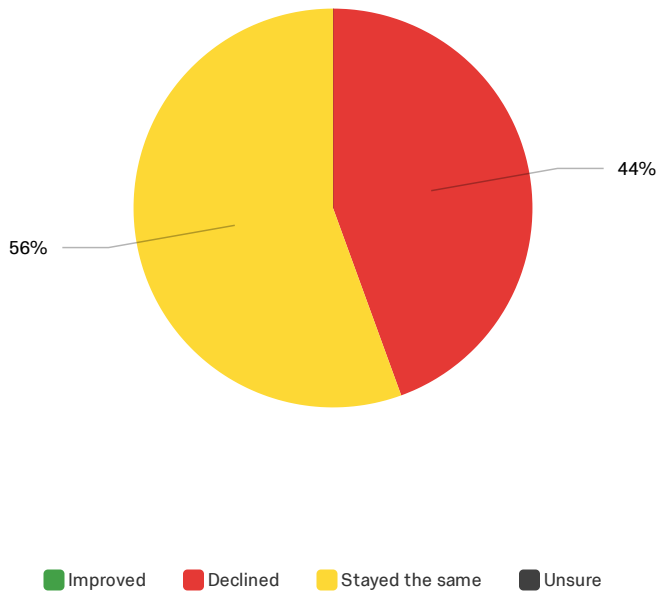
Q17 - Which statement best describes water clarity during the times you spend most on the lake?



#	Field	Choice Count	
1	Beautiful, could not be any nicer	0.00%	0
2	Very minor aesthetic problems; excellent for swimming and boating enjoyment	88.89%	8
3	Enjoyment of the lake is moderately impaired because of algae or other water quality problems	11.11%	1
4	Enjoyment of the lake is substantially impaired because of algae or other water quality problems	0.00%	0
			9

Showing rows 1 - 5 of 5

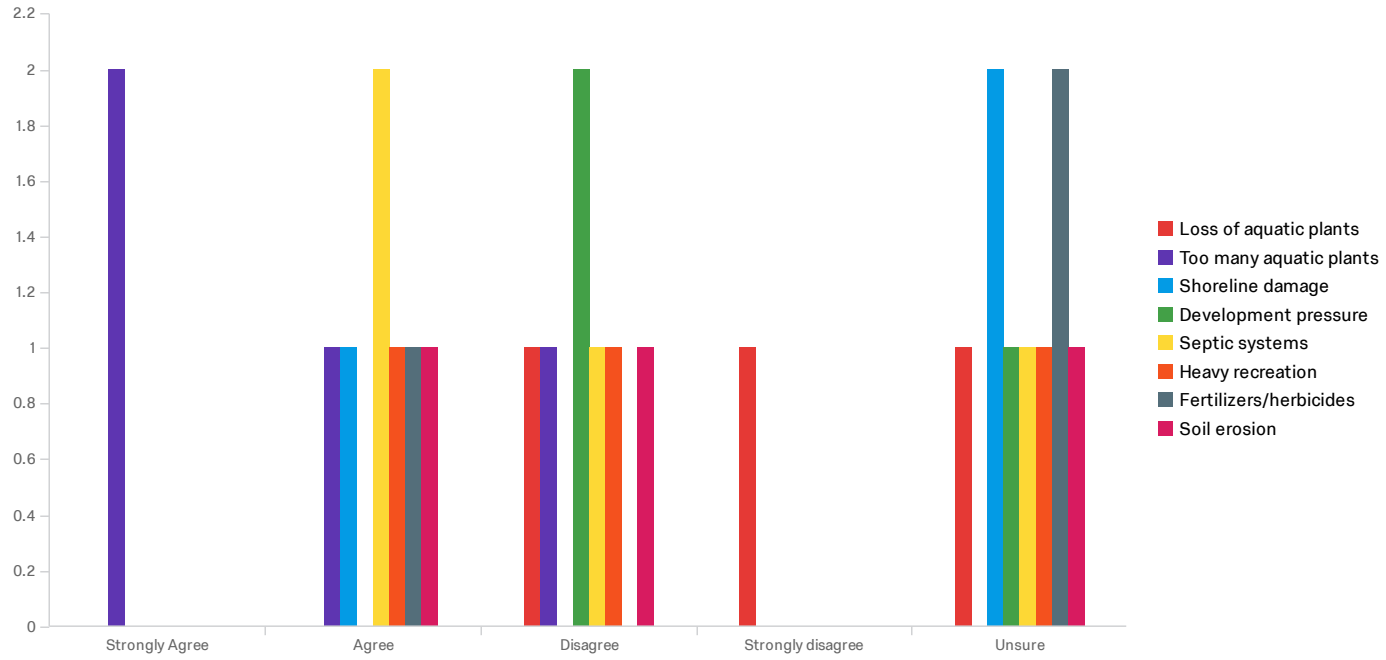
Q18 - During the time that you have lived on, visited or recreated on the lake, how would you say the water quality has changed?



#	Field	Choice Count	
1	Improved	0.00%	0
2	Declined	44.44%	4
3	Stayed the same	55.56%	5
4	Unsure	0.00%	0
			9

Showing rows 1 - 5 of 5

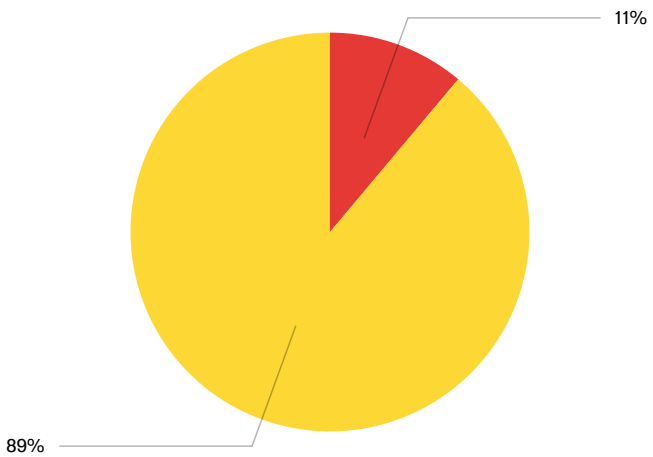
Q19 - If you think it has declined, what, in your opinion, are the primary causes?



#	Field	Strongly Agree		Agree		Disagree		Strongly disagree		Unsure		Total
1	Loss of aquatic plants	0.00%	0	0.00%	0	33.33%	1	33.33%	1	33.33%	1	3
2	Too many aquatic plants	50.00%	2	25.00%	1	25.00%	1	0.00%	0	0.00%	0	4
3	Shoreline damage	0.00%	0	33.33%	1	0.00%	0	0.00%	0	66.67%	2	3
4	Development pressure	0.00%	0	0.00%	0	66.67%	2	0.00%	0	33.33%	1	3
5	Septic systems	0.00%	0	50.00%	2	25.00%	1	0.00%	0	25.00%	1	4
6	Heavy recreation	0.00%	0	33.33%	1	33.33%	1	0.00%	0	33.33%	1	3
7	Fertilizers/herbicides	0.00%	0	33.33%	1	0.00%	0	0.00%	0	66.67%	2	3
8	Soil erosion	0.00%	0	33.33%	1	33.33%	1	0.00%	0	33.33%	1	3

Showing rows 1 - 8 of 8

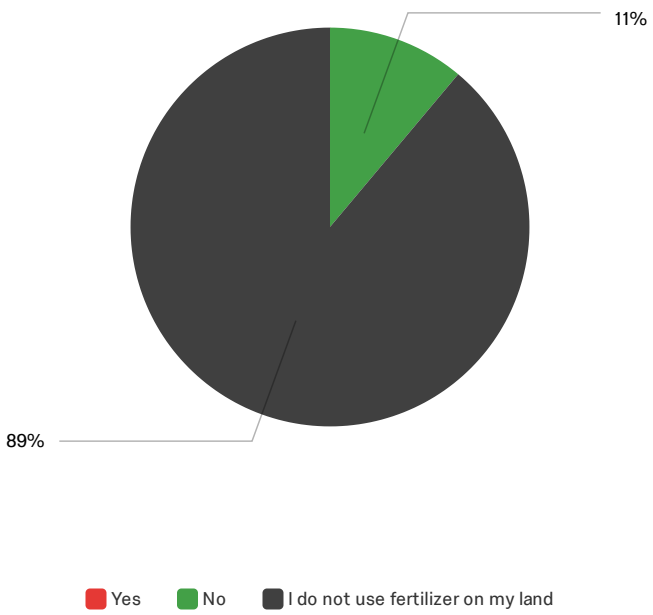
Q20 - If you use fertilizers or herbicides on your land, where are they applied?



#	Field	Choice Count	
1	Lawn	11.11%	1
2	Garden	0.00%	0
3	Agricultural fields	0.00%	0
4	Other	0.00%	0
5	I do not use fertilizers or herbicides on my land	88.89%	8
			9

Showing rows 1 - 6 of 6

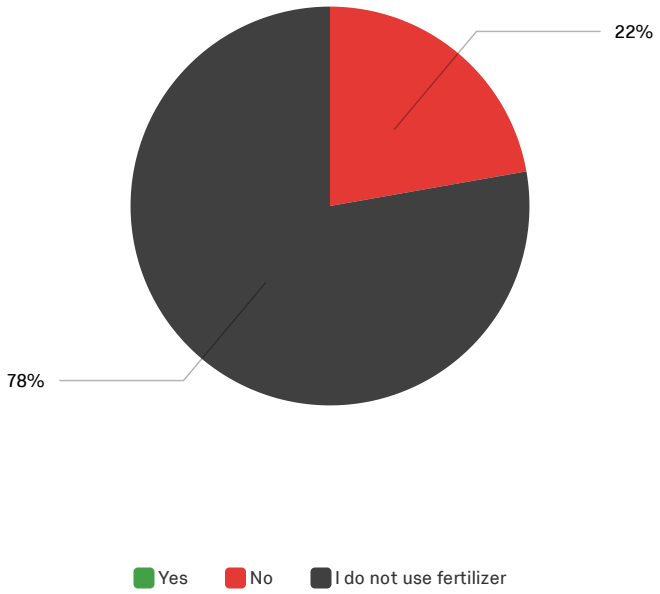
Q21 - Do you use fertilizer that contains phosphorus?



#	Field	Choice Count	
1	Yes	0.00%	0
2	No	11.11%	1
4	I do not use fertilizer on my land	88.89%	8
			9

Showing rows 1 - 4 of 4

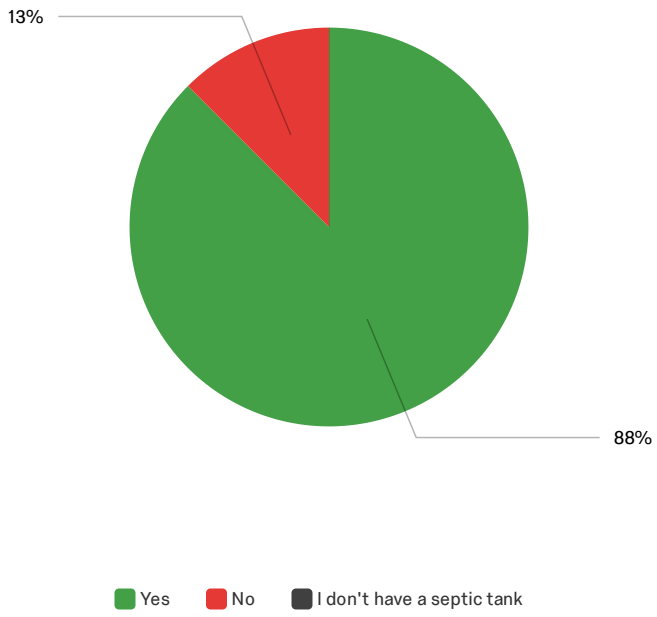
Q23 - Have you had your soil tested before using fertilizer?



#	Field	Choice Count	
1	Yes	0.00%	0
2	No	22.22%	2
3	I do not use fertilizer	77.78%	7
			9

Showing rows 1 - 4 of 4

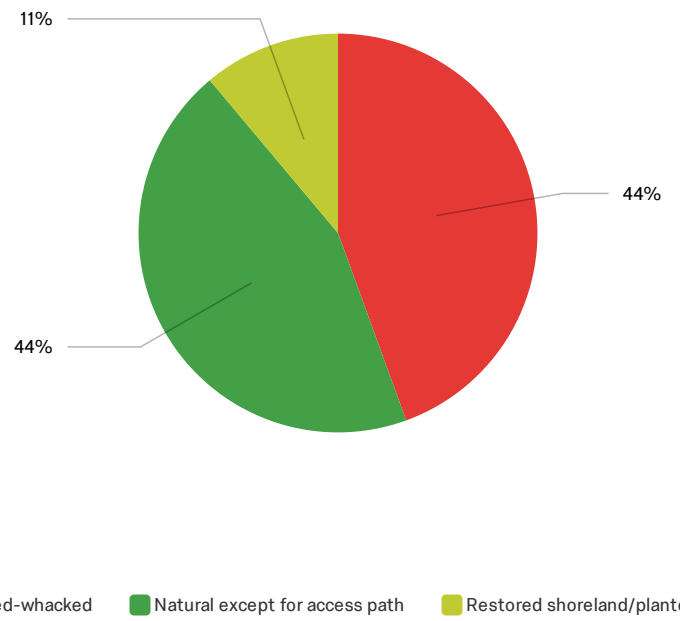
Q22 - Do you have your septic tank pumped regularly (at least every 3 years)?



#	Field		Choice Count
1	Yes	87.50%	7
2	No	12.50%	1
3	I don't have a septic tank	0.00%	0
			8

Showing rows 1 - 4 of 4

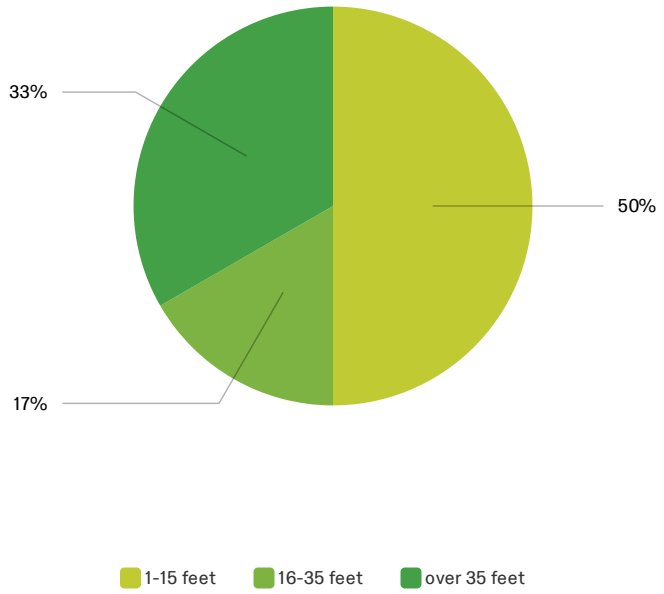
Q25 - How do you currently manage the majority of your property within 35 feet of the lake?



#	Field	Choice Count	
1	Mowed or weed-whacked	44.44%	4
2	Natural except for access path	44.44%	4
3	Restored shoreland/planted/landscaped	11.11%	1
			9

Showing rows 1 - 4 of 4

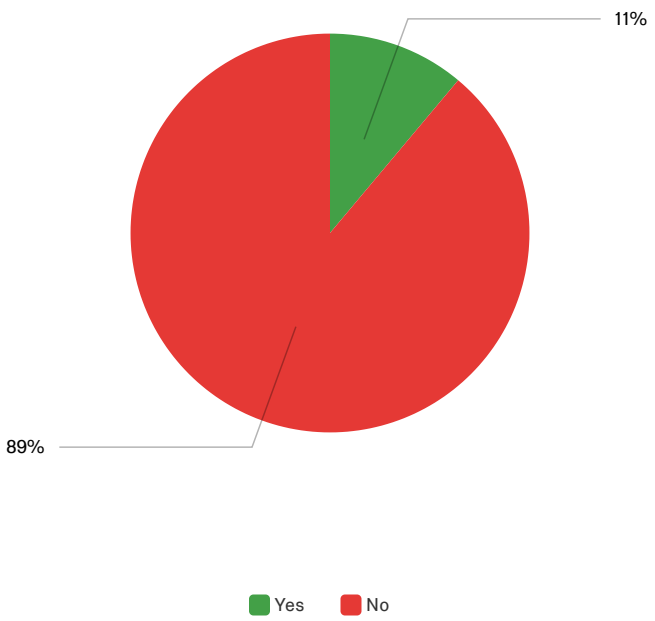
Q26 - If you have unmowed shoreland vegetation, how far inland from the water's edge does it extend?



#	Field	Choice Count	
1	1-15 feet	50.00%	3
2	16-35 feet	16.67%	1
3	over 35 feet	33.33%	2
			6

Showing rows 1 - 4 of 4

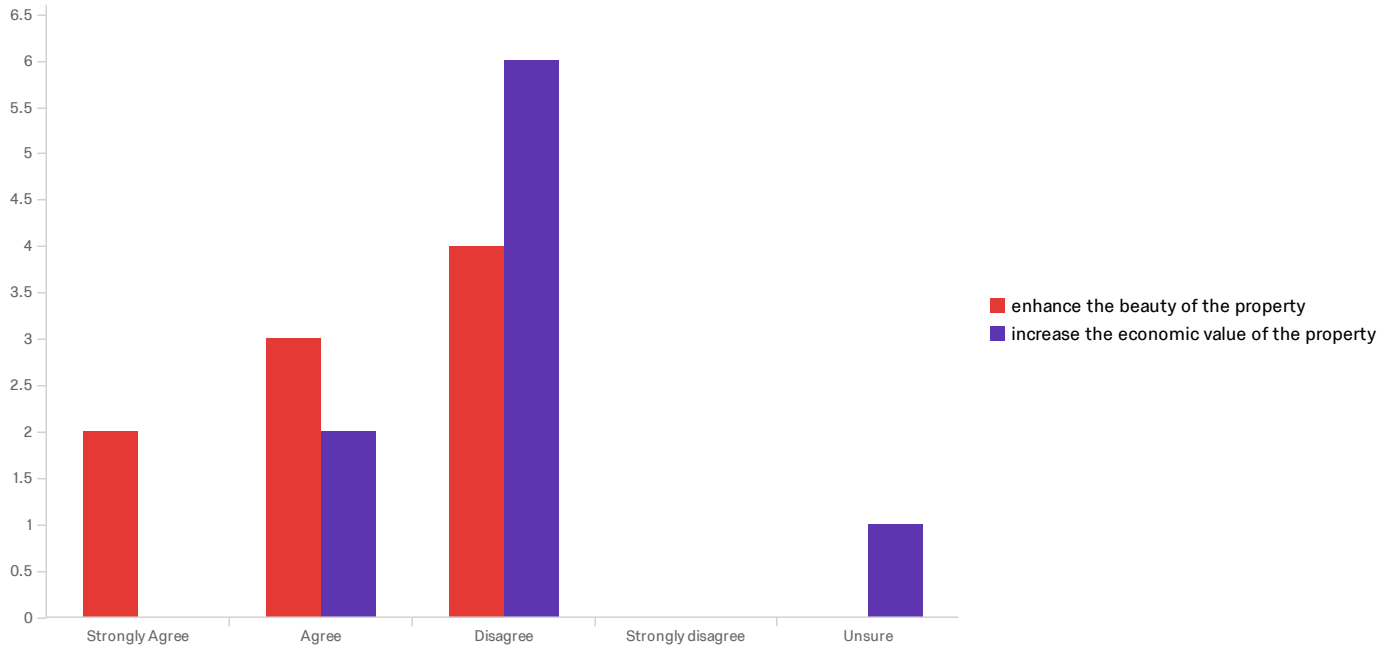
Q31 - Do you have woody structure such as fallen trees or large branches in shallow water along your property?



#	Field	Choice Count	
1	Yes	11.11%	1
2	No	88.89%	8
			9

Showing rows 1 - 3 of 3

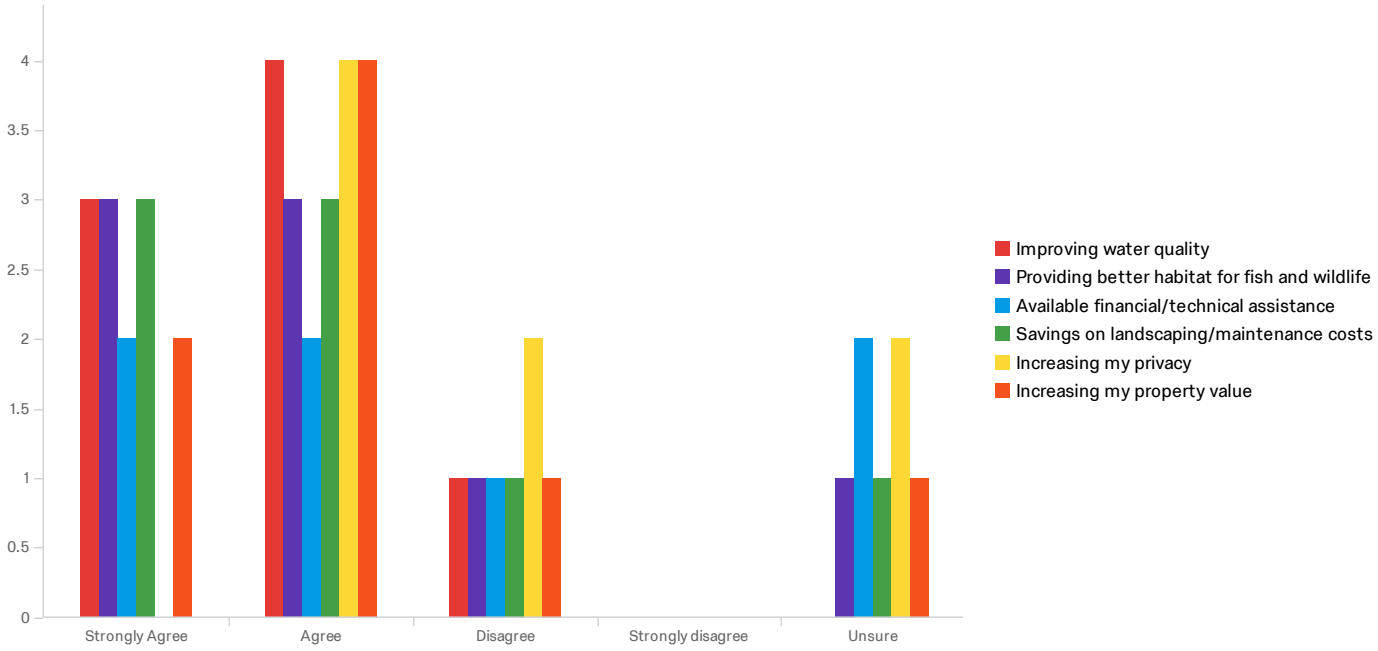
Q27 - In your opinion, does shoreland vegetation...



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	enhance the beauty of the property	22.22% 2	33.33% 3	44.44% 4	0.00% 0	0.00% 0	9
2	increase the economic value of the property	0.00% 0	22.22% 2	66.67% 6	0.00% 0	11.11% 1	9

Showing rows 1 - 2 of 2

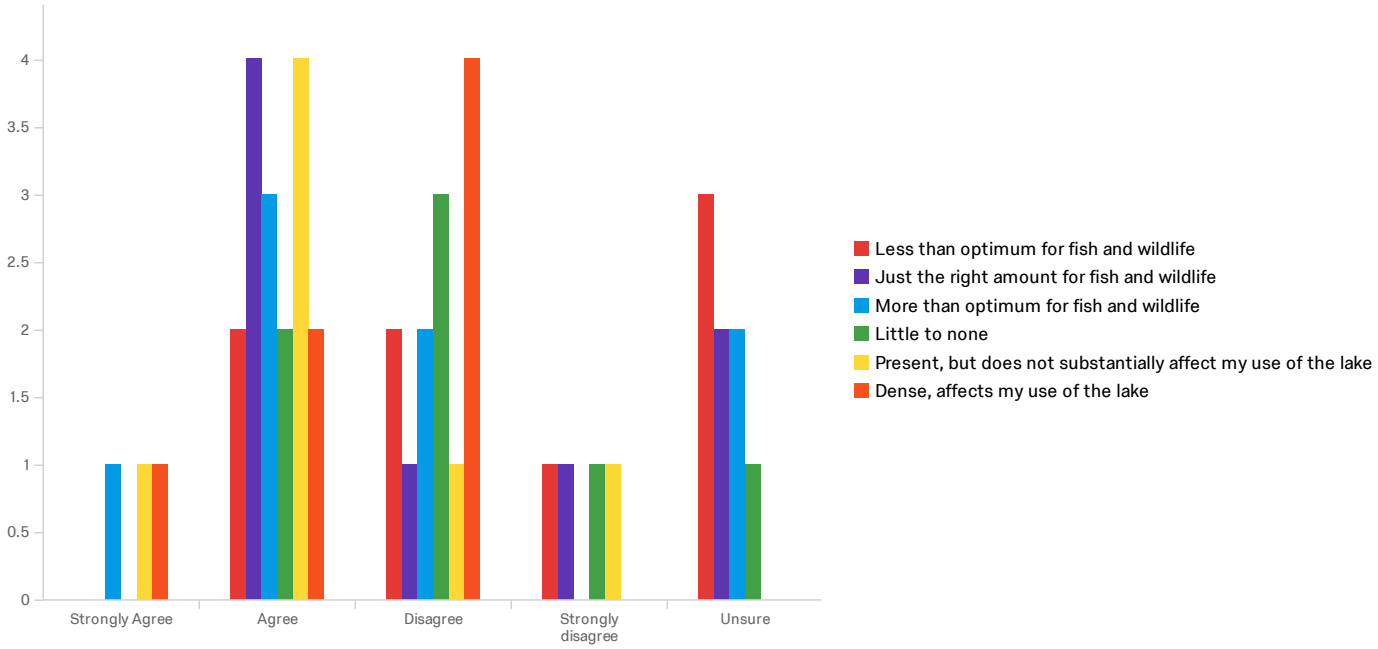
Q28 - What might motivate you to change how you manage your shoreland?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Improving water quality	37.50% 3	50.00% 4	12.50% 1	0.00% 0	0.00% 0	8
2	Providing better habitat for fish and wildlife	37.50% 3	37.50% 3	12.50% 1	0.00% 0	12.50% 1	8
3	Available financial/technical assistance	28.57% 2	28.57% 2	14.29% 1	0.00% 0	28.57% 2	7
4	Savings on landscaping/maintenance costs	37.50% 3	37.50% 3	12.50% 1	0.00% 0	12.50% 1	8
5	Increasing my privacy	0.00% 0	50.00% 4	25.00% 2	0.00% 0	25.00% 2	8
6	Increasing my property value	25.00% 2	50.00% 4	12.50% 1	0.00% 0	12.50% 1	8

Showing rows 1 - 6 of 6

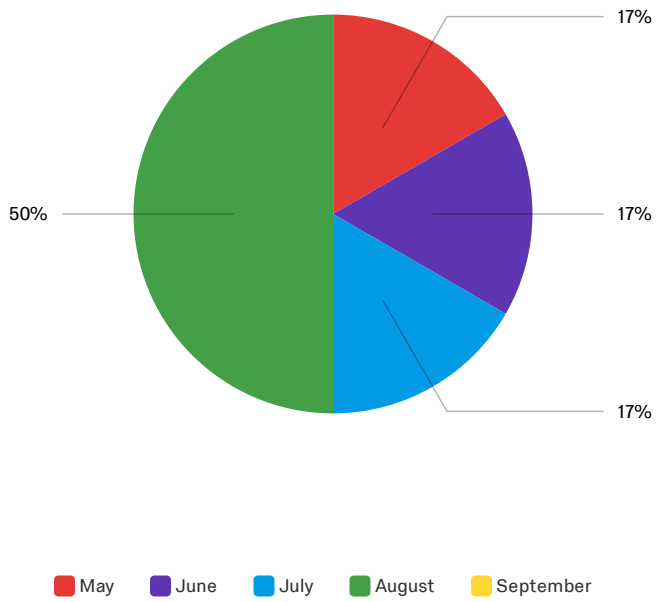
Q32 - In your opinion, which statement best describes the amount of aquatic plant growth in Rost Lake?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Less than optimum for fish and wildlife	0.00% 0	25.00% 2	25.00% 2	12.50% 1	37.50% 3	8
2	Just the right amount for fish and wildlife	0.00% 0	50.00% 4	12.50% 1	12.50% 1	25.00% 2	8
3	More than optimum for fish and wildlife	12.50% 1	37.50% 3	25.00% 2	0.00% 0	25.00% 2	8
4	Little to none	0.00% 0	28.57% 2	42.86% 3	14.29% 1	14.29% 1	7
5	Present, but does not substantially affect my use of the lake	14.29% 1	57.14% 4	14.29% 1	14.29% 1	0.00% 0	7
6	Dense, affects my use of the lake	14.29% 1	28.57% 2	57.14% 4	0.00% 0	0.00% 0	7

Showing rows 1 - 6 of 6

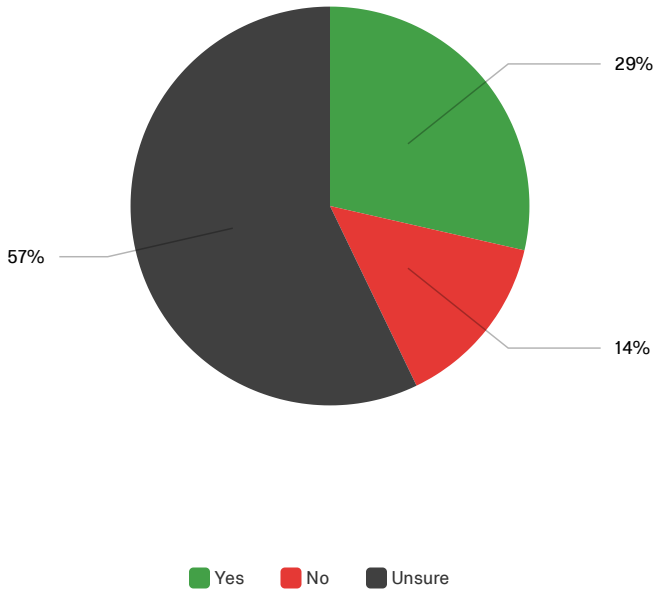
Q33 - If you think the plant growth in Rost Lake is dense, what month(s) do the problems occur? Check all that apply.



#	Field	Choice Count	
1	May	16.67%	1
2	June	16.67%	1
3	July	16.67%	1
4	August	50.00%	3
5	September	0.00%	0
			6

Showing rows 1 - 6 of 6

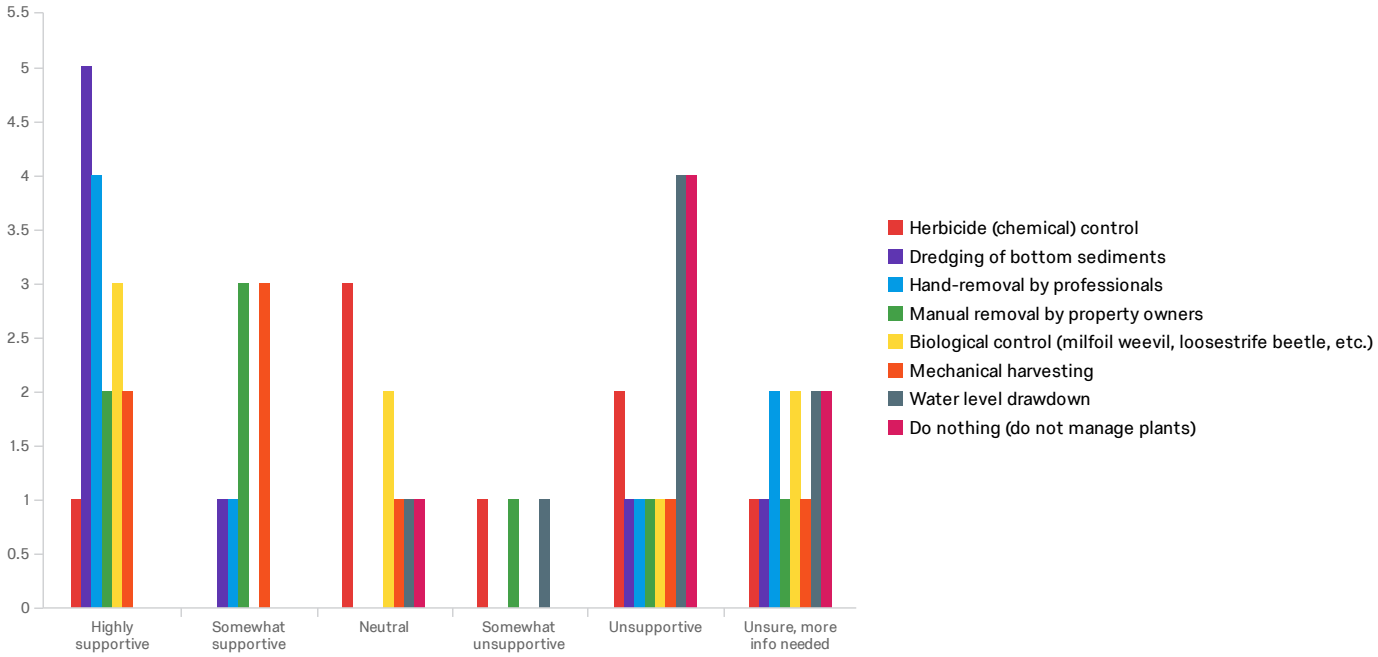
Q34 - Do you believe aquatic plant control is needed on Rost Lake?



#	Field	Choice Count	
1	Yes	28.57%	2
2	No	14.29%	1
3	Unsure	57.14%	4
			7

Showing rows 1 - 4 of 4

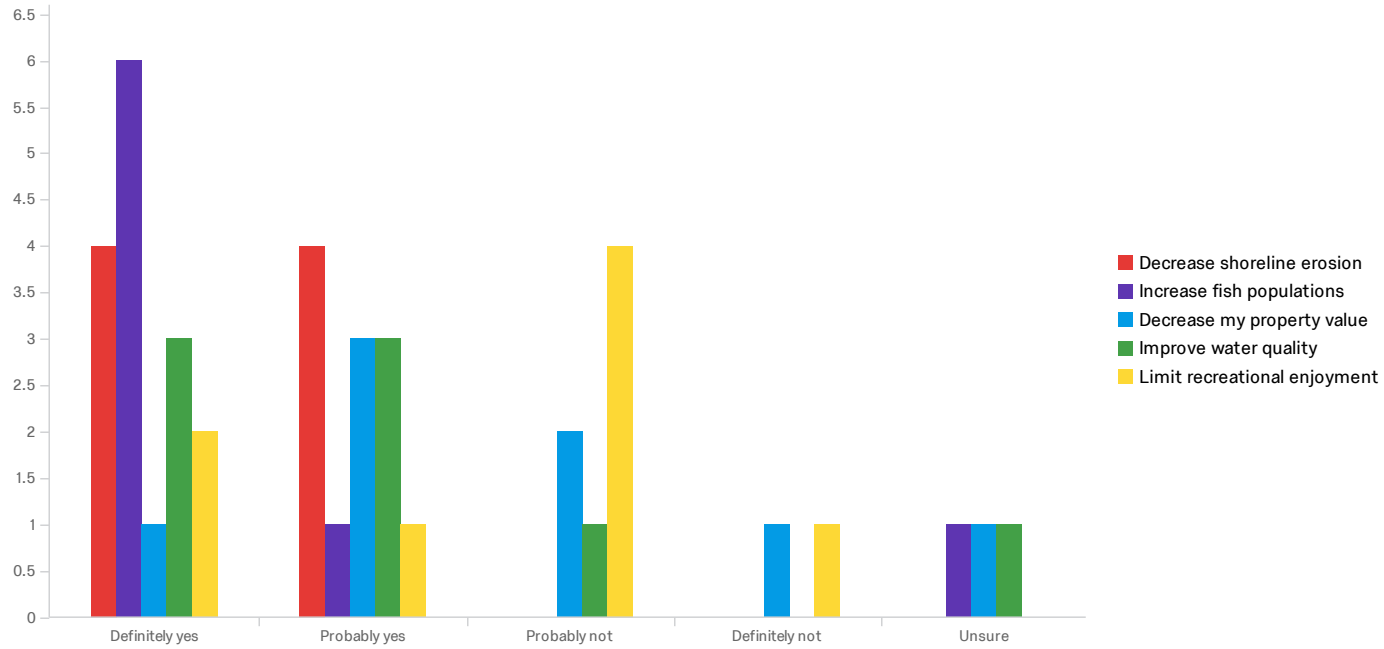
Q35 - What is your level of support for the responsible use of the following techniques to manage aquatic plants on Rost Lake?



#	Field	Highly supportive	Somewhat supportive	Neutral	Somewhat unsupportive	Unsupportive	Unsure, more info needed	Total
1	Herbicide (chemical) control	12.50% 1	0.00% 0	37.50% 3	12.50% 1	25.00% 2	12.50% 1	8
2	Dredging of bottom sediments	62.50% 5	12.50% 1	0.00% 0	0.00% 0	12.50% 1	12.50% 1	8
3	Hand-removal by professionals	50.00% 4	12.50% 1	0.00% 0	0.00% 0	12.50% 1	25.00% 2	8
4	Manual removal by property owners	25.00% 2	37.50% 3	0.00% 0	12.50% 1	12.50% 1	12.50% 1	8
5	Biological control (milfoil weevil, loosestrife beetle, etc.)	37.50% 3	0.00% 0	25.00% 2	0.00% 0	12.50% 1	25.00% 2	8
6	Mechanical harvesting	25.00% 2	37.50% 3	12.50% 1	0.00% 0	12.50% 1	12.50% 1	8
7	Water level drawdown	0.00% 0	0.00% 0	12.50% 1	12.50% 1	50.00% 4	25.00% 2	8
8	Do nothing (do not manage plants)	0.00% 0	0.00% 0	14.29% 1	0.00% 0	57.14% 4	28.57% 2	7

Showing rows 1 - 8 of 8

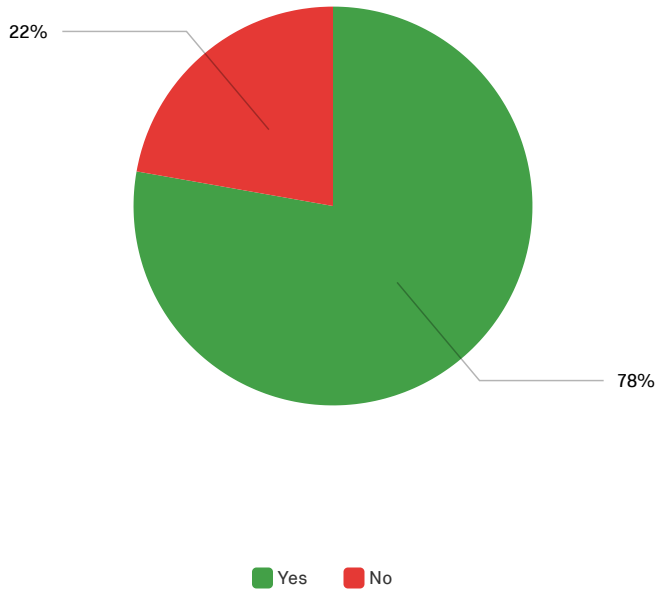
Q36 - In your opinion, does establishing or maintaining native vegetation in the water in the near-shore area...



#	Field	Definitely yes	Probably yes	Probably not	Definitely not	Unsure	Total
1	Decrease shoreline erosion	50.00% 4	50.00% 4	0.00% 0	0.00% 0	0.00% 0	8
2	Increase fish populations	75.00% 6	12.50% 1	0.00% 0	0.00% 0	12.50% 1	8
3	Decrease my property value	12.50% 1	37.50% 3	25.00% 2	12.50% 1	12.50% 1	8
4	Improve water quality	37.50% 3	37.50% 3	12.50% 1	0.00% 0	12.50% 1	8
5	Limit recreational enjoyment	25.00% 2	12.50% 1	50.00% 4	12.50% 1	0.00% 0	8

Showing rows 1 - 5 of 5

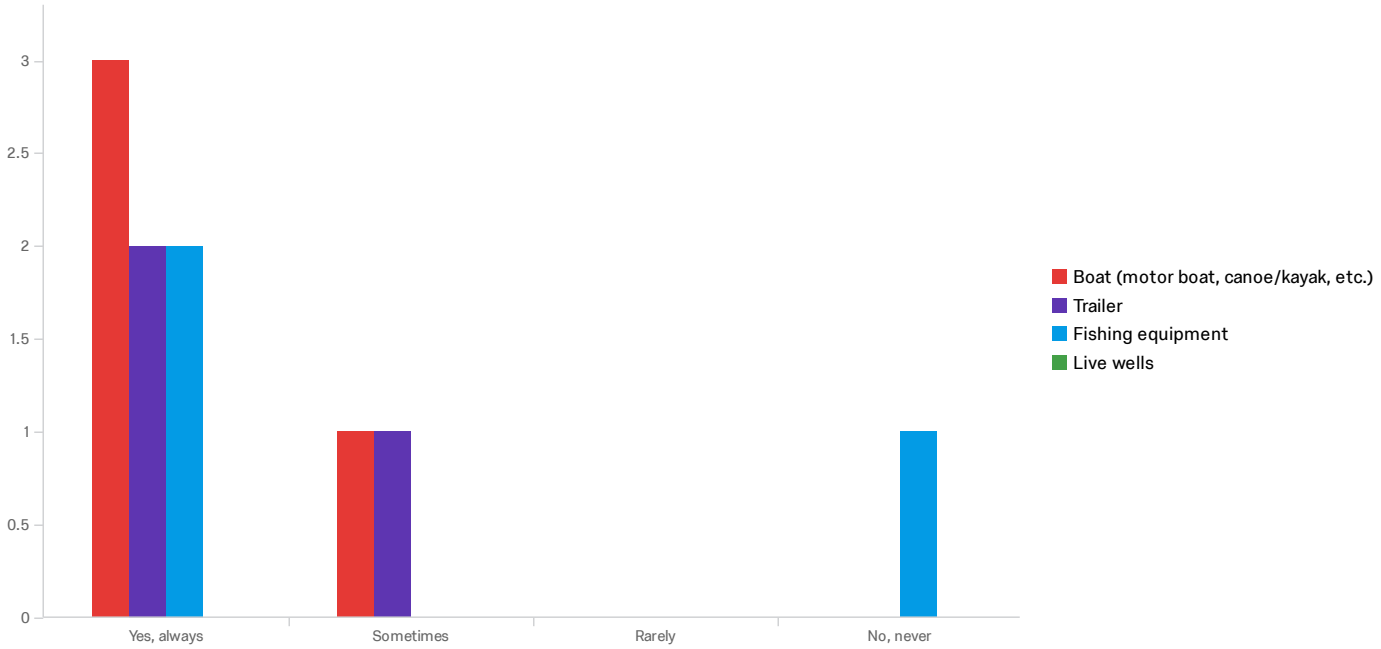
Q37 - Are you aware of invasive species (in general)?



#	Field	Choice Count
1	Yes	77.78% 7
2	No	22.22% 2
		9

Showing rows 1 - 3 of 3

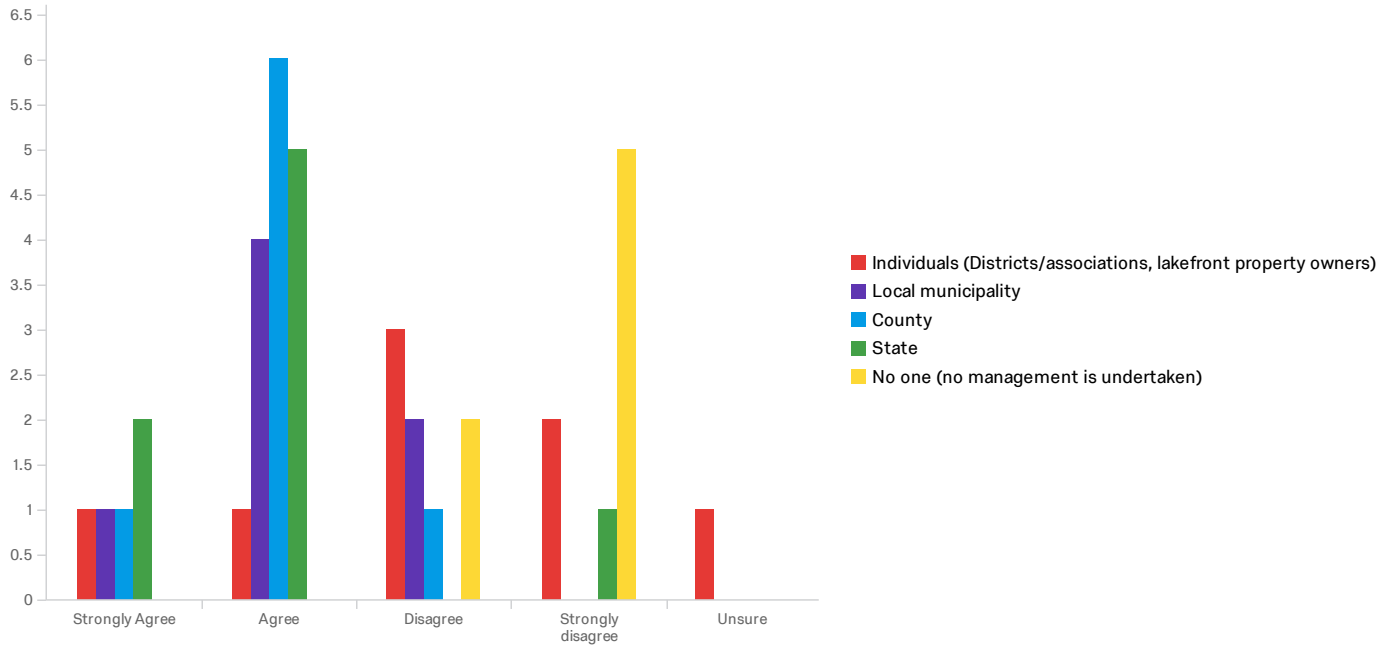
Q39 - After you have been to another lake, do you clean your.... before bringing it back to Rost Lake?



#	Field	Yes, always	Sometimes	Rarely	No, never	Total
1	Boat (motor boat, canoe/kayak, etc.)	75.00% 3	25.00% 1	0.00% 0	0.00% 0	4
2	Trailer	66.67% 2	33.33% 1	0.00% 0	0.00% 0	3
3	Fishing equipment	66.67% 2	0.00% 0	0.00% 0	33.33% 1	3
4	Live wells	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0

Showing rows 1 - 4 of 4

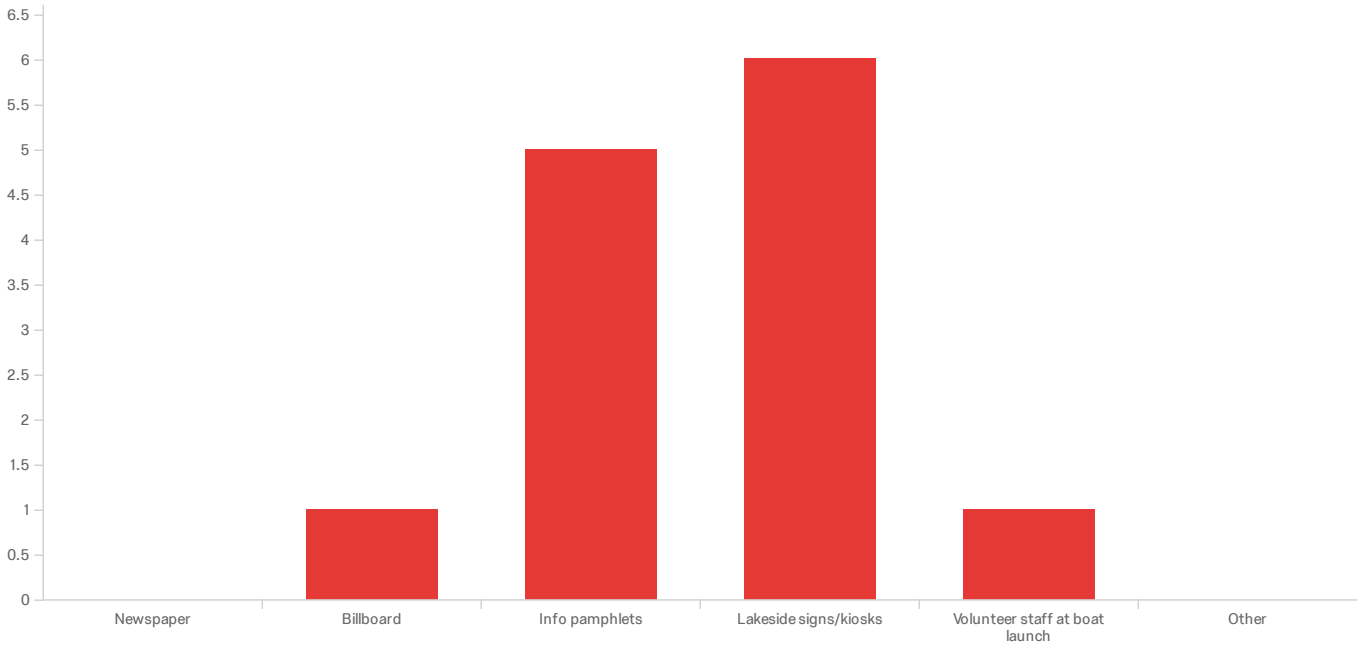
Q40 - Who should pay the cost of managing invasive aquatic plants?



#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Individuals (Districts/associations, lakefront property owners)	12.50% 1	12.50% 1	37.50% 3	25.00% 2	12.50% 1	8
2	Local municipality	14.29% 1	57.14% 4	28.57% 2	0.00% 0	0.00% 0	7
3	County	12.50% 1	75.00% 6	12.50% 1	0.00% 0	0.00% 0	8
4	State	25.00% 2	62.50% 5	0.00% 0	12.50% 1	0.00% 0	8
5	No one (no management is undertaken)	0.00% 0	0.00% 0	28.57% 2	71.43% 5	0.00% 0	7

Showing rows 1 - 5 of 5

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



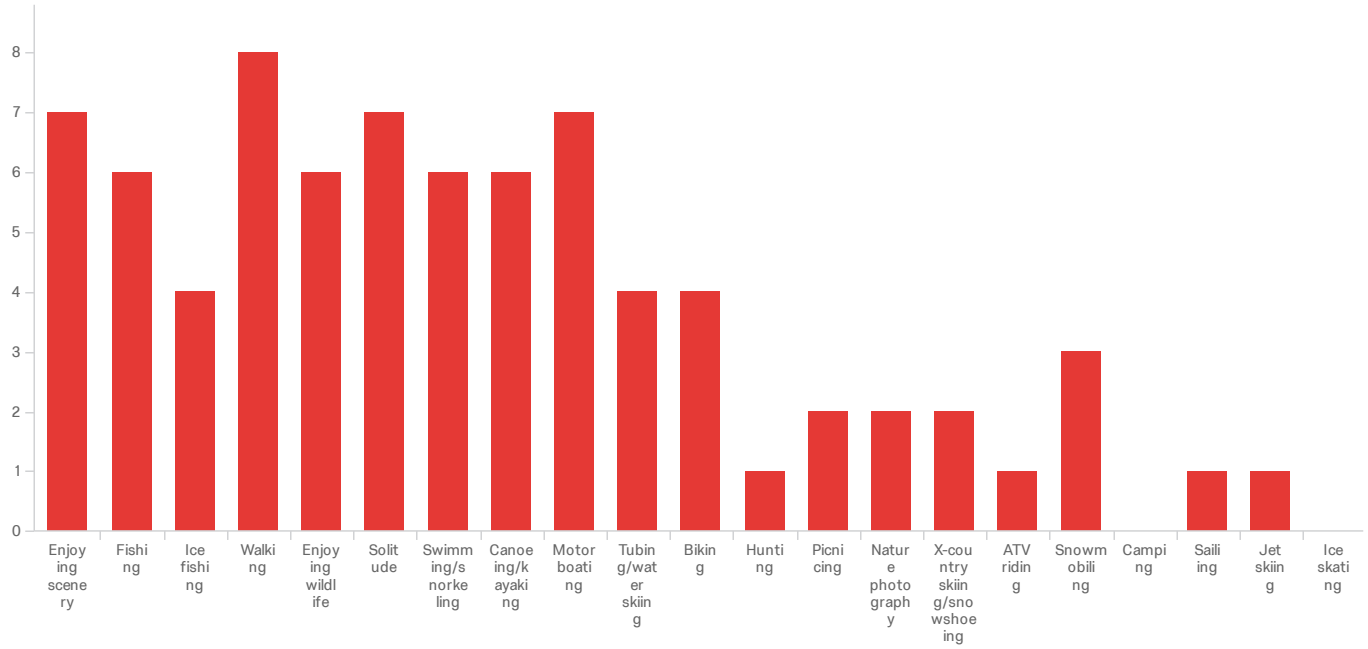
#	Field	Choice Count	
1	Newspaper	0.00%	0
2	Billboard	7.69%	1
3	Info pamphlets	38.46%	5
4	Lakeside signs/kiosks	46.15%	6
5	Volunteer staff at boat launch	7.69%	1
6	Other	0.00%	0
			13

Showing rows 1 - 7 of 7

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

In your opinion, what should be done to restore, maintain or improve Rost L...
Remove muck, remove Cattails
Dredge sediment
Restrict horsepower on motors. Monitor boating/jet skis. Monitor for invasive species on a regular basis. Assist with fish stocking decisions.
dredge some of the muck/septic waste - some areas of the lake have 2ft or more muck and only 1ft clear water
it needs to be continually monitored by professionals, because the decrease in water quality can come slowly, and we need to be on top of things changing for the worse.
Continue to stock with fish and post legal limit size and quantity signs.

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



#	Field	Choice Count
1	Enjoying scenery	8.97% 7
2	Fishing	7.69% 6
3	Ice fishing	5.13% 4
4	Walking	10.26% 8
5	Enjoying wildlife	7.69% 6
6	Solitude	8.97% 7
7	Swimming/snorkeling	7.69% 6
8	Canoeing/kayaking	7.69% 6
9	Motor boating	8.97% 7
10	Tubing/water skiing	5.13% 4
11	Biking	5.13% 4
12	Hunting	1.28% 1
13	Picnicing	2.56% 2
14	Nature photography	2.56% 2
15	X-country skiing/snowshoeing	2.56% 2

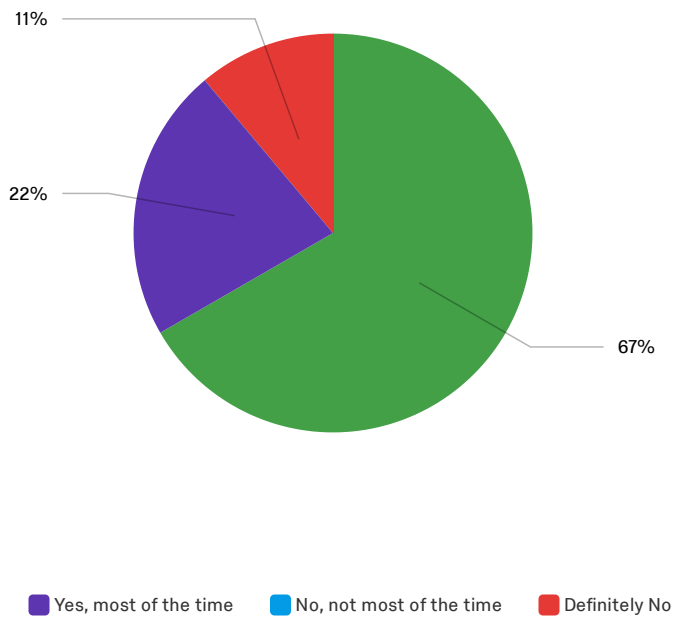
#	Field		Choice Count
16	ATV riding	1.28%	1
17	Snowmobiling	3.85%	3
18	Camping	0.00%	0
19	Sailiing	1.28%	1
20	Jet skiing	1.28%	1
21	Ice skating	0.00%	0
			78

Showing rows 1 - 22 of 22

Q46 - Other recreational activities not included above:

Other recreational activities not included above:
Snowmobiling

Q47 - "No Wake" is allowed on Rost Lake between 6pm and 10am. Do you like the current "No Wake" rules as they are?



#	Field	Choice Count	
1	Definitely Yes	66.67%	6
2	Yes, most of the time	22.22%	2
3	No, not most of the time	0.00%	0
4	Definitely No	11.11%	1
5	Unsure	0.00%	0
			9

Showing rows 1 - 6 of 6

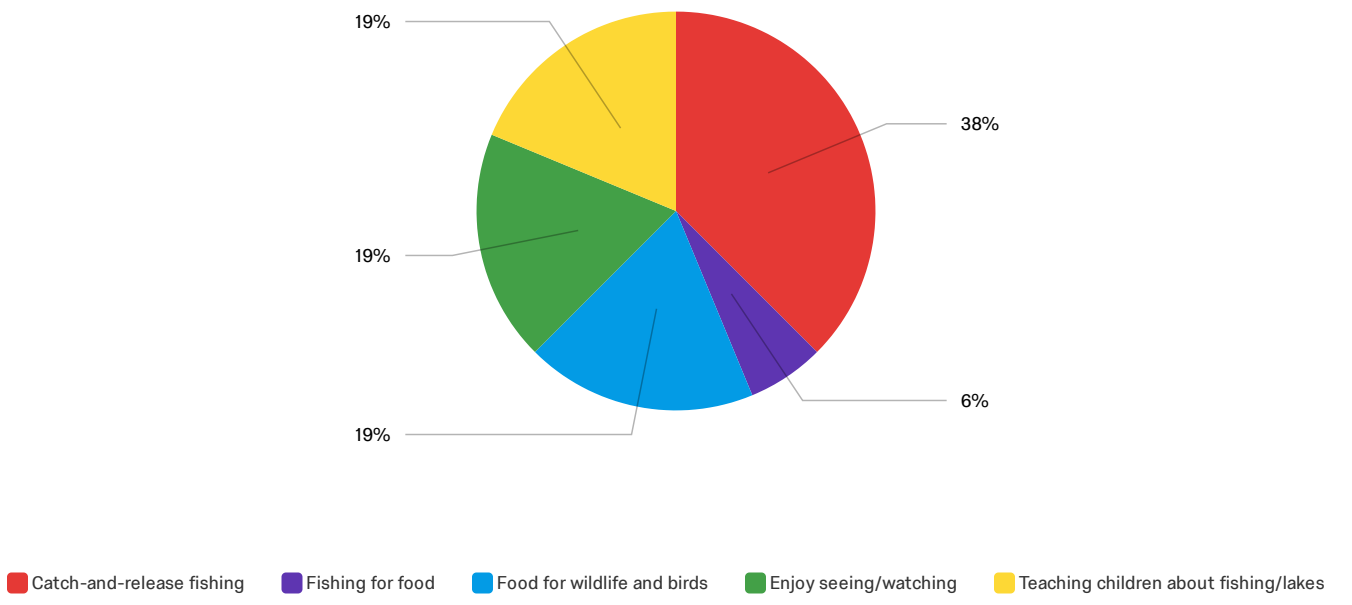
Q48 - If you think the "No Wake" rules should be adjusted...in what way?

If you think the "No Wake" rules should be adjusted...in what way?
Like the current setup!
Reduce hours fir jet skis - they are excessive
less no wake - 7pm to 9am which is closer to state regulations

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

What could be done to improve your recreation experience on Rost Lake?
Remove the muck
Remove Muck
Disallow jet skis - lake us too small, causes lots of waves resulting in erosion
Monitoring jet skis and novice boaters.
change "No Wake" rule to be between 7pm and 9am
Encourage pontoons with swimmers to park in the middle of the lake & stay close to their boats.

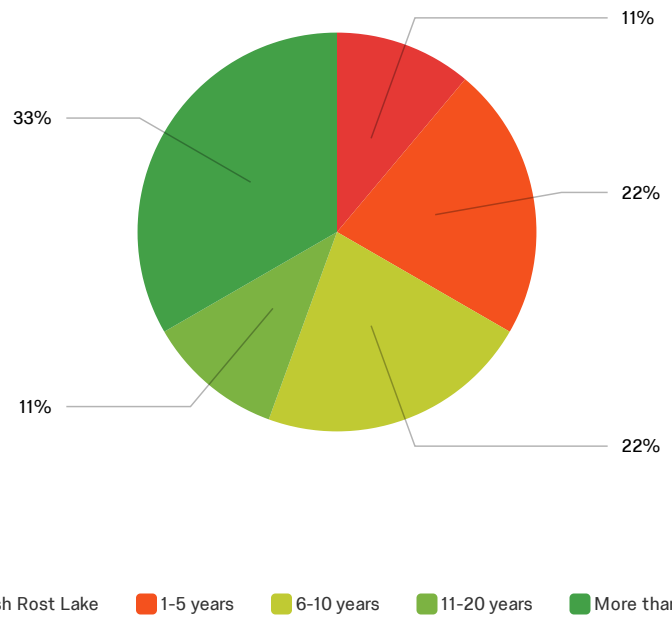
Q51 - For what purposes do you value the fishery in Rost Lake? (Check all that apply)



#	Field	Choice Count	
1	Catch-and-release fishing	37.50%	6
2	Fishing for food	6.25%	1
3	Food for wildlife and birds	18.75%	3
4	Enjoy seeing/watching	18.75%	3
5	Teaching children about fishing/lakes	18.75%	3
			16

Showing rows 1 - 6 of 6

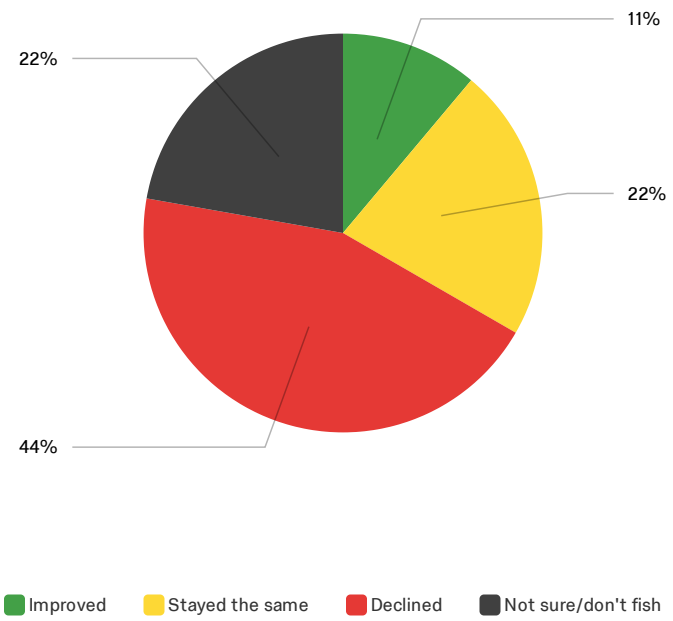
Q52 - How many years experience do you have fishing Rost Lake?



#	Field	Choice Count	
1	I don't fish Rost Lake	11.11%	1
2	1-5 years	22.22%	2
3	6-10 years	22.22%	2
4	11-20 years	11.11%	1
5	More than 20 years	33.33%	3
			9

Showing rows 1 - 6 of 6

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



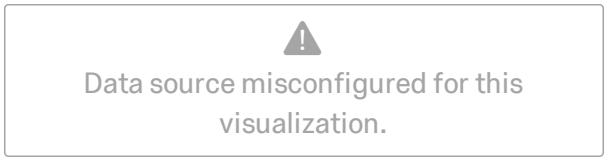
#	Field	Choice Count	
1	Improved	11.11%	1
2	Stayed the same	22.22%	2
3	Declined	44.44%	4
4	Not sure/don't fish	22.22%	2
			9

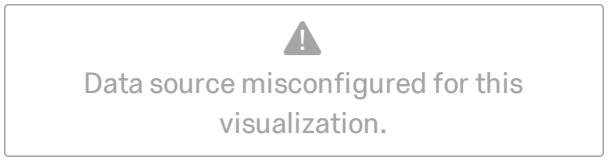
Showing rows 1 - 5 of 5

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

What do you think has contributed to the change in fishing?
little structure to promote fish growth
People keeping small fish. Lack of stocking. Growing turtle population.

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

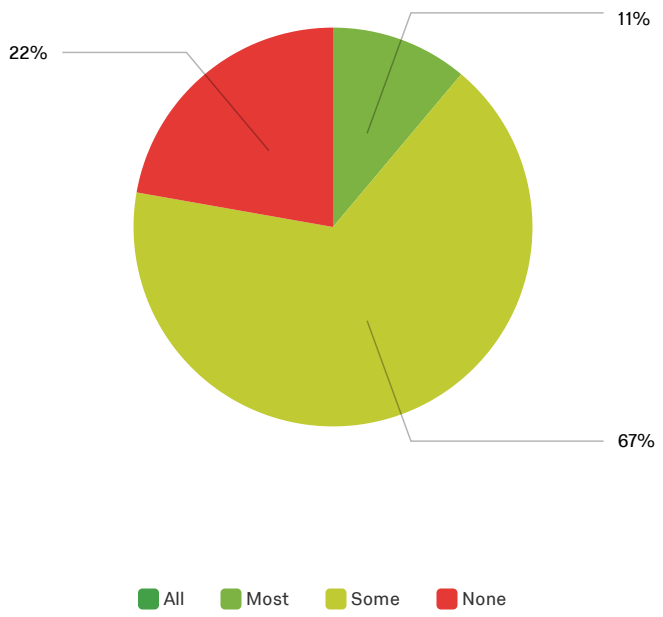




Q56 - What type of fish do you catch on Rost Lake?

What type of fish do you catch on Rost Lake?
Bass, bluegill, northern
bass, blue gill, northern, sucker.
Pike, Large Mouth Bass, Blue Gills, Crappie
panfish
Bluegill, largemouth bass, northern

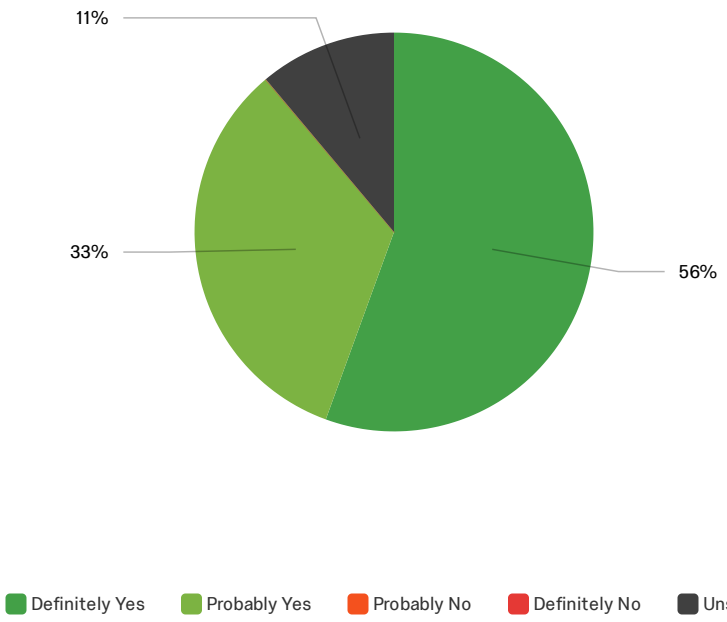
Q57 - In general, how many of the fish you catch are big enough to keep?



#	Field	Choice Count
1	All	0.00% 0
2	Most	11.11% 1
3	Some	66.67% 6
4	None	22.22% 2
		9

Showing rows 1 - 5 of 5

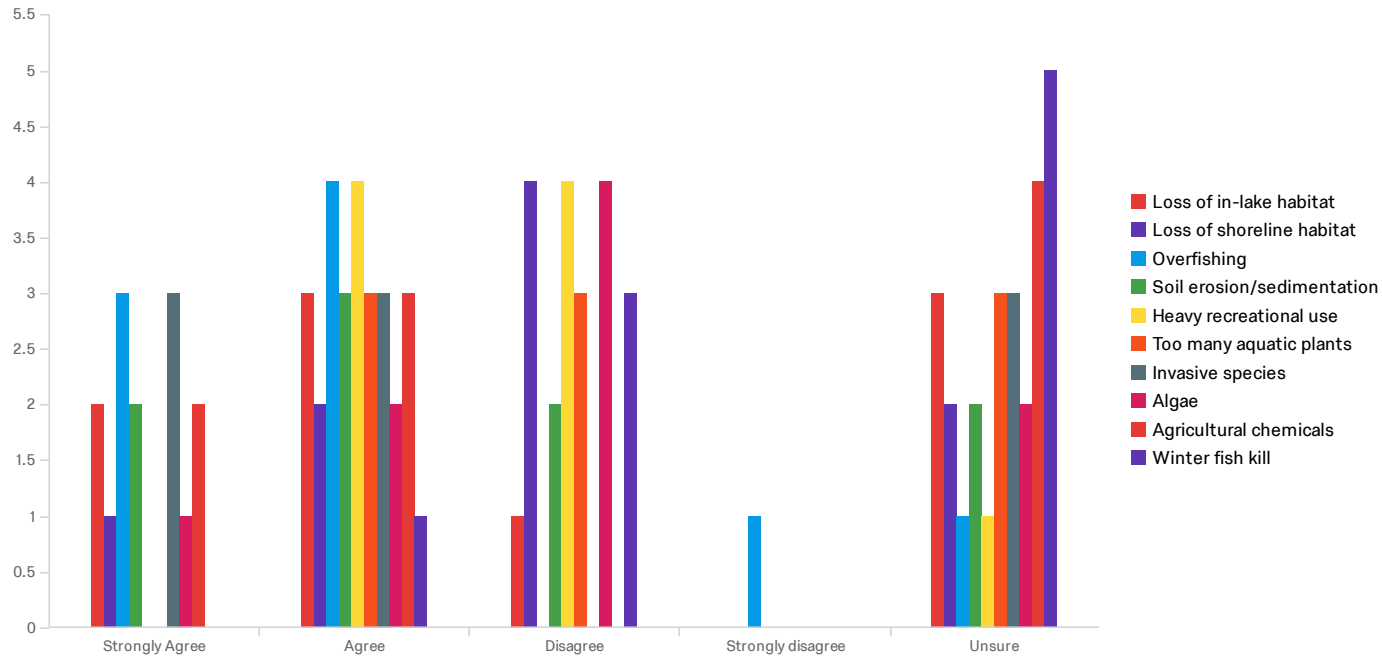
Q58 - Do you believe fish from Rost Lake are safe to eat?



#	Field	Choice Count	
1	Definitely Yes	55.56%	5
2	Probably Yes	33.33%	3
3	Probably No	0.00%	0
4	Definitely No	0.00%	0
5	Unsure	11.11%	1
			9

Showing rows 1 - 6 of 6

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



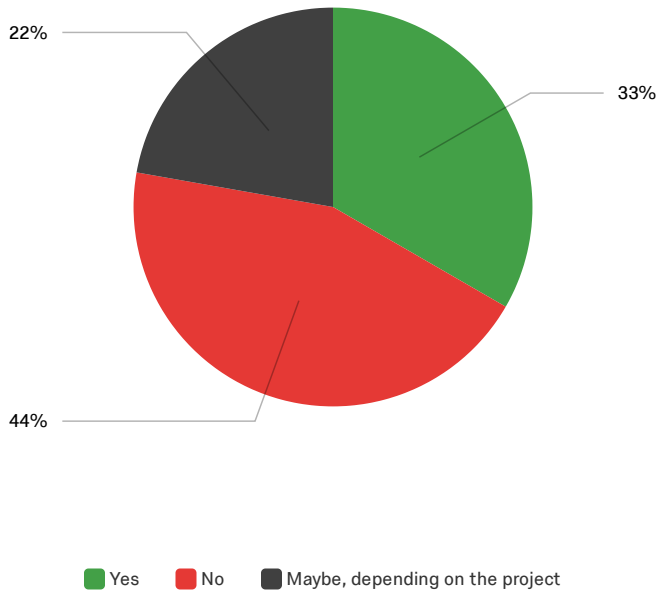
#	Field	Strongly Agree	Agree	Disagree	Strongly disagree	Unsure	Total
1	Loss of in-lake habitat	22.22% 2	33.33% 3	11.11% 1	0.00% 0	33.33% 3	9
2	Loss of shoreline habitat	11.11% 1	22.22% 2	44.44% 4	0.00% 0	22.22% 2	9
3	Overfishing	33.33% 3	44.44% 4	0.00% 0	11.11% 1	11.11% 1	9
4	Soil erosion/sedimentation	22.22% 2	33.33% 3	22.22% 2	0.00% 0	22.22% 2	9
5	Heavy recreational use	0.00% 0	44.44% 4	44.44% 4	0.00% 0	11.11% 1	9
6	Too many aquatic plants	0.00% 0	33.33% 3	33.33% 3	0.00% 0	33.33% 3	9
7	Invasive species	33.33% 3	33.33% 3	0.00% 0	0.00% 0	33.33% 3	9
8	Algae	11.11% 1	22.22% 2	44.44% 4	0.00% 0	22.22% 2	9
9	Agricultural chemicals	22.22% 2	33.33% 3	0.00% 0	0.00% 0	44.44% 4	9
10	Winter fish kill	0.00% 0	11.11% 1	33.33% 3	0.00% 0	55.56% 5	9

Showing rows 1 - 10 of 10

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

Do you have any additional comments regarding Rost Lake?

Q63 - Would you be interested in volunteering on a project at your lake (such as shoreland restoration planting, invasive species monitoring/removal, water quality monitoring, highway cleanup, etc.)?



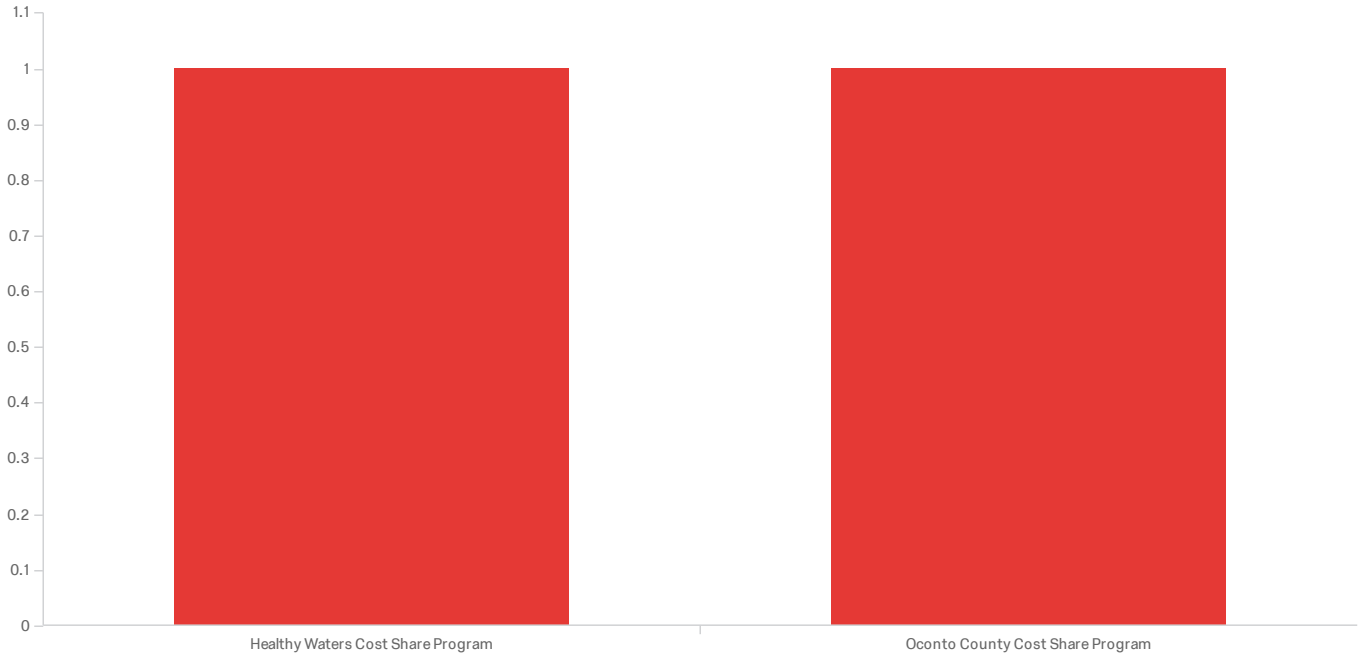
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Would you be interested in volunteering on a project at your lake (such as shoreland restoration planting, invasive species monitoring/removal, water quality monitoring, highway cleanup, etc.)?	1.00	3.00	1.89	0.74	0.54	9

#	Field		Choice Count
1	Yes	33.33%	3
2	No	44.44%	4
3	Maybe, depending on the project	22.22%	2
			9

Showing rows 1 - 4 of 4

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

(Check all that apply)



#	Field		Choice Count
1	Healthy Waters Cost Share Program	50.00%	1
2	Oconto County Cost Share Program	50.00%	1
			2

Showing rows 1 - 3 of 3

End of Report