

# Operational Strategy and Plan for Surface Water Management and Protection in Oconto County

# 2018



## ABSTRACT

This strategy and plan is designed to provide guidance on the county and its partner's roles in maintaining healthy waterbodies throughout the county. Deliberate management and protection of the lake and rivers is necessary to maintain them in a healthy and desirable state. Impacts to the waterbodies may originate in their watershed or on the shorelands. Cumulatively, a number of activities on the landscape can contribute to objectionable impacts to these waterways; however, there are ways to reduce or even eliminate many of these impacts.

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# Operational Strategy and Plan for Surface Water Management and Protection in Oconto County

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This strategy and plan is designed to provide guidance on the county and its partner's roles in maintaining healthy waterbodies throughout Oconto County. Although most of the naturally occurring lakes and rivers in Oconto County have existed since the last ice age, deliberate management and protection of the waterbodies is necessary to maintain them in a healthy and desirable state. Impacts to the waterbodies may originate anywhere in their watershed, including the shorelands. Cumulatively, a number of activities on the landscape can contribute to objectionable impacts to these waterways; however, there are ways to reduce or even eliminate of these impacts.

People do not wish to harm the lakes and rivers, but often they are unaware of the consequences of their actions; therefore, communication is a cornerstone of a good lake management strategy and the prevention of costly problems. Communication can take place in a variety of manners and can become easier with time. Communication options are identified throughout this document.

In Oconto County, many governmental, agency, and non-governmental organizations are tasked with aspects of lake and river management. In some cases, overlap may occur while in other cases, tasks may not be covered by anyone. The content of this document establishes the overarching strategy for lake management in Oconto County. It reflects the outcomes of conversations between numerous partners. Many of the concepts presented are applicable to Oconto County's lakes, streams, rivers, wetlands, and Lake Michigan.

Within Oconto County, many departments and boards make decisions that are directly or indirectly related to the health of the waterbodies. The following departments are involved in some aspects of healthy lakes in the county:

- County Board of Supervisors
- Extension Education
- Forestry, Parks, and Recreation
- Health and Human Services
- Highway Department
- Land Conservation Division
- Planning and Zoning
- Register of Deeds
- Tourism and Economic Development
- UW-Extension

This list may not be all inclusive. The primary coordination for the implementation of this plan will be led by staff from UW-Extension and the County Land Conservation Dept.

Oconto County municipalities make many decisions that can affect the health of its waterbodies, particularly those related to land use planning, road maintenance activities, and the management of town, city, and village lands and access points on the local lakes and rivers. These decisions can positively or negatively affect wetlands, lakes and rivers. Some boating ordinances and lake safety are also within the purview of local branches of government including towns,



Credit: Oconto Falls Chamber of Commerce

villages, and cities. Land use decisions made in a watershed by a municipality can influence waterbodies that exist beyond its governmental boundary, so understanding these connections is imperative to the protection of the waterbodies in the county. Municipalities are identified in many of the strategies listed in this document. A list of many of the ways that towns can participate in the management of their waterbodies can be found in the Appendix.

Numerous external organizations also play a role in aspects of the health of waterbodies in Oconto County. Many directly affect lake, river, or wetland management, while others may make decisions that may indirectly effect the health of the lakes. These organizations include:

- Oconto County Lake and Waterways Association and Individual Lake and River Groups (see Appendix)
- Local conservation and sporting groups (see Appendix)
- Lumberjack Resource Conservation and Development Council, Inc.
- Natural Resources Conservation Services
- Northeast Wisconsin Land Trust
- Timberland Invasive Partnership
- United States Forest Service
- Wisconsin Department of Natural Resources
- Wisconsin Lakes Partnership
- Wisconsin Wetlands Association

In Oconto County, a number of organized lake and land stewardship groups conduct activities to improve the waterbodies. Lists of the known associations, districts, and clubs can be found in the Appendix.

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## List of Goals

GOAL 1: Reduce direct runoff from roads to the lakes and rivers.

GOAL 2: Reduce runoff to the waterbodies from rooftops.

GOAL 3: Access to waterbodies will not be a common source of additional runoff and pollutants.

GOAL 4: Protect wetlands when the landscape is developed and if disturbance is unavoidable, mitigate wetlands in the waterbody's watershed.

GOAL 5: Minimize the delivery of soil erosion and related nutrients to Oconto County lakes, wetlands, and rivers.

GOAL 6: Select land management practices that reduce the addition of nutrients, sediments, and other pollutants to the Oconto County waterbodies.

GOAL 7: Reduce excess nutrients in groundwater and runoff from the lands encompassing the lake and river watersheds.

GOAL 8: Minimize impacts to Oconto County waterbodies from other pollutants.

GOAL 9: Oconto County property owners interested in land protection will have access to professionals and/or documents that describe the types of land protections available, funding options, and how options can complement one another.

GOAL 10: Provide access to waterbodies to afford recreational opportunities for Oconto County residents and visitors.

GOAL 11: Boat launches and other access points on waterbodies will not be sources of aquatic invasive species (AIS).

GOAL 12: Reduce conflicts on Oconto County waterbodies.

GOAL 13: Prevent injury and death by enforcing boating regulations. Ensure there are a sufficient number of enforcement staff with 2 per boat. Uniform slow no-wake hours across the county would help with their enforcement.

GOAL 14: Boat launches and points of access will be sources of clear information for users of waterbodies in Oconto County.

GOAL 15: Clear and concise communication will lead to coordinated lake and river management efforts that are based on well-informed decisions.

GOAL 16: People using the lakes and living near them will be aware of any water-related health concerns that might arise.

## Oconto County Lake Study and Planning Project

The Oconto County Lakes Study and Planning Project has been designed to evaluate the health of the lakes in the county with public access and develop individual plans for the lakes with interested community members. Recognizing the importance of the lakes to the quality of life and economy in the county, the intent of this effort is to maintain, protect, and restore these important features within the county. It is important to review and update this strategy as the lake study/planning project progresses.

In 2016, studies began on the first 9 of 60 lakes with public access in the county. Studies of an additional six lakes began in 2017; it is anticipated that studies of new groups of lakes will be initiated annually. Data will be collected from each lake for two years and summarized in a report for each lake. Topics will include water quality, aquatic plants, fisheries, and shoreland and watershed health. The results from the lake studies, along with other relevant information will help the community to develop plans for the lakes. The plans for individual or multiple lakes will identify problems and how to address them, as well as the strategies needed to prevent problems. Throughout the study and planning process, efforts will be made to enhance the capacity of property owners, lake groups, and their partners. Planning processes for the first group of lakes will take place in 2018. Individual lake plans include more specific goals than those identified in this document and therefore, should be used as a reference when working near a particular lake. The lake management plans will be housed on the county's website.

To provide an overview of the health of the lakes, key information collected from each lake will be compared in a *State of the Oconto County Lakes* report, which will be updated with new information following the data collection period for a group of lakes. This summary will help identify areas of need and guide work plans for county departments and partners. Numerous tasks in this document will be guided by information contained in the State of the Oconto County Lakes report. The first report is anticipated in 2018.

A countywide property owner survey about the lakes was conducted in 2017; results were utilized in the development of this countywide waterbodies management strategy. A countywide groundwater model is also being developed to identify contributing areas to the lakes. The model will have other applications in the county, especially as it relates to drinking water quality.

The primary partners in the study and planning efforts are Oconto County Land Conservation Department, UW-Extension, Wisconsin Dept. of Natural Resources (WDNR), and UW-Stevens Point (UWSP), working with Oconto County Lakes and Waterways Association (OCLAWA), and local lake associations and districts (see Appendix).

Communication between partners is essential for efficient management of waterbodies in Oconto County. At times, working together on projects or grants will be beneficial, and at a minimum, understanding the expectations for the partners as they relate to lake management will be helpful in achieving the common goal of healthy lakes in the county. The municipalities in Oconto County are poised to lead these efforts with their staff, elected officials, and by demonstrating good-water practices in the decisions they make.

Many of the lakes in the county have a citizen-organized association or district. Lake Districts are special units of government that are involved in lake management. In Oconto County, the groups were initiated for a variety of reasons. Their activities vary from meeting once per year to being fully engaged in lake management efforts, including the provision of needed funding. Groups may be involved in disseminating information to their members, partnerships with agency and other lake management professionals, prevention and management of aquatic invasive species (AIS), water quality or habitat improvements, obtaining grant funding, and staying informed about current topics at venues such as the Wisconsin Lakes Convention or the Lake Leaders Institute. Some of the larger

lakes often initiate discussions or town ordinances related to safety and harmony on the lakes. The Oconto County Lakes and Waterways Association (OCLAWA) is a consortium of some of these lake groups. OCLAWA helps to coordinate and improve communication about lakes by connecting members of the lake organizations and the county. Currently, a deficiency exists in the communication with individual lakefront property owners that are not participating in an organization, either because one does not exist on their lake or due to their choice. As the county's lake project progresses, strategies about how to efficiently communicate with these property owners should be developed. More details about communication strategies can be found throughout this document and in the last chapter.

Sportsperson organizations often conduct some aspects of lake and river management in Oconto County. These are frequently related to habitat improvement or stocking of fish. These groups will be invited to participate in the lake planning processes and ideally, this connection will lead to future coordination of special projects with them.

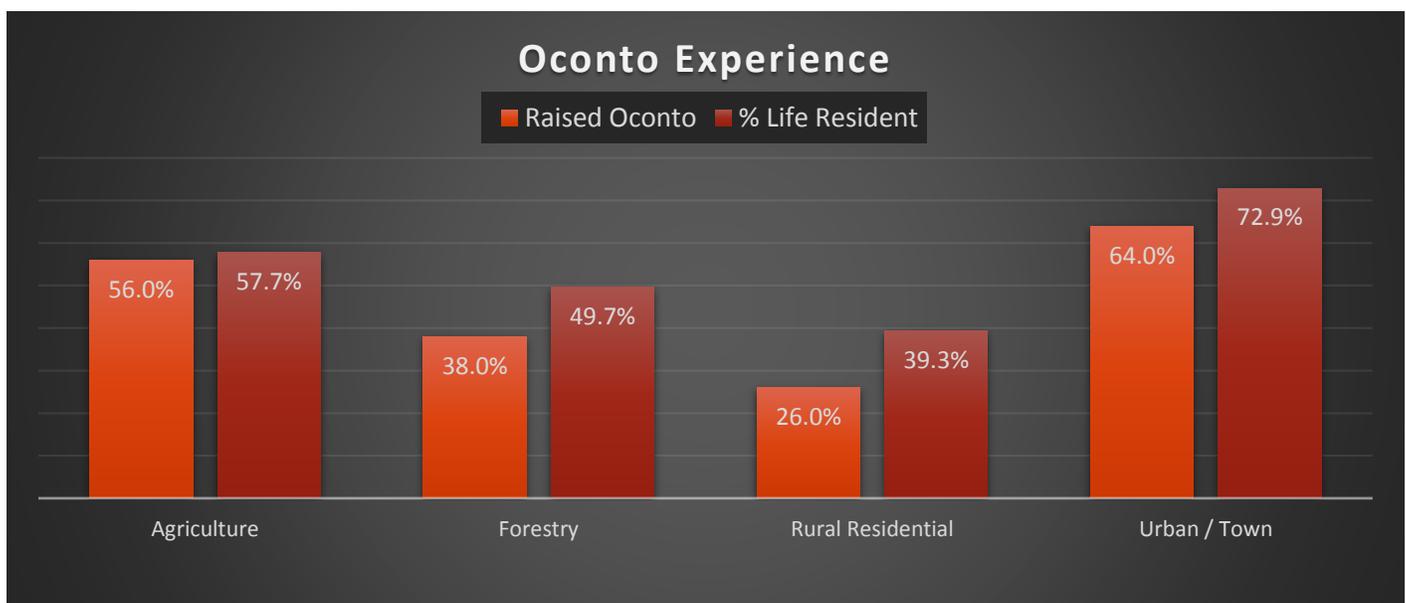
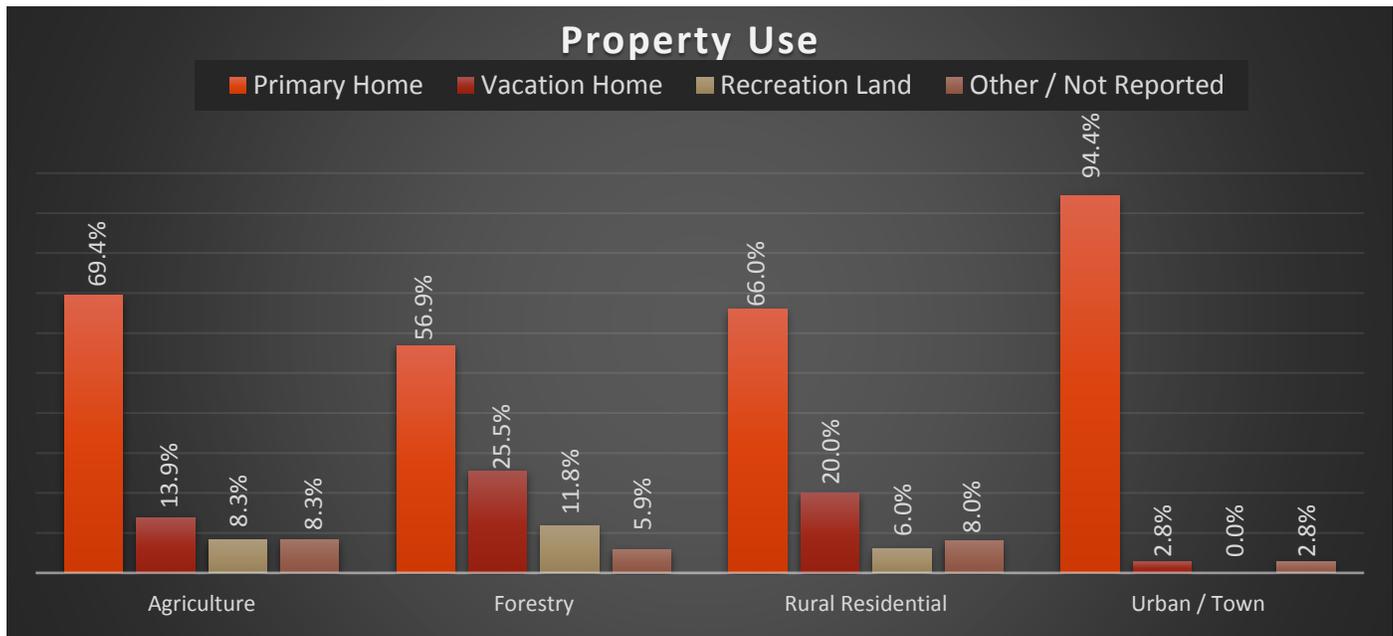
## Primary Partners in the Strategic Plan

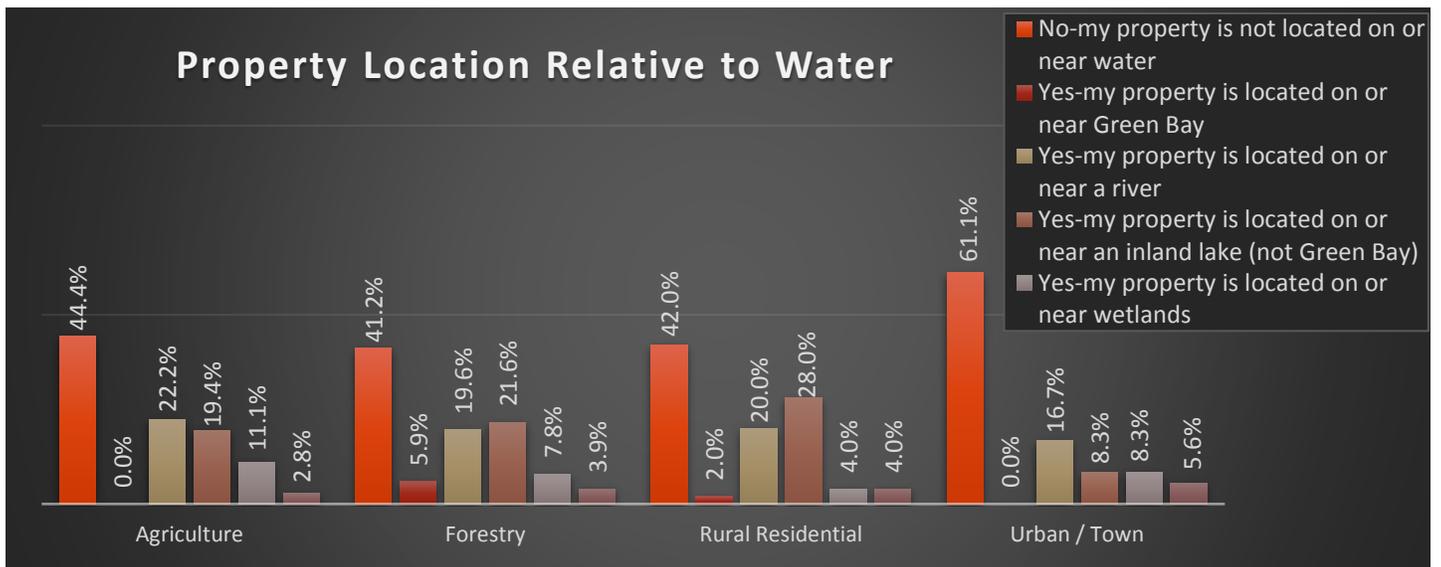
The following table lists the primary partners in the county, the acronyms used in this document, and their websites. It should not be considered to be all inclusive. A list of lake and sportsperson organizations can be found in the appendix.

NAME	WEBSITE
<b>OCONTO COUNTY</b>	<a href="https://www.co.oconto.wi.us/">https://www.co.oconto.wi.us/</a>
<b>County Board of Supervisors</b>	
<b>Forestry, Parks, and Recreation</b>	
<b>Health and Human Services</b>	
<b>Highway Department</b>	
<b>Land Conservation Division</b>	
<b>Planning and Zoning</b>	
<b>Register of Deeds</b>	
<b>Sheriff's Department</b>	
<b>UW-Extension</b>	
<b>Tourism</b>	<a href="http://www.ocontocounty.org/">http://www.ocontocounty.org/</a>
<b>Conservation, Fishing, Wildlife Groups</b>	See Appendix
<b>Lake and River Groups</b>	See Appendix
<b>Lumberjack Resource Conservation and Development Council, Inc. (Lumberjack RC&amp;D)</b>	<a href="http://www.lumberjackrcd.org/">http://www.lumberjackrcd.org/</a>
<b>Natural Resources Conservation Services (NRCS)</b>	<a href="https://www.nrcs.usda.gov/wps/portal/nrcs/site/wi/home/">https://www.nrcs.usda.gov/wps/portal/nrcs/site/wi/home/</a>
<b>Northeast Wisconsin Land Trust (NELT)</b>	<a href="https://www.newlt.org/">https://www.newlt.org/</a>
<b>Oconto County Lake and Waterways Association (OCLAWA)</b>	<a href="http://www.oclawa.org/home.html">http://www.oclawa.org/home.html</a>
<b>Timberland Invasive Partnership (TIP)</b>	<a href="http://www.timberlandinvasives.org/index.html">http://www.timberlandinvasives.org/index.html</a>
<b>United States Forest Service (USFS)</b>	<a href="https://www.fs.usda.gov/cnnf">https://www.fs.usda.gov/cnnf</a>
<b>Wisconsin Dept. of Natural Resources (WDNR)</b>	<a href="http://dnr.wi.gov/">http://dnr.wi.gov/</a>
<b>Wisconsin Lakes Partnership (UWEX Lakes)</b>	<a href="https://www.uwsp.edu/cnr-ap/UWEXLakes/Pages/default.aspx">https://www.uwsp.edu/cnr-ap/UWEXLakes/Pages/default.aspx</a>
<b>Wisconsin Wetlands Association (WWA)</b>	<a href="https://wisconsinwetlands.org/">https://wisconsinwetlands.org/</a>

## Opinions and Perspectives

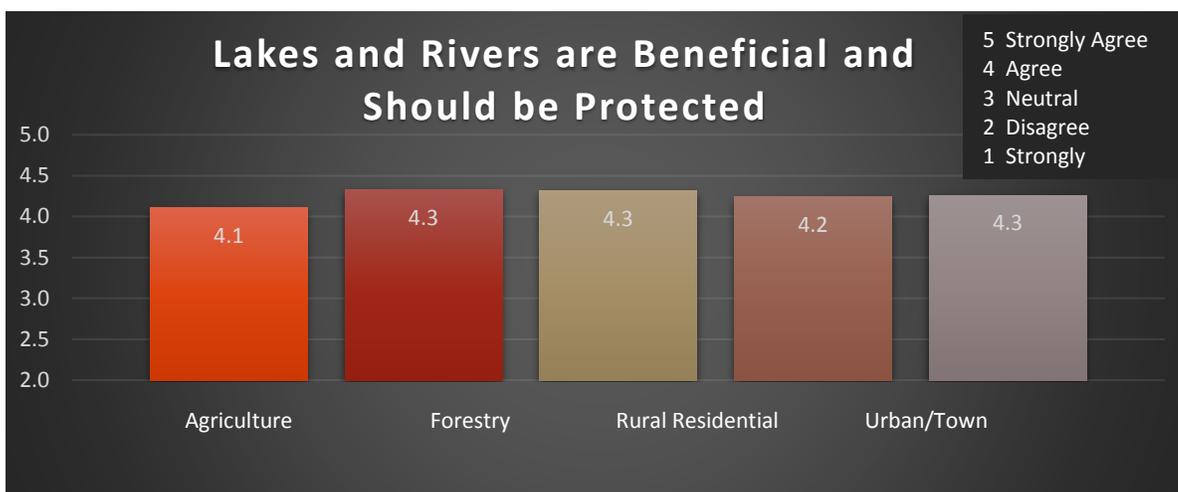
In spring 2017, as part of the Oconto Lakes Study and Planning Project, a survey was conducted by Dr. Aaron Thompson from UW-Stevens Point. Much of the survey information presented in this document originated from his report. The survey was sent to 870 property owners throughout the county to obtain their viewpoints about Oconto County lakes. A 45.8% response rate, totaling 400 responses, was received. Nearly equal representation was provided by landowners from agricultural, forestry, rural residential, and urban areas. A high percentage of respondents indicated that their primary residence is in Oconto County and that they have spent a majority of their lives in the county. A majority of the respondents did not live on or near water.



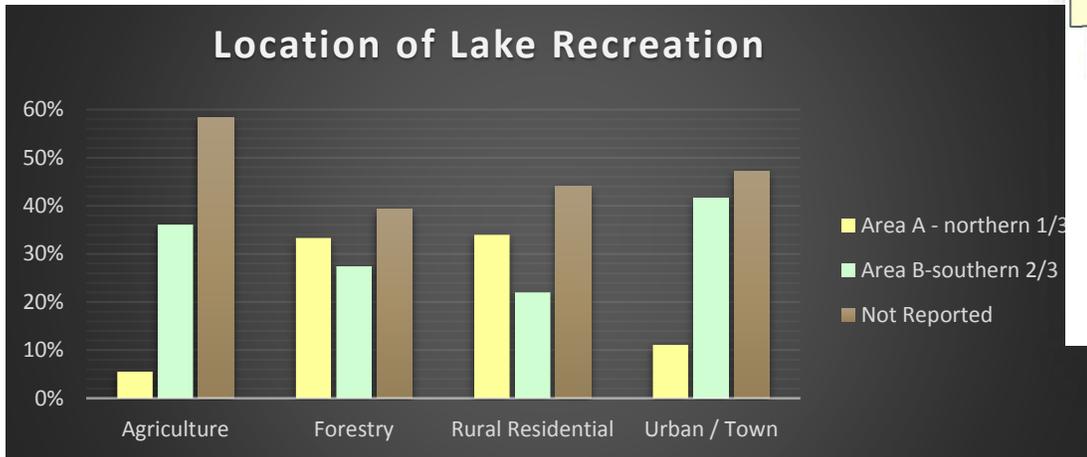


### Perceptions Related to Oconto County Lakes

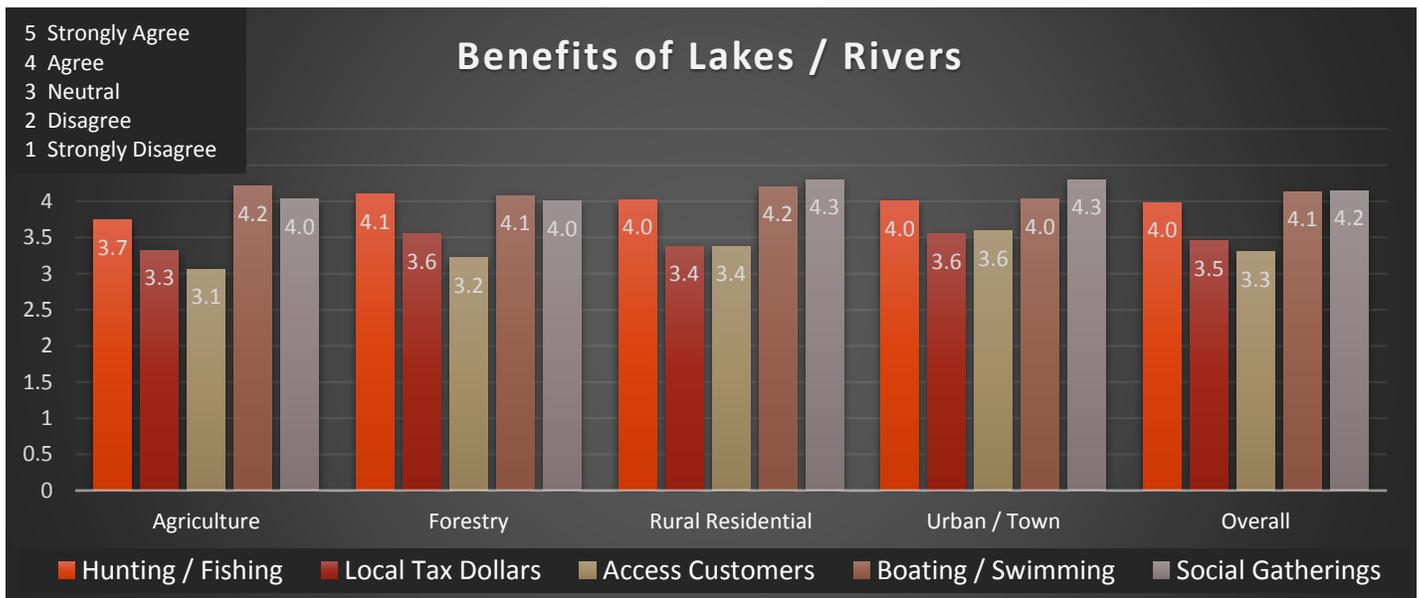
Based on a combination of the results of nine survey questions, community members indicated that lakes and rivers are very important resources in the county that are worthy of protection. This perspective was shared among all of the groups of survey respondents.



The majority of agricultural and urban respondents indicated that most of their lake-related recreation occurred in the southern two-thirds of the county, while the forestry and rural residents tended to spend more time on the lakes in the northern third of the county. A large percentage of respondents did not identify where their lake activities take place.

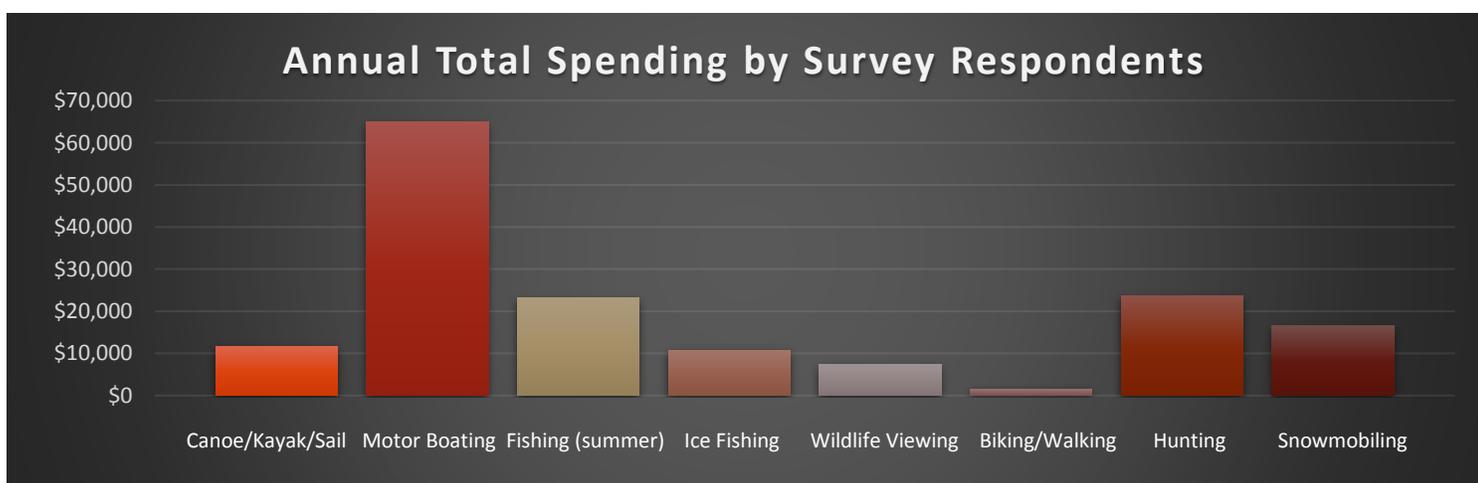
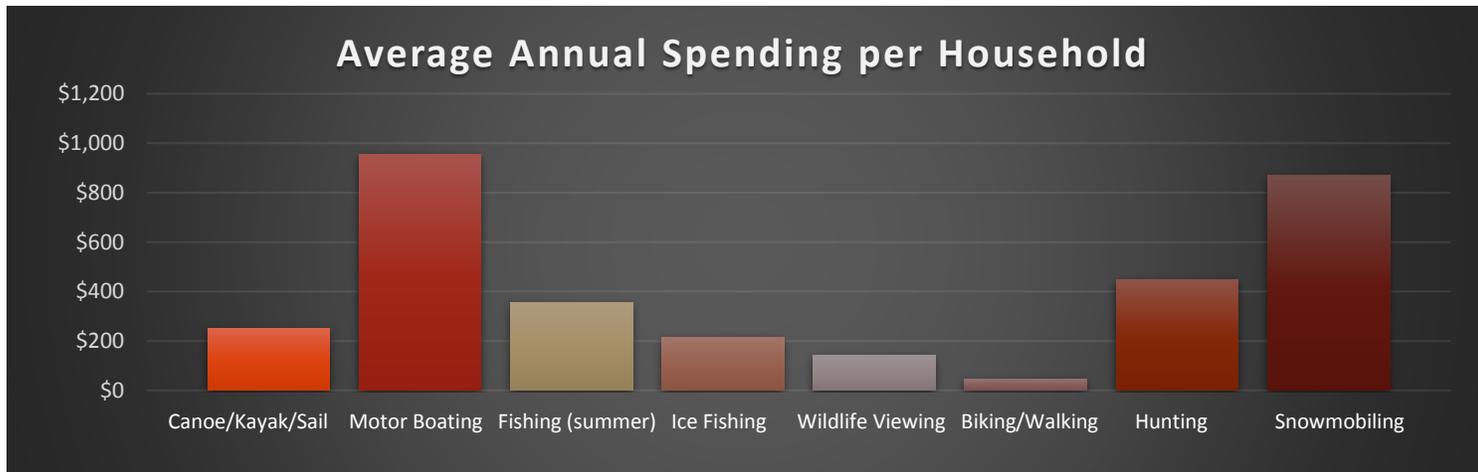
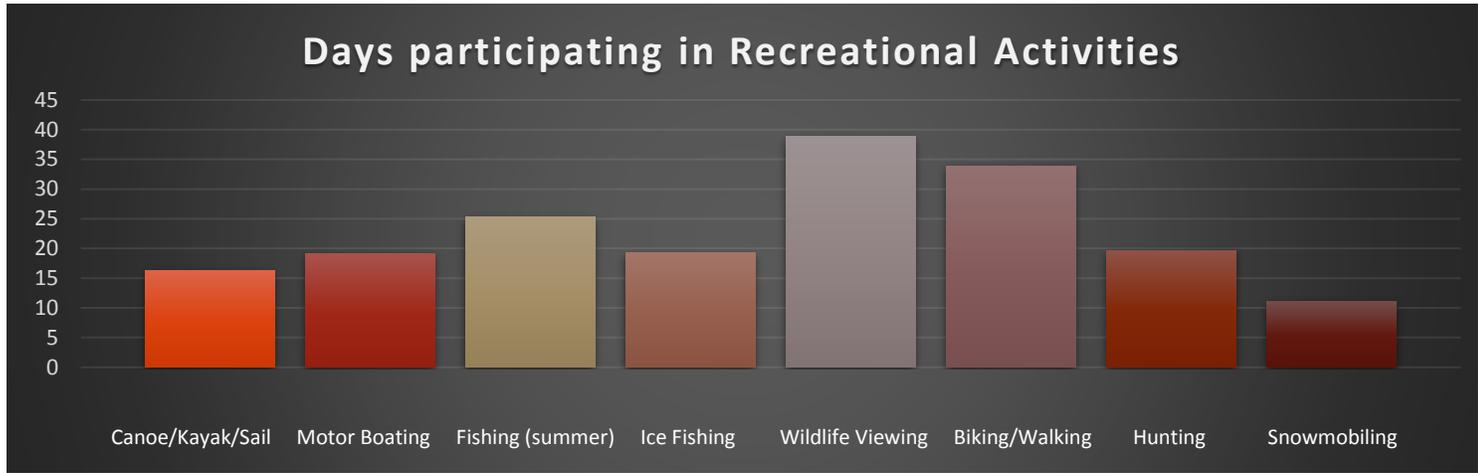


Many benefits from the lakes and rivers in the county were recognized, including providing areas to boat, swim, gather with family and friends, hunt, and fish. The waterbodies are also valued for the generation of local funds that occurs from taxes and access to (visiting) customers for local businesses.



Survey respondents were asked to estimate the amount of time and spending for common activities associated with the lakes, including canoeing/kayaking/sailing, motor boating, fishing in summer and winter, wildlife viewing, biking/walking, hunting and snowmobiling. On average, people spent the greatest amount of time on or near the lakes viewing wildlife, canoeing/kayaking/sailing, and biking/walking. Several differences were identified when these questions were analyzed by group. When comparing the urban group with the rural groups, there were significantly fewer people in the urban group who are using the lakes for viewing wildlife, motor boating, and canoeing/kayaking/sailing. The forest property owners reported a significantly higher rate in hunting near the lakes compared to the other groups. The questions about spending revealed that for the activities listed in the survey,

the total annual spending on recreation by respondents was \$159,777, which yielded an annual average of \$957 per household. The activities with the greatest average annual spending per person was motor-boating and snowmobiling. Motor-boating was the recreational activity with the greatest total annual spending.



# Goals and Strategies

The following section provides background, goals and strategies for the topics of water quality/land management, recreation, and communication. Some of the goals were identified through the *Meet Your Scientist* meetings with lakefront property owners that occurred as a part of the lake study and others arose from conversations among county staff and external partners.

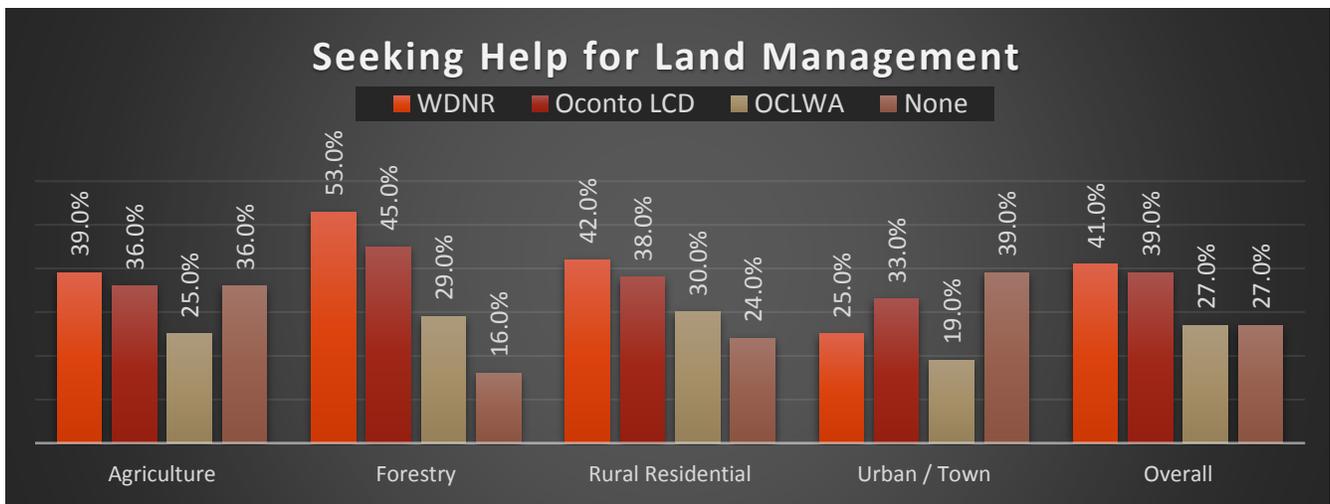
## Land Management and the Lakes, Rivers, and Wetlands

Typically, it is the cumulative effect of many smaller impacts that create problems in small inland lakes and streams. The way the water moves across the landscape towards the waterbody and what it comes in contact with in route affects the water chemistry, amount of algal and aquatic plant growth, water temperature, and fish spawning habitat. These variables play a role in the health of the fishery and aquatic ecosystem as well as the aesthetic appeal of the waterbody. Community and county goals and healthy waterways need not be in conflict. With some forethought about how alterations to the natural landscape might effect a waterbody and how best to minimize these changes, problems leading to expensive lake management efforts can be avoided. Municipalities have the potential to guide many decisions made about land management.

**Potential Problems from Landscape Activities and Alterations**

- Increasing the amount of runoff to a lake over the short-term and reducing groundwater inputs over the longer-term.
- Increased delivery of sediment, nutrients and other pollutants to the lakes.
- Loss of wetlands.
- Loss of important habitat.

Trusted sources of information and assistance for land management can vary from county-to-county and within a county. They can also vary based on the stakeholder group, which can be related to their familiarity and type of experiences with a department/agency as a whole or one of their employees. Results of the community survey showed that overall, the WDNR and Oconto County Land Conservation Dept. were identified as trusted sources of advice about land management among the groups listed. OCLAWA ranked lower, which may be due to lack of knowledge about or experience with this organization. In the case of the urban/town responses, 39% would not seek assistance about land management from any of the listed organizations.



## Impervious Surfaces and Infrastructure

Impervious surfaces increase the amount of runoff while decreasing the amount of groundwater infiltration. Increases in runoff to a lake or stream can deliver pollutants which can affect water quality or alter fish spawning habitat. Depending on the quantity of impervious surfaces, warm runoff can also warm water temperatures in localized areas of the receiving waterbodies during the summer. The cumulative effect of impervious surfaces can have a large effect on the waterways in Oconto County. Studies have shown that the fish community in a waterbody changes based on the amount of impervious surfaces in its watershed.

In general, large events of precipitation or snowmelt deliver the greatest amounts of pollutants to the lakes. Therefore, mitigation of impacts should be designed to manage large events.

### Roads, Parking Lots, Driveways

To provide safe conditions and limit maintenance needs, roads, parking lots, and driveways need to shed water. As a result, water from these impervious surfaces is often directed to nearby low lying areas, which may be lakes and rivers. Ideally, runoff from impervious surfaces should be directed towards depressions on the landscape where particles can settle out and water can soak into the ground prior to reaching a body of water. The depressions may be naturally occurring or intentionally placed. Designing subdivisions or other developments to minimize the amount of impervious surface may also provide beneficial options. Examples include reducing driveway length/width or the amount of roadway in a development, and designing smaller building footprints. Other strategies can be designed to manage the runoff before it reaches a lake or river. Some examples include swales, vegetated waterways, raingardens, and rain barrels. There are many guides that outline these best management practices.

Thermal pollution occurs from runoff moving across hard, darkly pigmented surfaces that drain to a waterbody. While this is unlikely to affect overall temperatures in most of the larger Oconto County lakes, this warm runoff can have localized effects within a waterbody. Some aquatic biota, especially cool and cold-water species of fish, can be negatively affected by warmer water temperatures during some periods of their lifecycle. Many of runoff management strategies also help to reduce the amount of thermal pollution delivered to a lake. Limiting the amount of impervious surface to less than 11% watershed/nearshore has been shown to reduce the thermal pollutants to a lake or river.



## ***GOAL 1: Reduce direct runoff from roads to the lakes and rivers.***

**Strategy 1A:** Utilize designs and best management practices to reduce direct runoff from roads to the lakes. These approaches may include the use of swales, retention ponds, siting the road farther from the waterbody, or other designs. Conduct environmental impact studies for major projects.

*Who:* OC Highway Dept., municipalities, contractors, WDNR Lake and River grants

*Communication:*

- When new or improved roadbeds are being planned near the waterbodies, OC Highway Dept. and municipalities will seek professional input about runoff management from Planning and Zoning Dept. and OC Land Conservation Dept. staff.
- OC Highway Dept. will meet with municipalities annually to review practices that could be used to protect waterbodies in the county.
- During the approval process for new developments, suggestions should be made to reduce impervious surfaces and/or manage the runoff, especially those located near waterbodies.

**Strategy 1B:** Culverts should be installed at-grade with a streambed or wetland to ensure passage of fish and other aquatic organisms and should be sized to accommodate flow during large events. Tiling and ditching directs more water to ditches and is resulting in culverts being undersized. Undersized culverts should be replaced. Maintain a catalog of culvert age, size, location, elevation, and materials.

*Who:* OC Highway Dept., municipalities

*Communication:* Internal

**Strategy 1C:** Consider options to manage parking lot runoff at county parks.

*Who:* OC Forestry/Parks/Rec, OC Planning and Zoning Dept., OC Land Conservation Dept., OC Highway Dept.

*Communication:* Internal

## **Rooftops**

Like other types of impervious surfaces, rooftops generate additional runoff which can carry pollutants towards waterways. There are many management options that can be employed to mitigate this problem. Examples include the collection and storage of water for future use, directing water to depressions in the landscape, minimizing the building footprint, and increasing setbacks from lakes. Trees and shrubs reduce the energy of the precipitation on the landscape, which helps to reduce erosion. Public buildings provide good opportunities to showcase these practices in a setting that can be viewed by interested individuals.



## ***GOAL 2: Reduce runoff to the waterbodies from rooftops.***

**Strategy 2A:** Runoff reduction and management strategies will be incorporated into subdivision designs.

*Who:* Municipalities, Plan Commissions, OC Planning and Zoning Dept., OC Land Conservation Dept.

*Communication:*

**Strategy 2B: Manage rooftop runoff from public buildings using raingardens and rain barrels to show leadership and provide demonstration sites for viewing.**

*Who:* Municipalities, OC Planning and Zoning, Dept., OC Land Conservation Dept., OC Forestry/Parks/Rec, WDNR, USFS

*Communication:*

- Add signs and/or provide brochures near some of the sites to highlight the purpose and advantage of the runoff management.
- Provide a website or app that shows locations of these and other sites with best management practices.

**Strategy 2C: Assist property owners interested in managing rooftop runoff from their buildings using raingardens and rain barrels by providing guidance or funding assistance.**

*Who:* OC Land Conservation Dept., LCC Committee, WDNR Lake and River grants

*Communication:* Property owners stewardship organizations will be informed about opportunities through press releases, social media posts, emails, and websites.

**Strategy 2D: Support educational opportunities to encourage runoff and stormwater management options.**

*Who:* UW-Extension, OC Planning and Zoning Dept., OC Land Conservation Dept., OCLAWA/Lake and River Groups

*Communication:* Opportunities could be directed towards waterfront property owners, cities/village officials, plan commissions, and contractors. They may include visits to demonstration sites and discussions about options for a variety of settings and implementation strategies. Training is available for stormwater management by the North American Stormwater and Erosion Control Association (NASECA-WI).

## Access to Lakes

Trails, paths, stairways, roads, and boat launches leading to a lake or river all have the potential to concentrate runoff. This leads to the creation of erosion or delivery of additional sediment, nutrients, and other pollutants to waterbodies. This is especially relevant at access points associated with higher topography.

Design options are available to reduce what is delivered and minimize erosion. Depending on the setting, options include diversions, pavement or pervious pavement, meanders, open backed stairs, wood chips on pathways, and management of runoff at the top of the slope.



***GOAL 3: Access to waterbodies will not be a common source of additional runoff and pollutants.***

Strategy 3A: Maintain public sites with access to waterbodies that showcase management practices designed to reduce runoff and pollutants to the lakes. Employ strategies to stabilize beaches.

*Who:* OC Forestry/Parks/Rec, WDNR, USFS, municipalities, OC Planning and Zoning Dept., OC Land Conservation Dept., OC Highway Dept.

*Communication:* Provide a website or app that shows locations of these and other sites with best management practices.

Strategy 3B: Assist property owners interested in improving their waterbody access to reduce the delivery of runoff and pollutants to the lake by providing guidance and/or funding assistance.

*Who:* OC Land Conservation Dept., LCC Committee, WDNR Lake and River grants, consultants.

*Communication:* Property owners and lake and river groups will be informed about opportunities through press releases, social media posts, emails, and websites.

## Wetlands

Wetlands provide essential habitat throughout a watershed and critical natural flood control services. Wetlands in the watershed help to control runoff and can be a source of water to the waterbodies during periods without precipitation. Wetlands are capable of storing and filtering water, making them an essential component of flood control strategies and water quality improvement efforts. Nearshore, wetlands provide habitat for aquatic organisms such as young fish, turtles, amphibians, as well as terrestrial animals and birds.

***GOAL 4: Protect wetlands when the landscape is developed and if disturbance is unavoidable, mitigate wetlands in the waterbody's watershed.***

Strategy 4A: Review and improve zoning setbacks and limit disturbance to wetlands from development.

*Who:* Municipalities, OC Planning and Zoning Dept., UW-Extension, local developers

*Communication:* One-on-one conversations

Strategy 4B: **Town Commissioners and Boards making land use decisions should be aware of how to access tools that help identify important areas such as wetlands. Mapping tools supported by the WDNR can be found at:**

<http://dnrmapping.wi.gov/SL/Viewer.html?Viewer=SWDV&runWorkflow=Wetland> and

<http://dnr.wi.gov/topic/wetlands/identification.html>

*Who:* OC Planning and Zoning Dept., municipalities

Strategy 4C: Inform property owners of the importance of wetlands and how to be good stewards.

*Who:* OC Planning and Zoning Dept., UW-Extension, OCLAWA/Lake and River Groups and Conservation organizations, Wisc. Wetlands Assoc.

*Communication:*

- Provide information to property owners before they develop land.
- Educational tours to learn about wetland benefits to flood control, fish and wildlife.
- Waterfowl or birding outings.
- Signs or brochures on public lands.

Strategy 4D: When possible, accommodate wetlands by using bridges or designing road routes around them.

*Who:* OC Highway Dept., municipalities

*Communication:* Internal

Strategy 4E: Keep wetlands functional by managing aquatic invasive species (AIS) such as phragmites. See AIS plan for details.

*Who:* Managers of public land

## Sediments, Nutrients, and other Pollutants

Reducing runoff can help reduce the amount of pollutants delivered to an Oconto County waterbody, but reducing the amount of pollutants available to be carried by the runoff or groundwater to the waterbody is also beneficial. In addition, intercepting the runoff to allow particles and associated pollutants to remain on the landscape is desirable. This can occur with the use of retention ponds and other depressions on the landscape and with unmowed vegetation, especially near the shorelands or on the top of a slope leading to a waterbody. Controlling erosion during construction, from farm fields, or along the shorelands can also help to reduce the movement of soil, which includes nutrients, to the lakes and rivers in Oconto County. The cumulative effects from numerous sites are frequently the sources of problems in a waterbody.



## Erosion

Soil from eroding sites can be rich in nutrients. Erosion may occur anywhere in a waterbody's watershed but can be avoided by a variety of means. Examples include managing runoff on the top of a hill, designing meandering stairways and trails on steep shorelines, stabilizing slopes, and using cover crops. Many techniques are available to reduce or contain eroded materials from construction sites. However, some of these impermanent practices may not remain in place over the entire period of disturbance. Therefore, erosion controls should be routinely examined, especially prior to, during, and following large precipitation or snowmelt events. Existing erosion should be stabilized and re-vegetated, if possible.



## Potential Problems from Sediment, Nutrients, and other Pollutants

- Nutrients increase the growth of algae and aquatic plants.
- Blue-green algal blooms can lead to health problems and beach closures.
- Additions of sediment can alter fish spawning beds and locally raise water temperatures.
- Thermal pollution from runoff moving across dark impervious surfaces can locally affect water temperatures. Cool water is important to many fish species.
- Herbicides and pesticides can affect some aquatic organisms.

### *GOAL 5: Minimize the delivery of soil erosion and related nutrients to Oconto County lakes, wetlands, and rivers.*

**Strategy 5A:** Prevent erosion to the lakes from road maintenance activities. Erosion controls should be properly designed and installed to reduce the movement of eroded materials from areas with exposed soil or topography during and after road maintenance activities. Routinely check erosion controls to be sure they are functioning properly. Report compliance issues to the OC Highway Dept.

*Who:* OC Highway Dept., municipalities, OC Planning and Zoning, contractors

*Communication:* Those involved in highway construction and maintenance should understand the importance of erosion control as a part of each project. OC Highway Dept. meets with representatives from the municipalities to discuss erosion control options and monitoring guidelines. Requirements are conveyed to contractors along with expectations that they comply with requests. Training is available through NASECA-WI and UW-Extension.

**Strategy 5B:** Use reseeding strategies to reduce erosion from right-of-ways and ensure erosion controls remain in place while vegetation is becoming established. Choose seeding options that will not introduce non-native invasive species. Report compliance issues to OC Highway Dept.

*Who:* OC Highway Dept., municipalities, OC Planning and Zoning Dept., OC Land Conservation Dept.

*Communication:* Those involved in highway construction and maintenance should understand the importance of erosion control throughout the duration of each project. Requirements should be conveyed to contractors along with expectations that they comply with requests.



**Strategy 5C:** Monitor for erosion along roads and respond to issues quickly. Common indications of erosion include gullies and large sediment deposits.

*Who:* OC Highway Dept., municipalities, OC Planning and Zoning Dept., OC Land Conservation Dept.

*Communication:* Internal

Strategy 5D: Public sites and roads, especially those near wetlands and waterbodies, should be inspected for erosion and problems should be addressed.

*Who:* OC Highway Dept., municipalities, OC Land Conservation Dept.

*Communication:* Internal

Strategy 5E: Assist property owners interested in correcting erosion or managing runoff from hilltops to reduce hillside erosion. Seek opportunities to cost share corrective actions.

*Who:* OC Land Conservation Dept., LCC Committee, WDNR Lake and River grants, UW-Extension

*Communication Options:* Property owners and lake and river groups will be informed about opportunities through press releases, social media posts, emails, and websites.

Strategies 5F: Use diversions on boat launches to reduce the amount of soil and pollutants draining directly to a waterbody. Design boat launches to reduce erosion from the sides of the pads.

*Who:* OC Forestry/Parks/Rec, OC Highway Dept., municipalities, USFS, WDNR Lake and River grants

*Communication:* Internal among site partners.



## Shoreland Vegetation

Healthy unmowed shoreland vegetated buffers are essential to healthy Oconto County waterbodies, providing good water quality and ample habitat. Healthy shorelands can be a part of the landscape while still allowing for sufficient access to the lake. Depending on the setting, vegetation can be allowed to grow naturally or be intentionally designed with a mix of native vegetation to provide a more kept appearance. Shrubs and trees are an important part of the shoreland, providing habitat, shade, and water quality improvement and erosion reduction services.



***GOAL 6: Select land management practices that reduce the addition of nutrients, sediments, and other pollutants to the Oconto County waterbodies.***

Strategy 6A: Public lands on the waterbodies should demonstrate good shoreland management practices. Where possible, leave unmowed areas of the shorelands while providing access to the waterbody. Provide examples of shoreland vegetation options, including naturally occurring and intentionally planted.

*Who:* OC Forestry/Parks/Rec, municipalities, USFS, WDNR, OC Highway Dept., OC Planning and Zoning Dept., OC Land Conservation Dept.

*Communication:*

- Provide signs or brochures that describe the purposes for shoreland vegetation and the different management techniques used (stopped mowing, native planting, etc.).
- Provide a website or app that shows locations of these and other sites with best management practices.

**Strategy 6B:** Inform Oconto County waterfront property owners about healthy shoreland management practices. Disseminate information about healthy shoreland practices to new property owners.

*Who:* UW-Extension, OC Register of Deeds, OC Land Conservation Dept.

*Communication:* Direct property owners to websites (such as Healthy Lakes <http://healthylakeswi.com/> ) and provide publications which identify local examples.

**Strategy 6C:** Provide support to property owners interested in shoreland restorations. Options include site visits, assistance with design, connecting them with certified local contractors and local sources of native plants, providing information about grant opportunities or assisting with cost-sharing projects.

*Who:* OC Land Conservation Dept., UW-Extension, OCLAWA/Lake and River Groups, WDNR Lake and River grants

*Communication:* Through OCLAWA/Lake and River Groups, press releases, social media, websites, planning meetings. Encourage local landscape contractors to attend UW-Extension shoreland restoration training.

**Strategy 6D:** Support opportunities to highlight good shoreland management practices.

*Who:* OCLAWA/Lake and River Groups, UW-Extension

*Communication:* Shoreland tours/open houses, press releases, social media posts, lake fairs.

**Strategy 6E:** Support the recognition of property owners employing healthy shoreland management practices.

*Who:* OCLAWA/Lake and River Groups, UW-Extension

*Communication:* Examples may include a listing of new healthy shoreland initiatives on a website or app, newsletter or press release, yard sign, tax incentive.



## Nutrients

Like terrestrial plants, the addition of nutrients to Oconto County lakes and rivers stimulates the growth of algae and aquatic plants which can lead to blue-green algal blooms or low oxygen concentrations during the winter. Nitrogen and phosphorus occur naturally in our landscapes but are also added to the landscape in fertilizers, manure, and from septic systems/wastewater treatment facilities. The nutrients on the land can wind up in waterbodies by way of runoff and groundwater that is discharging to them. Reduction of the amount of nutrient

additions to the landscape, managing runoff, and addressing erosion are all ways of preventing excess nutrients from entering the waterbodies.

***GOAL 7: Reduce excess nutrients in groundwater and runoff from the lands encompassing the lake and river watersheds.***

**Strategy 7A:** Limit or eliminate the use of fertilizers on public land. If there appears to be a need for fertilizers, test the soil to determine the types and amounts that could be warranted.

*Who:* OC Forestry/Parks/Rec, WDNR, USFS, OC property managers, UW-Extension

*Communication:* Send reminders to managers of public properties. Offer soil tests to determine need.

**Strategy 7B:** Provide support to agricultural producers to help reduce the amount of nitrogen and phosphorus applied to land.

*Who:* OC Land Conservation Dept., LCC Committee, NRCS, DATCP (grant funding)

**\*\* SEE *Oconto County Land and Water Resource Management Plan* on the county's website for details. \*\***

**Strategy 7C:** Work with agricultural producers where fields are encroaching on the public road right-of-ways; ditches can readily transport nutrients and other pollutants to wetlands and waterways.

*Who:* OC Highway Dept., municipalities, OC Land Conservation Dept., UW-Extension

*Communication:* One-on-one conversations, newsletters, press releases

**Strategy 7D:** Report suspicious discharges to ditches for follow-up testing. WDNR Lake Biologist has funding for water analysis.

*Who:* County staff, Individuals

*Communication:* Contact WDNR 24-hour Spill Hotline at 800-943-0003.

**Strategy 7E:** Provide information to waterfront property owners about ways to reduce nutrients on the landscape. Examples include fertilizer reduction/elimination, soil testing, and use of native plant landscaping that does not require fertilizer.

*Who:* UW-Extension, OCLAWA/Lake and River Groups

*Communication:* newsletters, press releases, workshops, shoreland walks

**Strategy 7F:** Encourage increased setbacks of septic systems from the waterbodies.

*Who:* OC Planning and Zoning Dept., OCLAWA/Lake and River Groups

*Communication:* conversations, newsletters

**Strategy 7G:** Develop and enact a strategy to inform the public if cyanobacterial (blue-green algae) toxicity is possible at beaches. Identify a monitoring strategy and implement communication about safety.

*Who:* OC HHS, municipalities, OC Forestry/Parks/Rec, OCLAWA/Lake and River Groups

*Communication:* Press release, brochures, one-on-one conversations.

## Other Pollutants: Herbicides, Pesticides, Metals, Organic Compounds

Like nutrients, other pollutants can travel to waterbodies in runoff and via groundwater, but their mobility varies by the type of pollutant. In general, metals remain in close association with soil particles. At the bottom of the waterbodies or wetlands, when conditions are right, some metals can be liberated back into the water. In contrast, other compounds are very soluble in water and remain in the water. Typically, impacts throughout a waterbody may not be observed because many of the soluble compounds are diluted. However, areas of concentration can occur in back bays or groundwater inflow areas. The exception is whole-lake herbicide treatments for aquatic plants; the full assessments of their impacts to aquatic organisms have not yet been completed. Once in the waterbody, some herbicides and pesticides have been found to affect aquatic biota; some can be mutagenic while others can cause disturbance to the endocrine system. There are many sources of pollutants including lawn, garden and agricultural use of herbicides and pesticides, septic systems can be sources of metals and organic compounds, roads and parking lots can be sources of metals associated with vehicles, and air deposition of mercury from the combustion of coal or municipal waste.

### *GOAL 8: Minimize impacts to Oconto County waterbodies from other pollutants.*

**Strategy 8A:** Provide information for waterfront property owners about the connections between their land and household management choices, septic systems, local groundwater, and their waterbody.

*Who:* UW-Extension, OCLAWA/Lake and River Groups

*Communication:* newsletters, websites

**Strategy 8B:** Decision-makers and the public should be aware of health-related consequences to herbicide use in Oconto County waterbodies.

*Who:* OC Health and Human Services, WDNR

*Communication:*

**Strategy 8C:** When possible, use salt brines for de-icing roads. This method uses less salt, resulting in lower salt concentrations in the Oconto County wetlands, lakes, and rivers.

*Who:* OC Highway Dept., municipalities

*Communication:* Internal - when materials and new equipment are purchased.

## Long-term Land Protection

There are many ways to protect all or a portion of a parcel of land. Land protection can occur with covenants, zoning, conservation easements, and purchase for protection by the local or state governments. These options vary in the amount and duration of protection they offer. In some cases, financial assistance may be available for the purchase of an easement or land. To achieve the desired outcome, a combination of protection options may be appropriate for some parcels.

The choice of land protection is a personal one which is determined by a property owner. Their decisions about how best to protect it depend on their goals for the land. Often, a property owner that is interested in long-term protection has family ties to the land or has had connections with the land for many years. In some cases, large parcels of the land on a lake or river served as a private camp and there is a desire to keep the land somewhat intact after it is sold.

**GOAL 9: Oconto County property owners interested in land protection will have access to professionals and/or documents that describe the types of land protections available, funding options, and how options can complement one another.**

Strategy 9A: Those involved in land protection will be knowledgeable about the programs offered in Oconto County and how they can work together to benefit a property owners wishes.

*Who:* OC Planning and Zoning Dept., NECT, NRCS, UW-Extension, WDNR Lake and River Protection grants, Knowles-Nelson Stewardship Funds

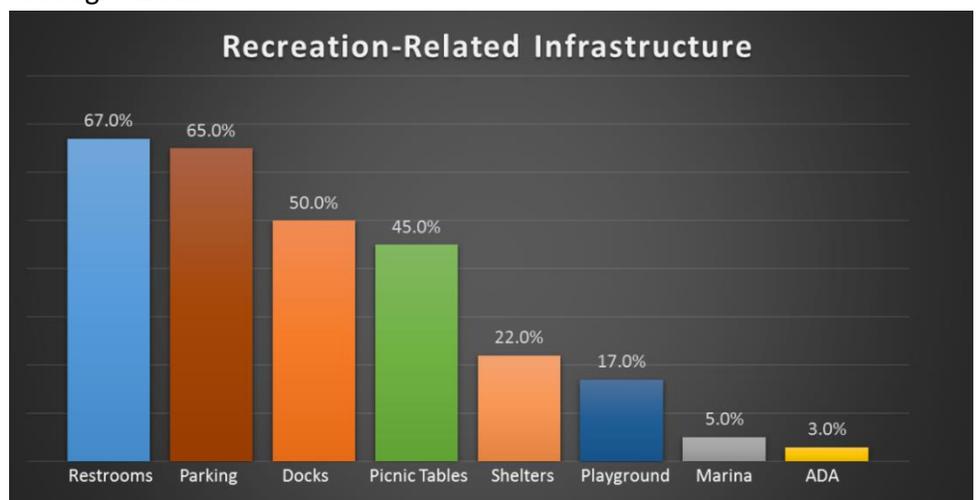
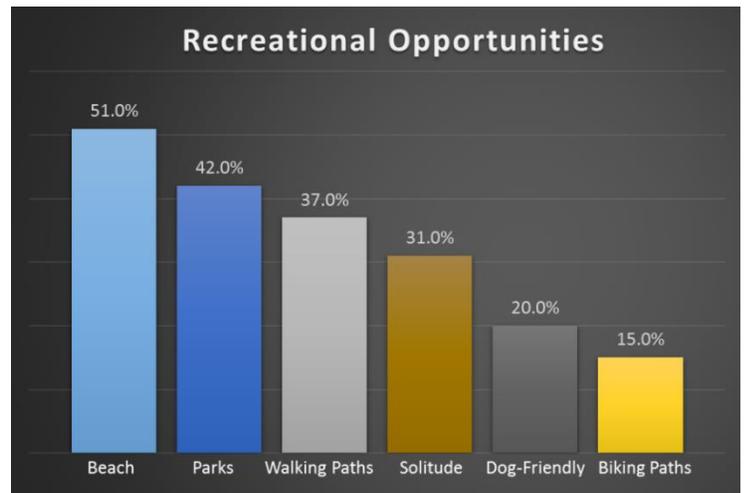
*Communication:* Brochure with options and descriptions or point-person to communicate with interested property owners.

## Recreation

Many residents, property owners, and visitors are attracted to Oconto County for its lakes and rivers. Many of the water-related experiences occur on and near the Oconto County waterbodies at public parks and public boat launches. The waterbodies and adjacent public lands provide spaces for relaxation, rejuvenation, and gathering with friends and family. Providing services and access to the waterbodies is essential; however, the type of services and access will differ from lake-to-lake depending in part on community wishes and the physical characteristics of a waterbody and surrounding land.

Wisconsin’s public trust doctrine ensures the public’s right to be on a navigable waterbody. In Oconto County, many of the residents and visitors rely on public lands to gain access to the waterbodies. The USFS, WDNR, Oconto County, and its towns, villages, and cities offer public access points. Some businesses also provide access for their patrons.

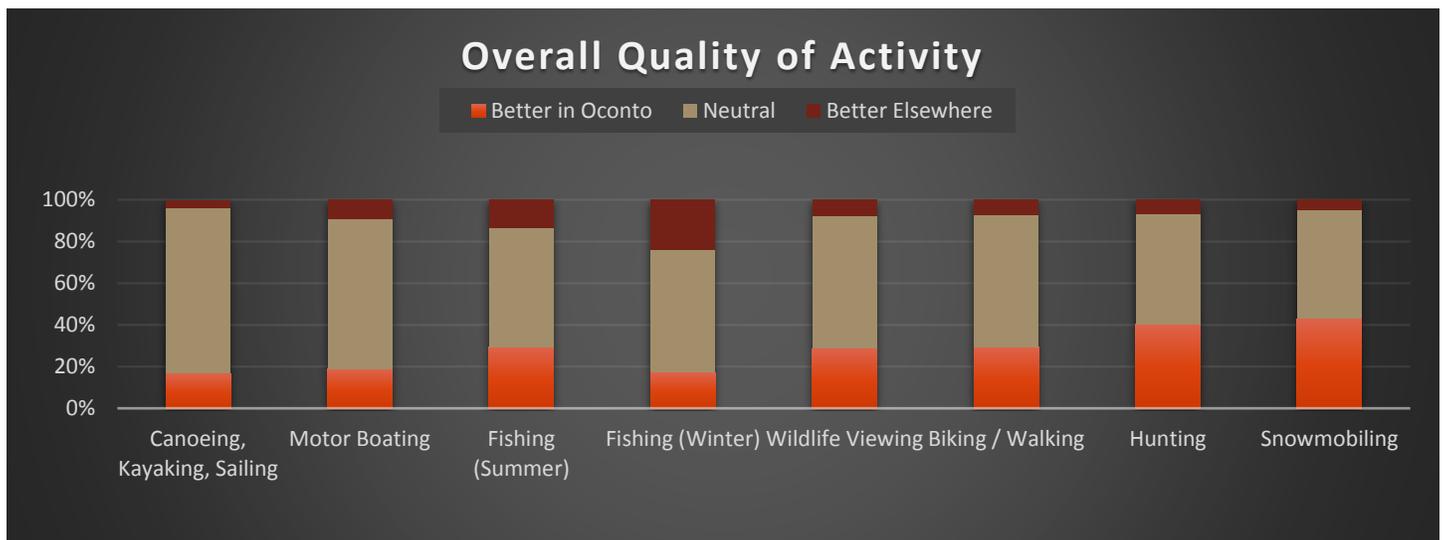
In the survey, the community was asked about recreational opportunities and recreation-related infrastructure and its importance to their lake experiences. Over half of the respondents sought areas with beaches and many were interested in parks or walking paths. The most popular recreation-related infrastructure included restrooms, parking, docks, and picnic tables. There was no statistically significant difference in infrastructure preferences based on the location in the county where recreation was reported to be taking place.



Activities around the lakes occur year-round with ice fishing and snowmobiling popular during winter, boating, fishing, camping, hiking, biking, ATVing, and hunting predominantly occurring during the snow-free periods of the year.

Survey respondents participating in a variety of lake-related activities were asked to rank the quality of them as *better in Oconto County*, *neutral*, or *better in other Wisconsin counties*. For all activities, the majority of respondents selected neutral responses. Snowmobiling and hunting received the greatest number of *better in Oconto County* selections. Ice fishing received the greatest number *better in other Wisconsin counties* selections.

Challenges may arise from the variety of uses of the waterbodies. Differing perceptions about what comprises an enjoyable experience is can lead to conflicts among users. Some people are seeking solitude, while others come for festive times. In addition, some recreational activities can have negative impacts on water quality, wildlife, or the fishery.



### Access: Parks, Trails, Boat Launches

In Oconto County, access to the waterbodies range from rustic walk-in sites to marinas. Some of the boat launches are simple, some are associated with simple public spaces, and some of the associated parks offer a variety of amenities. In some instances, a park and its boat launch are managed by different agencies. When this occurs, discussions about amenities, demonstration sites for best management practices, runoff management, communication opportunities, boat cleaning stations and disposal of aquatic invasive species (AIS) need to be coordinated between the agencies and organizations. Businesses also provide access for their patrons and should be included in discussions about the dissemination of information about boating rules and AIS control.

For most of Wisconsin’s lakes, boat launches are the primary sources for AIS contamination. Unfortunately, the close proximity to Lake Michigan makes the waterbodies in Oconto County exceptionally vulnerable to the spread of AIS. Because of the magnitude of this threat in Oconto County, a stand-alone AIS plan has been develop by the county and is available on the county website. Having someone to coordinate AIS prevention is essential to the implementation of the plan.

***GOAL 10: Provide access to waterbodies to afford recreational opportunities for Oconto County residents and visitors.***

Strategy 10A: Ensure public safety and reduce impacts to the waterbodies from polluted runoff by maintaining boat launches and access points to the water.

*Who:* OC Forestry/Parks/Rec, OC Highway Dept., municipalities, USFS

*Communication:* Internal

Strategy 10B: Provide recreational opportunities for people with a variety of abilities by following ADA guidelines and standards when developing access for boats, fishing piers, and other amenities.

*Who:* OC Forestry/Parks/Rec, OC Highway Dept., municipalities, USFS, WDNR, OC Health and Human Services

*Communication:*

Strategy 10C: Information about access to lakes and rivers, rules, water safety, and AIS prevention and control should be easily accessible for potential recreationists.

*Who:* WDNR, OCLAWA/Lake Groups, UW-Extension, OC Tourism

*Communication:* Publications, social media, websites, apps, brochures. Make available at lodging rentals, restaurants and taverns, gas stations, sporting goods stores, bait shops, kiosks.

***GOAL 11: Boat launches and other access points on waterbodies will not be sources of aquatic invasive species (AIS).***

\*\*\* SEE Oconto County's Strategic AIS Plan for details. \*\*\*

Strategy 11A: Hire sufficient staff to implement the steps needed to prevent and control the spread of AIS in Oconto County waterbodies and wetlands.

*Who:* OC Board of Supervisors, LCC Committee, OC Land Conservation Dept., UW-Extension, consultants

*Funding Options:* Waterfront property taxes, boat launch fees, WDNR AIS grants, Great Lakes grants, local hotel and restaurant taxes

Strategy 11B: AIS disposal areas and boat washes will be made available to help prevent AIS from being transported from a source lake to another waterbody.

*Who:* Boat launch and other access point managers. OC Forestry/Parks/Rec, municipalities, USFS, Businesses

*Funding sources:* Boat launch fees, WDNR Lake and River grants

Strategy 11C: Limit the spread of AIS from equipment obtaining water from Oconto County waterbodies by developing and following equipment disinfection procedures prior to use in a different waterbody.

*Who:* OC Highway Dept., OC Emergency Management, municipalities

*Communication:* Internal

Strategy 11D: To ensure the health of the waterbody and success of an AIS management project, seek assistance from two consultants, one to survey and develop the plan and the second to preform management.

*Who:* OC staff, Lake and River Groups, municipalities, WDNR, consultants

## Reducing Conflicts on Oconto County Waterbodies

Many activities take place on Oconto County waterbodies and as a result, safety issues can arise. This is especially a concern with the combination of motorized and non-motorized uses. Conflicts resulting from differing expectations about anticipated experiences can also create challenges. Finding harmony and safety on a waterbody can in part, be accomplished through the understanding and implementation of regulations by those recreating.

Slow no-wake hours are frequently used to reduce conflicts between lake and river uses and to establish periods of quiet on a waterbody. If desired, towns have the authority to adopt ordinances which may regulate times for wake-producing boating, speeds, direction of operation, or applying slow no-wake requirements in areas within a lake that would benefit. Counties do not have this authority on lakes, but can create ordinances on streams and rivers. State regulations provide guidance about some of the areas in lakes that are most affected by wakes, which is needed for public safety and to protect the integrity of shorelands and habitat. Communication of the rules for a given waterbody is essential if they are to be followed.

Slow no-wake ordinance enforcement is complex in Oconto County for several reasons. Towns conducting the enforcement of their ordinance(s) need an official to serve citations and have a court or a contract with a court. If the sheriff's department is asked to help enforce boating rules, the variability in slow no-wake times for each lake creates challenges for the officers. In addition, many of the lake users in Oconto County are not full time residents, leading to a lack of awareness about the rules along with the vacationing phenomenon of being more carefree and less concerned about following rules.

Differing perspectives about the safety of Oconto County lakes exists. Many waterfront property owners have unmistakably expressed their concerns about public safety on their Oconto County lake and have observed the erosion of shorelands resulting from waves. On the other hand, survey respondents, of which most were not waterfront property owners, provided no evidence to suggest that they felt unsafe while recreating on Oconto County lakes.

### *GOAL 12: Reduce conflicts on Oconto County waterbodies.*

**Strategy 12A:** Produce easily accessed informational materials to guide people to the types of recreation they are seeking. Include information about safety regulations.

*Who:* UW-Extension, OC Tourism, OCLAWA/Lake and River Groups, WDNR Lake and River grants

*Communication:* Publications, social media, websites, apps, brochures. Make available at lodging rentals, restaurants and taverns, gas stations, sporting goods stores, bait shops, kiosks.

**Strategy 12B:** Work with local and regional fishing clubs to solicit help with the dissemination of information about permit requirements for tournaments, slow no wake hours, and AIS control.

*Who:* OC Forestry/Parks/Rec, municipalities, UW-Extension, OCLAWA/Lake and River Groups

*Communication:* Website, conversations, newsletters

**GOAL 13: Prevent injury and death by enforcing boating regulations. Ensure there are a sufficient number of enforcement staff with 2 per boat. Uniform slow no-wake hours across the county would help with their enforcement.**

Strategy 13A: Encourage the WDNR to hire a warden for the Oconto County Region.

*Who:* OC Land Conservation Dept., OC Healthy and Human Services Dept., OC Sheriff Dept., OC Economic Development Corps, OCLAWA/Lake and River Groups, State legislators

Strategy 13B: Hire another county recreational officer to assist with patrol and enforcement within the county.

*Who:* OC Sheriff Dept., OCLAWA/Lake and River Groups, municipalities

*Communication:* Work with partners to develop agreements and align funding.

*Potential Sources of Funding:* Northern towns, WDNR, USFS, OC Sheriff Dept., OC Forestry/Parks/Rec

Strategy 13C: Newsletters aimed at waterbody users should provide information and reminders about recreation-related permits and regulations along with the reasons for them.

*Who:* OCLAWA/Lake and River Groups, Regional Fishing and Sporting Groups, Regional Conservation Groups. Supporting information can be obtained from the OC Sheriff's Dept.

*Communication:* Newsletters, media, annual meetings, websites, apps, public service announcements, billboards

Strategy 13D: Produce brochures to leave in hotels, private rentals, campgrounds, and restaurants for visitors.

*Who:* OCLAWA/Lake and River Groups, municipalities, UW-Extension, WDNR Lake and River grants

*Sources of Information:* OC Sheriff, WDNR Wardens, Details about boating ordinances for Oconto County lakes can be found at <http://dnr.wi.gov/lakes/boatingordinances/>

## Recreation Communication and Information

Public spaces provide an ideal setting for the exchange of information; however, too much information or too many signs may result in most people disregarding the information. Succinct or clever messages, combining signs onto one sign or a single location such as a kiosk, and providing portable information such as brochures, maps, and apps can all help to enhance the exchange of information. Some businesses are also well-suited to be sources of information about Oconto County waterbodies.



**GOAL 14: Boat launches and points of access will be sources of clear information for users of waterbodies in Oconto County.**

Strategy 14A: When a boat launch and the adjacent lands are managed by different agencies or municipalities, coordination will take place to achieve communication needs identified in this plan.

*Who:* OC Forestry/Parks/Rec, municipalities, WDNR, USFS

*Communication:* Lake maps, tourism info, website, kiosks, signs

Strategy 14B: Individual lake maps are of interest to many lake enthusiasts. As the maps are updated, provide the public access to them through printed maps, apps, or websites. Add boating information and contact information for the local lake organization to the backs of printed maps.

*Who:* OCLAWA/Lake and River Groups, WDNR Lake and River grants, Business and other sponsors

*Communication:* Make available to members of the lake/river groups and provide brochures at boat launch.

Strategy 14C: Create water trails for some of the lakes. The trails can highlight natural features, important habitat, historic sites, and other notable features. Incorporate good lake stewardship ideas into the narrative.

*Who:* UW-Extension, OCLAWA/Lake and River Groups, student organizations

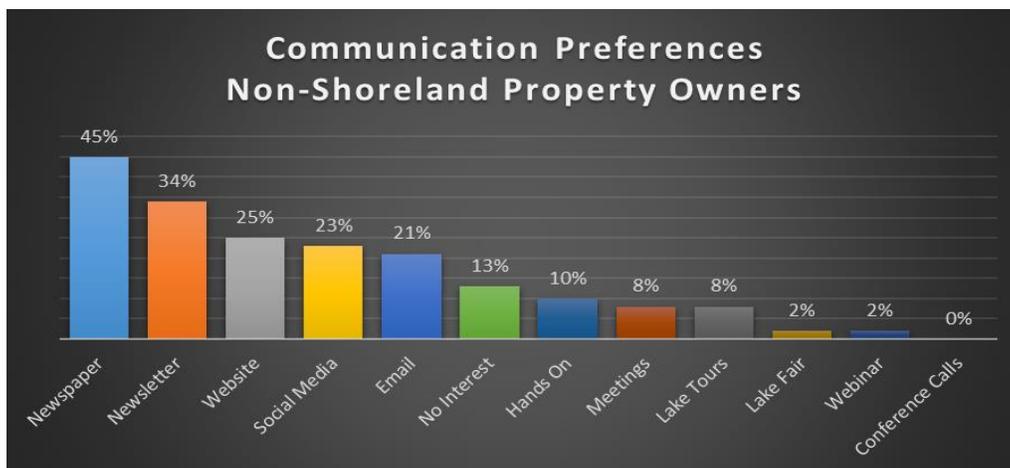
*Communication:* Make water trail information available on an app, website, or printed materials. Creation of narrated videos could also be an option.

## Communication, Capacity, and Coordination

A mix of Oconto County Departments, municipalities, agencies, non-governmental organizations, lake, river, sportsperson, and conservations groups, and individuals are involved with aspects of managing waterbodies and watersheds in Oconto County. To evaluate the effectiveness of this plan, formal and informal coordination and updates should take place within the county and with external partners.

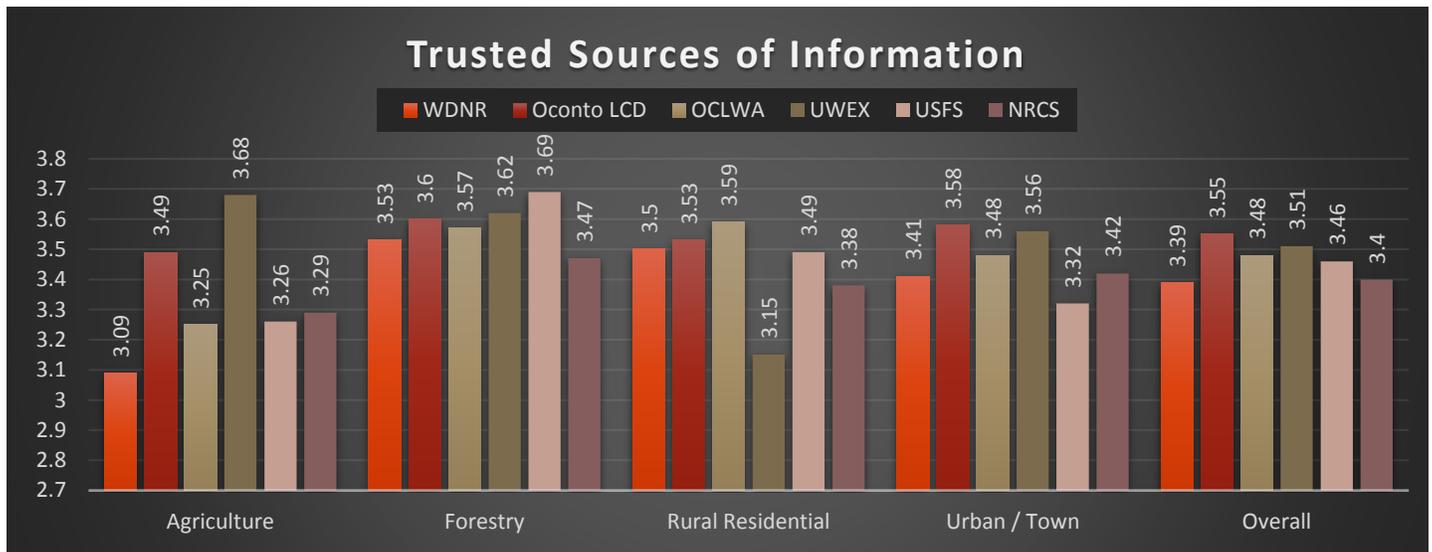
There are many ways of communicating with the variety of lake and river users, stakeholder groups, and partners. When lake organizations exist, they can provide one means of communication with lakefront property owners; however, not all property owners may be members of the organization. A clearer understanding about how best to communicate with lakefront property owners will be obtained during the development of lake management plans, when lakefront property owners are surveyed to ascertain their preferences.

Only a small number of the participants in the community survey conducted in 2017 were waterfront property owners, which provides insight about how to communicate with lake and river users. The most preferred communication methods identified by the respondents included newspapers, newsletters and to a lesser degree, electronic options including websites, social media, and email. It is important to note that a wide range of communication modes and topics should be considered when the goal is to reach out to a variety of age groups, interests, full time and part time residents, and visitors.



In addition to the mode of communication, the entity initiating the communication should also be considered. The survey asked participants their level of trust for information from Oconto County Land Conservation Dept., UW-Operational Strategy and Plan for Surface Water Management and Protection in Oconto County, 2018

Extension, WDNR, USFS, USDA NRCS, and OCLAWA. Overall, the responses indicated a high level of trust for all of these organizations. Some variation occurred when this information was assessed by group; the agricultural sector had the most trust with the Oconto County Land Conservation Dept. and UW-Extension, the forest property owners had slightly more trust with USFS and UW-Extension, rural residents had slightly more trust in OCLAWA, and the highest level of trust by the urban group was with the Oconto County Land Conservation Dept. and UW-Extension. There are many other trusted organizations within Oconto County that can also play a role in the communication about the waterbodies and watershed management.



**GOAL 15: Clear and concise communication will lead to coordinated lake and river management efforts that are based on well-informed decisions.**

**Strategy 15A:** Identify partners within the community who can help with communication.

*Who:* UW-Extension, Oconto Co. tourism, businesses including realtors, schools, clubs and organizations, media

*Communication:* A variety of partners can assist with the creation, sponsorship, and dissemination of water-friendly information for lake users, property owners, and visitors.

**Strategy 15B:** Partners will remain informed about lake management in Oconto County and when possible, activities will be coordinated.

*Who:* OC Land Conservation Dept. and UW-Extension

*Communication:*

- A close working relationship has been developed between many of the lake groups and OCLAWA. At least annually, county staff should work with these partners to review adopted plans and identify key concerns and address questions.
- Refer to existing lake and river management plans for specific goals and details.

**Strategy 15C: Develop a rural-living waterfront property owner’s guide that contains Oconto County specific information.**

*Who:* OC Planning and Zoning Dept., UW-Extension, OC Land Conservation Dept., UW-Extension Lakes and Center for Land Use Education, WDNR

*Communication:* This guide will be disseminated to new and existing waterfront property owners to aid their knowledge about minimizing impacts to the waterbody, testing of drinking water, management of septic systems, etc.

**Strategy 15D: Maintain a location on the county website for the Oconto County lake study reports, plans and other lake and river-related communication.**

*Who:* OC Land Conservation Dept. and UW-Extension working with Information Technology Dept.

*Communication:* The County maintains a website archiving adopted official documents and allows each department to host additional information for the public. Lake plans, once adopted, should be added to the site and additional information added to the UW-Extension site periodically throughout the year.

**Strategy 15E: Initiate and maintain modes of communication for those interested in Oconto County Lakes. These options will need to be adapted over time and should consider communication techniques needed to reach different age groups and be accessible to local and distant property owners.**

*Who:* OC Land Conservation Dept. and UW-Extension

*Communication:* Currently, this includes an email listserv, facebook, and other forms of social media in which information and announcements can be “pushed out” to as wide an audience as possible. If possible, the facebook page should “Like” other Oconto County stakeholder group pages.

Additionally, periodic/seasonal newspaper articles should be developed and copied for use on the County website. The local radio station should be used to provide recorded Public Service Announcements as well as disseminate Lake Management Plan information via the talk show format.

Working closely with County Departments’ information concerning land development, water preservation, law enforcement, etc. should be developed and disseminated throughout the year.

**Strategy 15F: Provide oversight and coordination of lake management plan implementation to keep the plans relevant, current and consistent with defined strategies within them.**

*Who:* Lake Associations/Districts, OC Land Conservation Dept. municipalities, and UW-Extension working collaboratively

*Communication:*

- It is important that the lake management plan’s adopted strategies be reviewed at least annually. Land Conservation Dept. and UW-Extension staff should remind groups of the plan and its purpose and how grants and other funding may be available to address the agreed upon strategies outlined within them.
- Additionally, Land Conservation Dept. staff should contact associations and districts leadership and other key partners identified in the plans to become informed of any changes or accomplishments of the plans.
- Annually, County Departments should be assembled to discuss water issues and strategies to address them in the coming year. Lake Plans should be consulted during this time. Additionally, a survey should

be developed and sent to association and district leadership, at a minimum, to assess their plan's achievements and to identify any concerns arising over the last year.

Strategy 15G: Periodically, provide training opportunities for contractors and developers interested in learning about waterfront best management practices and development options that reduce impacts to Oconto County's waterbodies. Develop informational materials that can be posted on website, printed and handed out.

*Who:* OC Land Conservation Dept. and UW-Extension working with staff at UW-Stevens Point Center for Land Use Education, UW-Extension Lakes, and WDNR

*Communication:* Best practice methods should be researched and included into an Oconto County publication utilizing specific examples from within the county. Present at lake group and other stewardship organizations' gatherings to provide information and develop further contact lists with developers and property owners.

***GOAL 16: People using the lakes and living near them will be aware of any water-related health concerns that might arise.***

Strategy 16A: Fish consumption guidance will be readily available to those interested in consuming fish caught in Oconto County waterbodies.

*Who:* WDNR, Wisconsin Dept. of Health, OC Health and Human Services, USFS

*Communication:* Those obtaining fishing licenses will be provided information about fish consumption advisories that include Oconto County waterbodies. The public will be alerted about newly recognized fish consumption problems through press releases by OC Health and Human Services.

Strategy 16B: Inform the waterfront property owners about the importance of routinely testing drinking water obtained from private wells for bacteria, nitrate, and other relevant constituents associated with health concerns.

*Who:* UW-Extension, OC Health and Human Services

*Communication:* Press releases, OCLAWA and Lake/River Groups

# Appendices

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# Towns and Their Waterways – Lakes, Wetlands, and Streams

Nancy Turyk, Water Resource Scientist, UW-Stevens Point, 2015

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Town governments recognize the importance of their local waterways for pleasure, recreation, and property value; however, board members and plan commissioners may be unclear about how their decisions and the use of municipal land holdings can be beneficial or detrimental to local waterways. Municipalities have a role in the health of waterways, as Wisconsin lakes and rivers are public resources, owned in common by all Wisconsin citizens under the state's Public Trust Doctrine, which is a part of the state's constitution.

The following are some ideas on how your town can benefit local waterways.

**Road construction:** Consider minimizing impacts to local waterways in the design of road projects.

- Design projects to drain pollutant-containing water away from the waterway or pre-filter the runoff.
- Work with your county's Land and Water Conservation staff to identify options.

**Town-owned boat launches:** Flaunt your assets!

- Provide handicap fishing access.
- Keep aquatic invasive species from spreading through signage or providing areas to inspect boats and trailers.
- Manage trash or ask visitors to carry it out.

**Town-owned waterfront property:** Be a leader by using healthy shoreland practices. Public areas make great demonstration sites! *\*\*\*Funding assistance may be available.*

- Protect the waterway by ensuring healthy shoreland vegetation is in place. Towns can reduce mowing-related costs (gas, personnel, equipment repair) while providing access for lake users.
- Leave trees that fall in the water; they provide needed habitat for fish, turtles, birds and other wildlife. Add "fish sticks" to enhance near-shore habitat in less frequently used locations.
- Minimize hard surfaces like rooftops and pavement.
- Install a rain garden or diversion to manage runoff from buildings, pavement or gravel areas.
- Consider purchasing additional waterfront property for natural parks and public access.

**Boating ordinances:** The state has granted local units of government the authority to initiate boating regulations related to speed, wake hours (lakes greater than 50 acres), motors (none, electric, carry-in).

<http://www.wisconsinlakes.org/index.php/ordinances-a-laws>

**Land use planning and zoning:**

- Plan and use zoning to help protect sensitive areas of the landscape such as wetlands and shorelands. Special land can be zoned for conservation. Large lot sizes and setbacks from wetlands are recommended.
- Work with developers to reduce impacts to waterways by using conservation designs and by managing runoff.

**Be a source of information.**

- Provide pamphlets at your town hall with basic information for waterfront property owners and lake users.
- Add a link to your town's website to guide residents to lake information links.

**Call a meeting!** Conversations can help to build community, find out what is being done to protect and/or improve local waterways and can result in identifying or solving potential problems.

- Create a subcommittee of your town board for the local waterways. This is especially important for less developed lakes that don't have the capacity to develop individual associations.
- Invite residents to a meeting to talk about local waterways at least annually.

**Submit a grant.** Some communities have active waterway volunteers that may need funding to improve waterways. If the volunteers are not part of a formal 501(c)(3) nonprofit organization, towns can submit many different types of grants on their behalf.

# HOW WILL YOU IMPROVE YOUR LAKE?

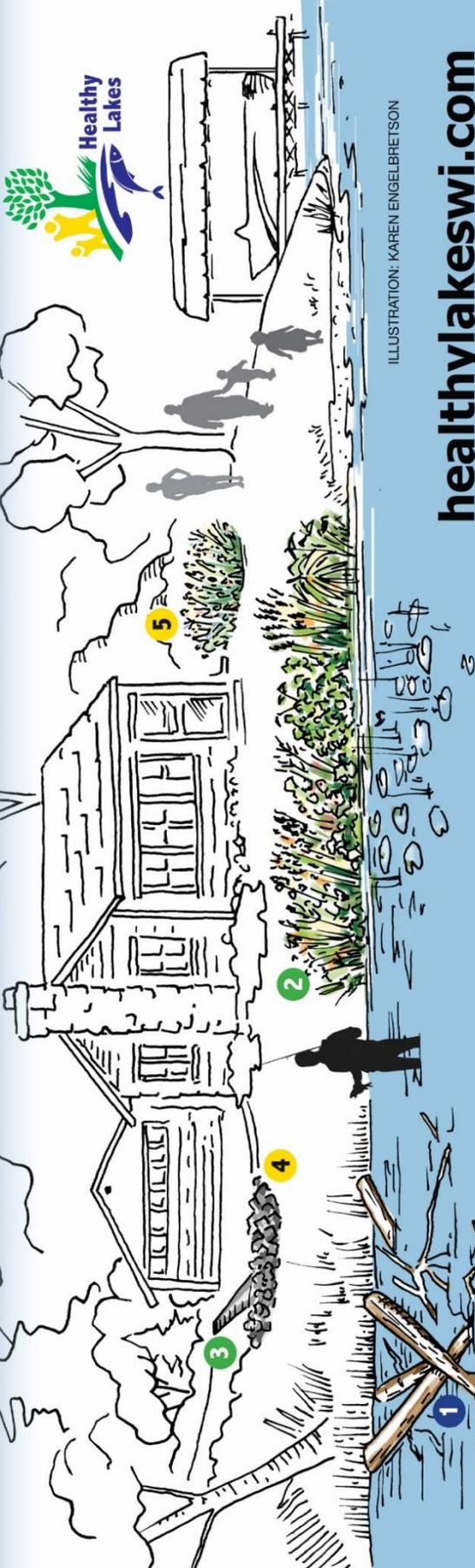
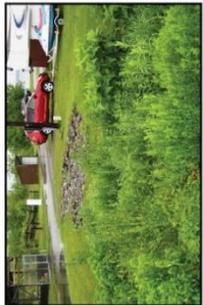


ILLUSTRATION: KAREN ENGELBREITSON

[healthylakeswi.com](http://healthylakeswi.com)

<p><b>1 FISH STICKS</b></p>	<p><b>CREATE FISH AND WILDLIFE HABITAT.</b> Fish Sticks are feeding, breeding, and nesting areas for all sorts of critters – from fish to song birds. They can also prevent bank erosion – protecting lakeshore properties and your lake.</p>	 
<p><b>2 NATIVE PLANTINGS</b></p>	<p><b>IMPROVE WILDLIFE HABITAT, NATURAL BEAUTY AND PRIVACY, AND SLOW RUNOFF.</b> Native Plantings include grasses and wildflowers with shrubs and trees. Choose a template based on your property and interests – from bird/butterfly habitat to a low-growing garden showcasing your lake view.</p>	 
<p><b>3 DIVERSION</b></p>	<p><b>PREVENT RUNOFF FROM GETTING INTO YOUR LAKE.</b> Diversion Practices move water to areas where it can soak into the ground instead. Depending on your property, multiple diversions may be necessary.</p>	 
<p><b>4 ROCK INFILTRATION</b></p>	<p><b>CAPTURE AND CLEAN RUNOFF.</b> Rock Infiltration practices fit in nicely along roof drip lines and driveways and provide space for runoff to filter itself. They work best if your soil is sandy or loamy.</p>	 
<p><b>5 RAIN GARDEN</b></p>	<p><b>CREATE WILDLIFE HABITAT AND NATURAL BEAUTY WHILE CAPTURING AND CLEANING RUNOFF.</b> Rain Gardens multi-task - they improve habitat and filter runoff while providing a naturally beautiful view.</p>	 

**IMPROVE HABITAT AND NATURAL BEAUTY ~ SLOW, DIVERT, CLEAN AND FILTER RUNOFF**

## Lake Associations and Districts

Organization	Type
<a href="#">ANDERSON LAKE ASSOCIATION</a>	Lake Association
<a href="#">ARCHIBALD LAKE ASSOCIATION</a>	Lake Association
<a href="#">BASS LAKE ASSOCIATION</a>	Lake Association
<a href="#">BASS LAKE IMPROVEMENT ASSOCIATION</a>	Lake Association
<a href="#">BERRY LAKE ASSOCIATION, INC.</a>	Lake Association
<a href="#">BERRY LAKE PROPERTY OWNERS ASSOCIATION (BLPO)</a>	Lake Association
<a href="#">BOOT LAKE ASSOCIATION</a>	Lake Association
<a href="#">BOOT LAKE IMPROVEMENT ASSOCIATION</a>	Lake Association
<a href="#">BOULDER LAKE PRIVATE HOMES ASSOCIATION</a>	Lake Association
<a href="#">CHUTE LAKE PROTECTION &amp; REHABILITATION DISTRICT #1</a>	Lake District
<a href="#">CROOKED LAKE AREA LAKES P &amp; R DISTRICT</a>	Lake District
<a href="#">GRINDLE LAKE AREA LANDOWNERS ASSOCIATION</a>	Lake Association
<a href="#">INLAND LAKES P &amp; R DISTRICT #1</a>	Lake District
<a href="#">KELLY LAKE ADVANCEMENT ASSOCIATION</a>	Lake Association
<a href="#">KELLY LAKE SPORTSMANS CLUB</a>	Other
<a href="#">LEIGH LAKE ASSOCIATION</a>	Lake Association
<a href="#">LITTLE ARCHIBALD PROPERTY OWNERS ASSOCIATION (LAPOA)</a>	Lake Association
<a href="#">MACHICKANEE ADVANCEMENT ASSOCIATION</a>	Lake Association
<a href="#">MAIDEN LAKE CLUB</a>	Lake Association
<a href="#">MARY LAKE DISTRICT</a>	Lake District
<a href="#">MOODY LAKE AREA ASSN INC</a>	Lake Association
<a href="#">MUNGER AND BEAR LAKES DISTRICT</a>	Lake District
<a href="#">OCLWA CITIZENS ADVISORY COMMITTEE</a>	Lake Association
<a href="#">OCONTO COUNTY LAKES AND WATERWAYS ASSOCIATION (OCLAWA)</a>	Regional Lake Assn
<a href="#">PAYA LAKE ASSOCIATION</a>	Lake Association
<a href="#">PICKEREL CHAIN LAKE ASSOCIATION</a>	Lake Association
<a href="#">ROST LAKE ASSOCIATION</a>	Lake Association
<a href="#">TOWNSEND FLOWAGE ASSOCIATION</a>	Lake District
<a href="#">WAUBEE LAKE ASSOCIATION</a>	Lake Association
<a href="#">WHEELER LAKE ASSOCIATION</a>	Lake Association
<a href="#">WHITE POTATO LAKE ADVANCEMENT ASSOCIATION</a>	Lake Association
<a href="#">WHITE POTATO LAKE SPORTSMANS CLUB</a>	Lake Association
<a href="#">WINSLOW SHORE PROPERTY OWNERS ASSOCIATION</a>	Lake Association

## Conservation, Fishing, and Wildlife Clubs

Organization	Website
Kelly Lake Sportsman Club	<a href="http://www.kellylakesportsmansclub.com/">http://www.kellylakesportsmansclub.com/</a>
Finnegan Lake Walleye Club	
Northeast Wisconsin Audubon Society Chapter	<a href="http://www.newiaudubon.org/">http://www.newiaudubon.org/</a>
Oconto River Trout Unlimited	<a href="http://www.ocontorivertu.com/">http://www.ocontorivertu.com/</a>
Underhill Sportsman Club	
White Potato Lake Sportsman Club	<a href="http://www.wplsc.com/">http://www.wplsc.com/</a>

# Discussion Worksheets

## I. Discussion Worksheet for Watershed Management

Potential discussion group participants: NRCS, LCD, Hwy, zoning and planning, USFS, Towns/Villages/Cities

### a. Watershed BMPs

- i. Ag – can you articulate communication about programs, how you obtain funding, and how projects are prioritized? Do LCD and NRCS work together or at least complement one another?
- ii. Developments with a lot of impervious surface (gas stations, hotels, schools, etc.) – are there guidelines associated with handling the runoff? If so, are they uniform across the county? Are there options for high visibility demonstration projects?
- iii. Public land management Are there improvements that can be made on public lands to set an example (manage without or with less fertilizer, reduced mowing near shore, pervious pavement, runoff control measures on building and other impervious surfaces? Is there a way to communicate some of what has been implemented?

### b. Wetland Protection

- i. Is there a lot of wetland loss in the county? Does the potential exist and if so, where?
- ii. Planning – How are wetlands handled in comp plans and adaptation plans? Are they viewed as an asset?
- iii. Zoning – setbacks, are wetlands managed as a nuisance or benefit?
- iv. Communication about benefits – birding or nature hikes, water trails – are these offered? Would these be ecotourism assets for visitors? Are local schools doing anything with wetlands?
- v. AIS – monitoring, management, communication

## II. Discussion Worksheet for Watershed Protection and Near Shore Management

Potential discussion group participants: NRCS, LCD, zoning and planning, USFS, NEWLT, Forest/Parks/Rec, Towns/Villages/Cities, WDNR Lake Biologist

- i. Zoning – is the county zoning sufficient to protect lakes or are there additional changes or educational opportunities needed?
- ii. If a large lakefront parcel of land, such as a camp, goes up for sale, who is able to share the various protection options with the property owner so they can evaluate what best fits their needs? (examples: use of conservancy zoning, conservancy easements, purchase by county, state, federal, or lake district, voluntary deed restrictions, use of DNR Lake Protection Grants or Stewardship Funds, etc.)
- iii. Conservancy Easements – what are the communication efforts associated with this option? Is there a minimum parcel size? Is lakefront property or wetlands a priority? Are there other priorities in lake watersheds?
- iv. Other watershed protection options?

### b. Near lake and shoreland

#### i. Protection – healthy shorelands

1. How the importance of healthy shorelands is communicated to new and existing property owners? Residential, ag, commercial, municipal
2. Does the city/town/county/fed lead by example? If yes, is this articulated anywhere?

- ii. Restoration (vegetation, erosion, manage runoff)
  - 1. How the importance of healthy shorelands is communicated to new and existing property owners? How are restoration programs announced? Residential, ag, commercial, municipal
  - 2. Are there demonstration sites in place around the county? Are they signed? Is there a map that identifies their location and the type of management (rain garden, buffer, fish sticks, diversions, etc.)
  - 3. If an online map is developed, will there be a way for people to self-identify projects that they have done themselves? If not a map, will restoration efforts be tracked and if so, how?
  - 4. Incentives – Funding What types of programs are offered? Cost share for restoration costs, tax incentives
  - 5. Physical assistance with planting and/or management for non-residents Is this offered? If so, who is offering this type of assistance? Scout or conservation groups? Do fishing clubs assist with fish stick projects?
  - 6. Recognition - awards, other acknowledgements for new efforts?
- iii. Septic systems
  - 1. How is proper septic system management communicated to new and existing property owners?
- iv. Roads – new and major road repairs near lakes – do these projects get reviewed by LCD staff or others for road runoff management options?
- v. Boat launches
  - 1. Runoff reduction – is this periodically reviewed at boat launches that may be delivering sediment or pollutants? Are diversions used (when possible)?
  - 2. Demo sites – are boat launch areas used as demonstration sites for good shoreland practices or does the potential exist? Should the practices that are in place be noted on a map or in an article?
  - 3. AIS signage, disposal, cleaning stations How is the presence of AIS in a lake communicated? If a lake does not have known AIS, how is prevention communicated? Who is responsible for this communication? Are there disposal sites for removed AIS at the launches? Who takes care of the disposal sites? Any cleaning stations or a need for cleaning stations?
  - 4. Are there privately owned boat launches that need to receive info about the above? Is a network with them already established? What about rentals or condos? Is information about AIS made available to renters?
  - 5. Maintenance - are there maintenance goals? By whom and where?
  - 6. # Parking spaces – is there a need to provide number of available parking spaces via an app?
  - 7. ADA accessible – is there a need for more accessibility either at launches or public docks? Other park facilities?
  - 8. Other (see survey responses)

### III. Discussion Worksheet for Recreation

Potential Discussion group participants: LCD, UW-EXTENSION, wardens, sheriff, DA, WDNR water guard, WDNR Lake Biologist

#### I. Recreation

##### a. Boating Conflict Prevention

- i. Safety: People and Wildlife - Communication Is what is happening sufficient? If not, what else might be needed, where, and by whom?
- ii. Creation of shoreland erosion from wakes – this is a common complaint from shoreland property owners – can anything be done?
- iii. Noise pollution – wake hours?
- iv. Buoys – what are these used for and by whom? Approval by DNR – others, too?
- v. Ordinances – Town (hours of wake/no wake, no wake zones, speed, direction, electric motor only, carry in only) are there any communication issues? Is a factsheet or an app needed?
- vi. Communication – signs, maps, brochures, kiosks, apps, buoy markers (100 ‘ from shore), no wake, water trails. Do any public sites need improvements in communication strategies?
- vii. Fishing tournaments

##### b. Enforcement

- i. Communication about rules and regulations – is a fact sheet needed regarding enforceable rules, maps displaying pertinent information such as 100’ distance from shore – should an app be developed with this information, brochures for boat landings, campgrounds, and rentals?
- ii. Who has authority to enforce rules? Is it sufficient? WDNR wardens, County Sheriff, WDNR Water Guard, USFS
- iii. Northern towns circuit court – clerk or town board designee can issue citation but not currently using this authority

##### c. NOTE: MOVE BOAT LAUNCHES HERE AFTER DISCUSSIONS

#### II. Aquatic Invasive Species (AIS)

#### IV. Discussion Worksheet for Communication

- a. Partners
  - i. County - Internal
    - 1. Primary – LCD, UW-EXTENSION, Planning and Zoning, County Parks? Associated committees, county board
    - 2. Secondary - Register of Deeds? Highway Dept., Tourism
  - ii. County – External
    - 1. Primary – OCLWA and Lake Assn., WDNR (lake manager, fishery biologists, water regs & zoning)
    - 2. Secondary
      - a. National Forest Service
      - b. NRCS
      - c. Towns and Villages (Towns Assn)
      - d. AIS Partners (see plan)
      - e. Conservation and sporting groups (fishing/hunting clubs, water skiing groups, etc.)
      - f. Northeast Wisconsin Land Trust
      - g. Lumberjack RC&D?
      - h. Statewide Lakes Partnership, Lake Tides, Lake Convention
      - i. Others identified in OC survey
    - 3. Intersections with existing plans
      - a. Land and Water plan, comp plans – county/town/village, LMPs
- b. Intersections with existing plans and policy – how to embed into county functions, day-to-day practices, and decisions
  - i. Comp plans – county/town/village, LMPs
  - ii. Strategic plans for departments, land and water, etc.
- c. Types of communication
  - i. Internal
    - 1. Shoreland zoning enforcement – new and existing property owners
    - 2. Info to new property owners
    - 3. County park management/demonstration sites
    - 4. Recreational opportunities
    - 5. Assist with BMPs
      - a. Road design and maintenance
      - b. Agricultural
      - c. Shoreland management
    - 6. Funding
      - a. Staff
      - b. Educational materials
      - c. Mailings
      - d. Other costs (assistance with BMPs,
  - ii. External
    - 1. What is the county’s relationship and role with OCLAWA, lake organizations, property owners on lakes without organizations?

2. What is the plan to communicate to the public and shoreland property owners about planning sessions, meeting minutes, draft plans, final plans and other relevant documents? Calendar with planning sessions and other activities.
  3. Does the county intend to help lakes coordinate implementation? Will the county submit/administer grants for any of these organizations?
  4. What are the communication strategies to enable countywide dissemination of current information?
  5. How will plan achievements and updates be tracked and communicated amongst all partners named in the plans?
  6. Demonstration sites
  7. AIS
  8. Assist with BMPs
    - a. Road design and maintenance (Towns)
    - b. Land management
      - i. Ag
      - ii. Shorelands
      - iii. Development decisions
- d. Modes of communication
- i. Press releases
  - ii. Websites – public source map
  - iii. County/visitor convention publications
  - iv. Newsletters
  - v. Meetings
  - vi. Conference calls/Webinars
  - vii. Demonstration sites on public land w/signs or brochures
  - viii. Text messaging? Perhaps to notify about meetings, new AIS?
  - ix. Apps
  - x. New or existing educational brochures/pamphlets
- e. Recognition and Incentives

# Community Socio-Economic Survey Results