Minnesota's Lake Associations: Who they are and what they do

A Report on a survey created, distributed, and analyzed by Concordia College Researchers:

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Executive Summary

This report provides empirical data on who Minnesota lake associations are, the scope of the lake conservation activities that they engage in, the major concerns they have, and the main hurdles they face. Survey methodology was used to gather data from 250 respondents, representing 186 different lake associations in Minnesota. Methods of analysis included descriptives, frequencies, and correlations.

Examination of descriptive statistics and frequencies revealed the following:

- Most Minnesota lake associations were formed in the 1960s and 70s. The main reason for forming a lake association is the preservation/protection of the lake. Specifically, the top goals most lake associations have are to control aquatic invasive species (AIS) in the lake and to improve the quality of the lake water.
- Most lake associations in our sample report that their members are motivated to reach the lake association's goals and welcome membership by anyone interested in the welfare of the lake, not just owners of lake properties.
- Most lake association have 100-400 members and 10 or more board members. Even though about half of lake association board members have expertise in specific lake conservation areas such as fisheries and/or AIS, only about 5% of them are able to contribute to legislation affecting the lake.
- Collectively, the 500+ Minnesota lake associations donate about $6.25 million, annually, to the care of Minnesota's lakes.
- Collectively, the 500+ lake associations in Minnesota contribute about 1.2 million volunteer hours annually to lake conservation activities, including AIS inspection, attendance of meetings, water quality testing, and community education/outreach activities.
- The top 3 concerns of lake associations in Minnesota are: AIS, overall water quality, and runoff control.
- Most respondents agree or strongly agree that their associations face hurdles in becoming more engaged in lake conservation activities.
- The top 3 challenges that Minnesota's lake associations face as they work on achieving their goals are: Inadequate member participation (i.e. the needs far exceed the available human capital), not being heard/taken seriously by the DNR, and the aging population of lake property owners.
- Most respondents do not agree that their lake associations are authentically included in the lake planning process.
- Most respondents do not feel that their lake associations have real authority over the lake.

- Most respondents do not think that the DNR has sufficient lake management policies in place.

Qualitative data, obtained from observations at field visits, email and phone communications, and an open-ended survey question, revealed that AIS, lack of communication with the DNR, managing water quality, and engaging members are major concerns of many lake associations. Lake association members assert that AIS infestations greatly impact their lives and are eager to engage in more collaborative conservation efforts with the DNR. Miscommunications about decisions affecting the lake and about allocation of funds may result in the projection of major concerns and hostilities directly toward the DNR.

The report concludes that Minnesota's lake associations play a crucial role in protecting and managing Minnesota's lakes and recommends more communication and collaboration between policy makers and lake associations.

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Introduction

In Minnesota, the land of more than 10,000 lakes, there is no greater natural resource than its freshwater ecosystems. These systems are not only crucial for drinking water, but also for the state's economy (Forester, 2017). Lakes and rivers generate billions of dollars through the sales of fishing licenses and equipment, boat tabs, and recreational activities. Additionally, lakes are deeply rooted within the heritage of Minnesotans, with many families having cabins or lake homes that are passed down from generation to generation, as well as many individuals for whom heading out to a lake on the weekend is an integral part of their lifestyle (Forester, 2017). Thus, it is important to preserve Minnesota's freshwater ecosystems.

The responsibility of lake maintenance has been delegated to various state and county governmental units such as the Department of Natural Resources (DNR), Watershed Districts, cities and counties. Typically, these units perform quality work in preserving lakes and rivers. However, they lack the time and funding to maintain a presence on every lake in Minnesota on a daily basis. As stakeholders vested in the long-term preservation of these ecosystems, citizens willing to volunteer to monitor and protect the lakes form community groups known as lake associations.

Lake associations are heavily engaged in lake conservation. Their work includes: water quality testing, water quality improvement, shoreline maintenance, aquatic invasive species (AIS) inspection, AIS decontamination, fish stocking, and more (Okajima, 2014). A survey by the University of Wisconsin (Gabriel, 2004) revealed that Wisconsin Lakes Partnership spent approximately $200 million on inland lake restoration projects, with the state government contributing about half of those funds. This $200 million did not account for the additional millions of dollars being spent by local organizations on various lake maintenance projects.

Many observers (Forester, 2017; Gabriel, 2004; Okajima, 2014) have elaborated on the extensive work that lake associations do to keep lakes healthy. As pointed out by Okajima and colleagues (2014), lake associations are made of engaged and concerned community members. In the spring of 2013 a survey regarding lake conservation issues was electronically administered to the Hubbard County Coalition of Lake Associations, which consists of 29 associations in Minnesota. Almost half of the 716 members completed the survey, which, as noted by the researchers, is a high response rate.

The work of lake associations is not always recognized. It is estimated that there are approximately 500+ lake associations across the state, making them one of the largest volunteer bodies in Minnesota. There are thousands of association members residing in various legislative districts across the state, yet there is a lack of communication between lake association members, the public, and policy makers. In fact, many Minnesotans do not know that these organizations exist, nor do they understand that lake associations donate millions of dollars and volunteer hours to lake preservation and restoration projects (Forester, 2017).

To decrease the disconnection between lake associations and policy makers, Minnesota Lakes and Rivers Advocates (MLR), a non-profit advocacy organization, has been working with lake

associations to implement new ideas such as "Vertical and Horizontal Advocacy Integration." This method works by positioning MLR members throughout Minnesota's legislative districts, while also encouraging lake associations to work with local and county governments. In addition, MLR has two full-time lobbyists at the state capitol (Forester, 2017). The MLR's mission is to forge a powerful link between lake associations, lake advocates, and policymakers, with the overall goal of empowering Minnesota's lake associations to become even more instrumental and effective in advocating for and protecting Minnesota's waters.

The main purpose of this study was to provide empirical data on who Minnesota lake associations are and to better understand the scope of their lake conservation activities, their major concerns, and the main hurdles they face. Funding sources and allocation of time and money to various activities was documented, as well as membership size, demographics, and expertise. In addition, this study involved a major update and expansion to the database of Minnesota lake associations that MLR has in order to enable wider and more effective communication between MLR and the lake associations in Minnesota. Ultimately, the information gained from this study can help facilitate more collaboration and communication between various government entities and lake associations in Minnesota.

Study Background

This study began in spring 2017 when the Executive Director of MLR, Mr. Jeff Forester, contacted Dr. Michelle Marko of the Concordia College Biology department, and asked her to survey Minnesota's lake associations for the purpose of increasing current awareness and understanding the role lake associations play in lake conservation. Dr. Marko, who specializes in aquatic ecology, contacted Dr. Mona Ibrahim of the Concordia College Psychology department, who has expertise in measurement and assessment. With the help of two undergraduate research assistants, Ben Bjertness and Matthew Zabel, the Concordia College research team developed and distributed a self-administered online survey to Minnesota lake associations in summer 2017. This research was funded by a small grant from MLR, with matched funding provided by Concordia College's Office of Undergraduate Research.

The self-administered online survey approach was used, as opposed to face-to-face interviews or phone interviews because self-administered surveys have been demonstrated to reduce the effects of social desirability, or the tendency to give answers that put oneself in a more positive light than warranted (ex. Kreuter et al., 2008). In addition, primacy/recency effects, or the tendencies to process and remember the first/last few options in a list better than other options, and acquiescence, or the tendency to agree rather than disagree with others, are lower in self-administered surveys than in other modes of data collection that involve interacting with an interviewer (ex. Javeline, 1999; Moore, 1997). Self-administered surveys also reduce interviewer bias, where the interviewer's characteristics or expectations influence the respondents' answers (Catania et al., 1996), and the accuracy of their data is not dependent on the level of experience of the interviewer (Olson & Bilgen, 2011). Finally, and just as importantly, self-administered online surveys are more time and cost efficient and ensure more accurate data recording than other modes of collecting data.

This study was the first of its kind conducted in Minnesota. Because there is scant literature on the types of questions that would be meaningful to include in a survey of Minnesota lake associations, the research team designed a pilot survey with mostly open-ended questions. The purpose of the pilot survey was to collect qualitative data that would help give a better understanding of the main activities and concerns of lake associations in Minnesota and, consequently, help determine the types of questions the final survey needed to have.

In addition, the research team joined the meetings of several lake associations and communicated with multiple stakeholders, including lake association officers, MLR board members, and resort owners in order to gain a better understanding of their activities, goals, and concerns. Based on the data collected via the pilot survey, the attendance of lake association meetings, and communication with various stakeholders, the final survey was developed.

Method

An inductive approach was used to generate meaningful, valid survey items. This included refining and building on the 2016 MLR survey that MLR gave to Minnesota lake-property owners. In addition, feedback was solicited from the Executive Director of MLR, regarding the specific research questions that our survey should aim to address. This information was used as a basis for developing survey items.

Student researchers trained in questionnaire design worked with faculty researchers on developing and formatting a survey in accordance with the recommendations in the field (ex. De Vaus, 2014; Dillman et al., 2014; Krosnick & Presser, 2010; Schaeffer & Presser, 2003). In order to establish face validity, an expert review was then carried out. The Executive Director of MLR, a few members of the MLR board, and a few Minnesota lake association members reviewed the first survey draft and provided feedback regarding whether the survey reflects the research questions of interest and whether its wording is relevant, clear and accurate. Following this step, the survey was edited and then piloted on a few lake associations in order to pretest it and get feedback on it from respondents.

The Pilot Survey

The pilot survey was created to identify response trends, gain feedback for survey improvement, and test the validity of the survey questions. It was developed as an online survey using Qualtrics, a survey development platform. In addition, a paper-and-pencil version of the survey was developed and was sent out to those who requested this format as well as those who had no known email address to send the survey link to. An invitation email was sent to all pilot lake associations (see Appendix A), followed by a link to the pilot survey.

In order to make sure that the survey questions are valid and relevant to all lake associations, regardless of their activity level, MLR provided the researchers with a select list of 60 lake associations to pilot the survey on. These pilot associations represented the full spectrum of

activity levels: 20 were characterized by MLR as highly active, 20 as moderately active, and 20 as low activity.

The pilot survey included mostly open-ended questions (see Appendix B) in order to avoid restricting the range of responses to specific ideas or particular value ranges. The pilot survey was launched on June 1st, 2017. In addition to the initial invitation email, each lake association received up to four follow-up reminder emails. The Executive Director of MLR also helped encourage the pilot lake associations to complete the survey by sending an information/invitation letter prior to the launch of the survey online. In addition, all pilot lake associations that had not yet completed the survey by mid-June were individually contacted by phone to encourage them to complete the survey.

By the end of June 2017, the pilot survey was closed. A total of 11 highly active, 9 moderately active, and 6 low-activity Minnesota lake associations completed it. The total number of responses received was 26, a 43% response rate. The average survey completion time was 55 minutes. The pilot data was coded and analyzed by the researchers using the IBM SPSS Statistical Software-Version 24.

The pilot survey results were used to test the quality of the survey and to refine its questions as needed. Pilot data was also used to ascertain whether there are completion time issues, and whether response alternatives cover all desired options. Based on the pilot data, the survey underwent extensive revisions. Some of the main revisions included:

- The pilot survey contained a question requesting detailed contact information for each of the lake association's officers. This was information that MLR needed in order to strengthen communication with lake associations and develop a strong member base. However, this question was perceived by pilot respondents as too invasive and time consuming and was therefore replaced with a more general question requesting any additional contacts the respondent is willing and able to provide.

- The pilot survey placed excessive demands on the respondent's time. The responses to the open-ended questions on the pilot survey were carefully examined and were used to convert many of the open-ended questions to close-ended questions that are comprehensive and valid, yet faster to complete and do not discriminate against less articulate respondents (De Vaus, 2014). For example, the pilot survey included a question about what organizations the lake association interacts with. Many respondents spent a lot of time typing up the names of numerous organizations that their lake association interacts with. In the final survey, this question was converted to a close-ended question with a specific list of check-all-that apply options that respondents can simply select.

- The question options and response ranges used in the final survey were edited based on the pilot response to capture answers that the researchers may have not initially included in designing close-ended questions. This ensured that the survey questions more accurately reflect the actual makeup, activities, and concerns of lake associations in Minnesota.

- Pilot responses were also used to make the final survey more precise and accurate (ex. a question about number of 'properties' on the lake was replaced with one about the number of “residences” on the lake). New questions were also added based on the additional issues the pilot respondents brought up. Even the font size and formatting used in the final survey were determined based on feedback we got from the pilot survey.

- The data from the pilot survey was used to test the quality of questions. Questions that did not yield varied information were eliminated. For example, the question “Who started the LA?” was unanimously answered “home owners”, and was therefore eliminated.

- Similarly, redundant questions and questions that did not yield useful information were eliminated or edited. For example, the pilot survey had a question about the specific tax-exempt status of the organization. That question did not seem to yield useful data and was therefore replaced with a yes/no question about whether the association had a tax-exempt status or not.

- The validity of questions about activity, motivation, and involvement was tested by comparing the responses to them to the activity-level ratings provided by MLR.

The final survey took an average of 30 minutes to complete, compared to an average of 55 minutes to complete the pilot survey. It was sufficiently different from the pilot survey that pilot respondents were invited to take the final survey as well.

Field Visits

To better understand the function and role of lake associations in Minnesota, the research team members attended a total of five visits to lake association meetings in June and July of 2017. The meetings attended were selected from approximately 15 invitations from lake associations and coalitions. Typically, the lake associations that reached out with invitations to the researchers had learned about the study through communication with the Executive Director of MLR, Minnesota Public Radio, MN Newspapers, and/or local news broadcasts.

The five lake associations meetings that the researchers attended were selected based on several factors, including location, availability of the researchers, and financial resources of the project. The researchers aimed to visit lake associations in various parts of the state in order to capture regional differences. In addition, the research team communicated with multiple stakeholders via phone conversations and email, including lake association officers, MLR board members, and resort owners in order to gain a better understanding of their activities, goals, and concerns and to achieve data triangulation.

The main themes that emerged from the qualitative data obtained through field visits and email/phone communication were then incorporated into the final survey questions.

The Final Survey

The final modified survey (see Appendix C) consisted of a total of 53 items. The questions in the survey were of many types. Some questions assessed behavior (ex. "Approximately, how many volunteer hours per month are typically dedicated to water quality testing?"), while some assessed beliefs (ex. "How would you rate the activity level of your lake association?"), knowledge (ex. "Does you lake have AIS?"), attitudes (ex. "I feel that my lake association has real authority over the lake"), or attributes (ex. "How many individual members does your lake association has?").

The items in the survey were grouped into the following sections based on their subject matter:

Section	Survey Questions
The Lake and Lake Use	4-16
The Lake Association	17-25
The Members	28-32
Activities and Finances	34-41
Collaboration/Outreach	42-48
Challenges and Concerns	49-55
Respondent Demographics	1-3 and 58-61

The survey questions were all close-ended, with the exception of one open-ended question that invited participants to share any additional information they want about their lake associations, their activities, needs, and/or concerns.

The survey was administered online, using the Qualtrics® survey platform, to all Minnesota lake associations that MLR had contact information for. In addition, a paper-and-pencil version of the survey was sent to a few lake associations that preferred that format. The research team had access to MLR's database and had completed an expansion/update of it earlier in the summer to ensure the availability of correct contact information for as many Minnesota lake associations as possible.

The online delivery option was selected due to benefits such as lower costs and increased access to participants within a short time frame. At the same time, online samples tend to be just as representative as traditional samples (Gosling et al., 2004), and surveys administered online tend

to have comparable reliability and validity to those administered in-person (Meyerson & Tryon, 2003).

Procedure

Before data collection started, the researchers sought and obtained approval to conduct the study from the Concordia Institutional Review Board (IRB), which is a committee tasked with ensuring the protection of human subjects in research. Subsequent to IRB review and approval, a total of 453 various respondents representing the leadership of lake associations, including the secretary, president, and/or treasurer, from 407 different lake associations in Minnesota received an email invitation to participate in the final survey.

Responses from multiple officers from each lake association were encouraged in order to enable the researchers to assess reliability. In addition, an anonymous survey link was created to enable lake association officers without a known email address to complete the survey. The anonymous link was posted to a Facebook page that the researchers created to provide information about the study. Similar to the pilot survey, each invitee received up to four reminders to complete the survey, as well as a separate invitation email by the Executive Director of MLR.

Informed consent was requested at the beginning of the survey. The informed consent form provided information about the purpose of the study, the use of the information from the study, and the risks and benefits of the study for the participants. Participants were informed about the confidentiality of the information they provide and about the measures the researchers are taking to secure and protect the collected data. The survey was voluntary and there was no compensation provided for completion of the survey.

Quantitative data from the pilot survey were analyzed using IBM SPSS Statistical Software-Version 24. The qualitative data obtained from the field observations, phone and email communications, and the open-ended survey question were all coded and analyzed for major themes. Two researchers independently coded and thematized the qualitative data and inter-coder agreement was assessed in order to achieve investigator triangulation.

All respondents with known email addresses received an aggregated summary report of the findings at the conclusion of the data analysis phase.

Participants

A total of 250 participants responded to the survey. The majority (71%) of the respondents were male. Participants ranged in age between 40 and 80 years, with 70% in the age range of 61 to 80 years and 23% in the age range of 40 to 60 years. Our sample was highly educated, with 44% holding a Bachelor's Degree and 24% holding a Master's Degree. 71% of the survey respondents were retired with another 25% employed in occupations that ranged from small business owners to physicians and professional AIS inspectors.

The respondents represented lake associations located in various counties across Minnesota, ranging from Rice County in the South to Aitkin and Cass Counties in North central. Lake sizes ranged from less than 100 acres to greater than 1000 acres with an average lake size of 600 acres, and an average of 580 residence surrounding the lake. The environment around the lakes varied from populated urban environments to rural or forested environments, with most lakes in forested environments (79%).

Quantitative Findings

First, How Robust are our Results?

Response Rate

The literature (ex. Millar & Dillman, 2011; FluidSurveys University, 2017; SurveyGizmo, 2017) reports that the average response rates for external internet/email surveys are typically in the range of 10%-25%. Our response rate was 55%. This high response rate means that nonresponse bias is minimized in our study. Nonresponse bias occurs when there is a variation between the mean values that would have been obtained from the original sample invited to participate and the mean values of those who actually responded to the survey. With the minimized nonresponse bias in our study, we can be more confident that our data is representative of a variety of lake associations in Minnesota rather than just a particular subgroup of associations (ex. highly active ones, ones with younger or older than average membership, etc.) that more readily respond to surveys.

Margin of Error

With a sample of 250 respondents representing 186 different lakes, our survey results were highly representative of all Minnesota lake associations. Using the confidence interval calculator (Creative Research Systems, 2017), and assuming a population size of 500 lake associations in Minnesota, we computed our margin of error to be equal to 5.7. This means that there would be no more than a 5.7% difference between the results obtained from our sample and the results that would be obtained if we had surveyed every single lake association in Minnesota.

Confidence Level

We set our confidence level at 95%, meaning that we can be confident that if we repeated the study 100 times — surveying a different sample of Minnesota's lake associations each time— respondents would provide answers that are fairly similar to our original results in at least 95 of those 100 studies.

Given the high confidence level we set and the small margin of error in our results, we believe our findings are fairly robust. To give an example: If 80% of the lake associations in our sample reported having tax-exempt status, then, with our confidence level of 95% and our margin of

error of 5.7, there is 95% chance that had we surveyed every lake association in Minnesota, between 74.3 and 85.7% of them would have reported having tax-exempt status.

Reliability

Because some lake associations had two or more leaders each respond to our survey, we were able to conduct reliability analyses on our factual survey questions by examining consistency of the answers to them across respondents from the same association. We had 47 pairs of respondent with the two members of the pair belonging to the same lake association. We computed correlation coefficients to examine inter-observer agreement (i.e. how the responses of the first member of the pair relate to the responses of the second member of the pair) on a sample of factual survey questions. The correlations between the responses from the same lake association were generally high. Some examples of factual questions are listed below.

- Approximately, how many acres is the area of the lake? (r=0.69)
- Approximately, how many residences are on the lake? (r=0.81)
- How many public boat accesses are on the lake? (r=0.83)
- What is the level of boat traffic at public boat accesses? (r=0.74)
- What percent of your membership are year-round residents of their lake homes? (r=0.67)
- How much is your lake association's annual membership fee? (r=0.80)
- How many board members does your lake association have? (r=0.72)
- What is the average amount of funds that your lake association raises in one year? (r=0.91)

Our results indicated that responses to these factual questions were reliable as indicated by the reliability indices provided above in parenthesis. Note that correlations of 0.7 or higher are generally considered to be indicative of high reliability (Hogan et al., 2000).

Validity

Reliability is a necessary, but not a sufficient characteristic of psychometrically sound questions. A question may be reliable but yet not valid. To examine the validity of survey questions, a subset of the questions were selected. Each question was cross-validated against another question pertaining to the same topic (i.e. convergent validity was assessed). Since both questions pertain to the same topic, it would be expected that, if they were valid questions, the responses to them would be highly related.

To examine convergent validity, correlation coefficients (r) for the pairs of items below were examined. The pairs were selected based on a logical analysis of expected relationships.

Item	Paired item	r
Lake acreage	Number of residences on the lake	0.59
Number of residences on the lake	Number of public boat accesses on the lake	0.67
Number of residences on the lake	Number of members of the lake association	0.63
Number of members of the lake association	Average amount of funds the lake association raises in one year	0.56
Number of public boat accesses on the lake	Boat traffic at public boat accesses on the lake	0.52
Number of Hours dedicated to boat decontamination for AIS	Percent of funds dedicated to boat decontamination for AIS	0.79
Having members who are more motivated to reach the lake association's goals	Activity level of the lake association	0.56
Believing that the lake association is authentically included in the lake planning process	Feeling that the lake association has real authority over the lake	0.48

As indicated by the correlation coefficients (*r*) provided above, these selected pairs of questions cross-validated each other well, with coefficients ranging from 0.48 to 0.79 on a scale of zero to 1.0. Correlations of 0.30 or higher are generally considered to be indicative of adequate validity (Westen & Rosenthal, 2003).

Results Pertaining to the Main Study Questions

Study Question 1: When were lake associations formed, for what purpose, and what are they composed of?

The vast majority (74%) of the lake associations surveyed were formed between 1960 and 1999 (Figure 1.1). The main reason for most lake association formation was to protect and preserve the lake (Figure 1.2). The top 6 reported benefits of being a member of a lake association are:

- Newsletter updates

- Periodic/regular meetings
- Volunteer opportunities
- Voting rights
- Social and community events
- Educational programs

Other reported benefits of being a member of a lake association include:

- Coordination of lake preservation activities
- Regular AIS inspection
- Accessible directories of members
- Information about legislative activities

The average number of individual members in a lake association is approximately 200, with most lake associations (79%) reporting having 1-399 members (Figure 1.3). Membership in a lake association is typically not restricted. While the majority of lake associations are composed of lake property owners and renters, 60% of surveyed associations indicated that membership is open to anyone interested in joining.

The average number of board members in a lake association is approximately 5, with 36% of lake associations having 10 or more board members (Figure 1.4). While 50% of the lake association board members have specific lake conservation expertise such as fisheries, AIS inspection, and AIS decontamination (Figure 1.5), only 5% of them are elected officials who contribute to legislation affecting the lake (Figure 1.6).

Figure 1.1
"When was your association formed?"

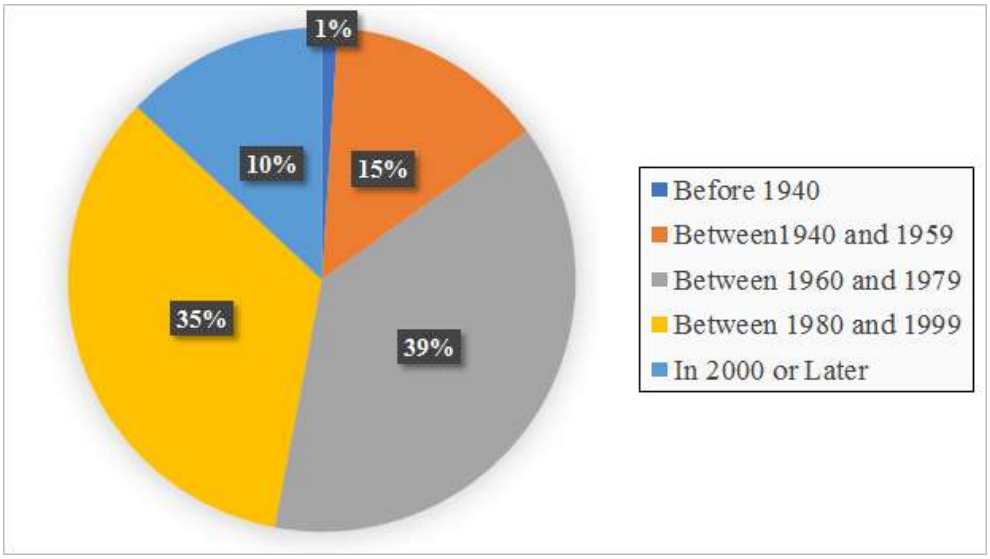


Figure 1.2
"For what purpose was your lake association formed?"

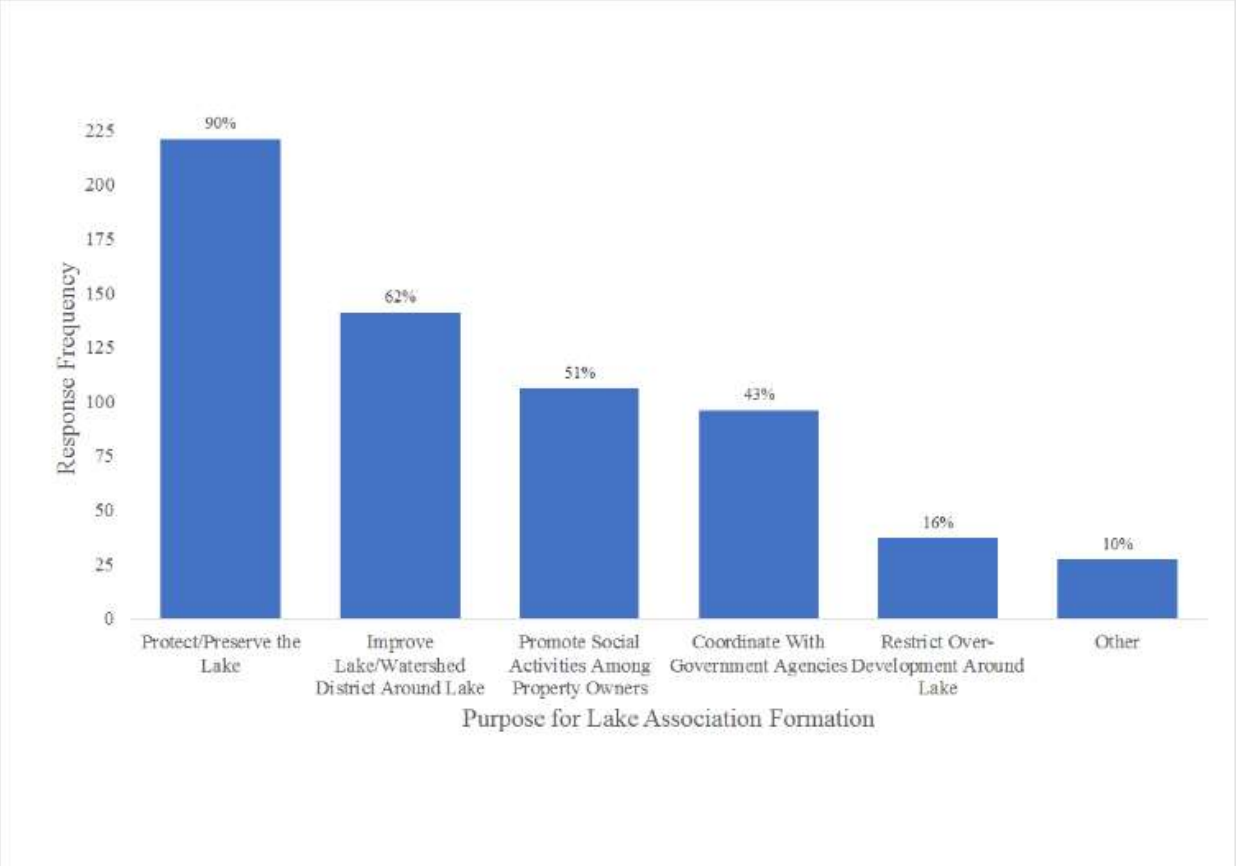


Figure 1.3
"How many members does your lake association have?"

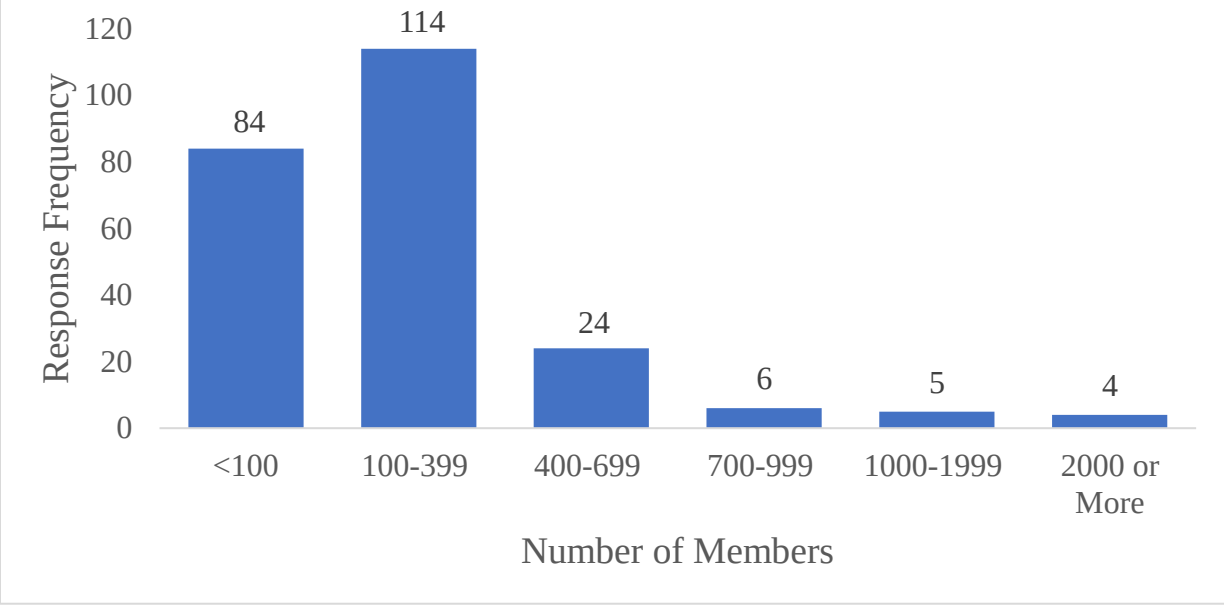


Figure 1.4

"How many board members does your lake association have?"

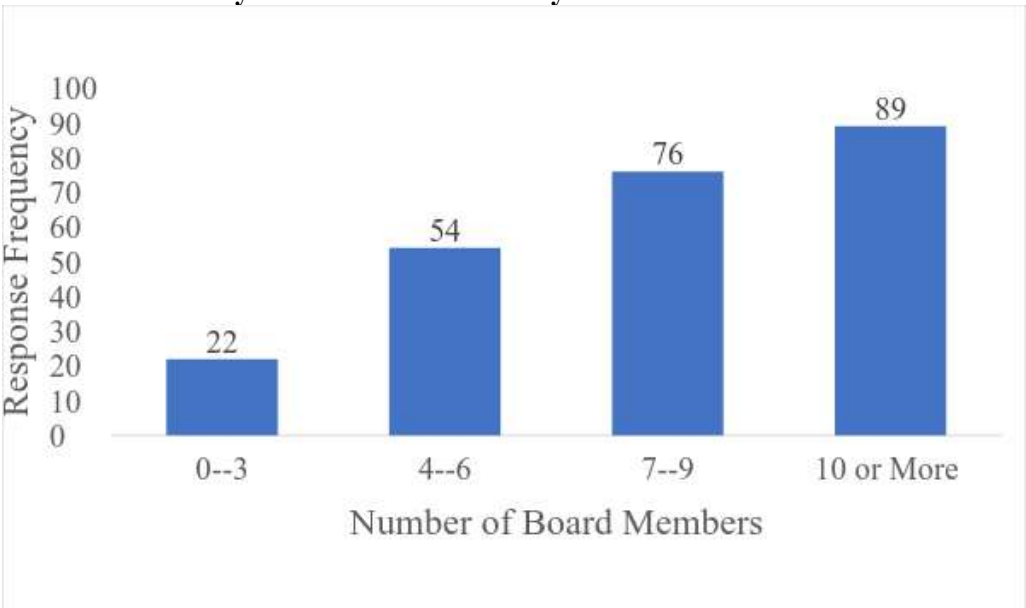


Figure 1.5

"Do your board members have any specific lake conservation expertise?"

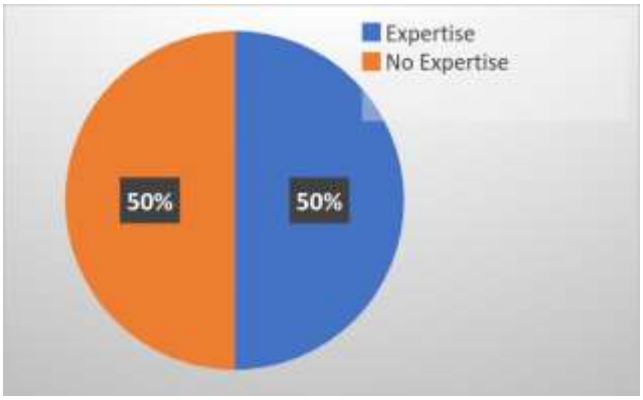
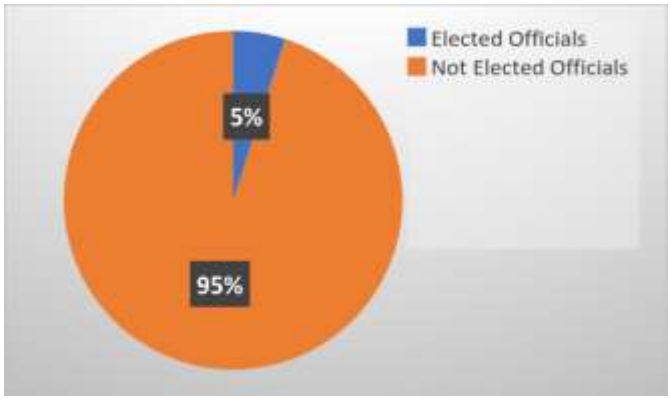


Figure 1.6

"Are any board members elected officials who contribute to legislation affecting the lake?"



Study Question 2: What are the characteristics of the lakes and the environments surrounding lake associations?

Minnesota lakes are key contributors to the economic welfare of their communities, bringing in income through a variety of sources. 91% of surveyed lake associations indicated that property taxes are a main source of economic stimulation that the lake provides. The recreational and

tourist industries are also large economic stimulants as indicated by 86% of the survey respondents (Figure 2.1).

Respondents ranked pontoons and recreational boats as the most common types of boats on the lake, followed by fishing boats (Figure 2.2). In addition to boating, fishing is also a common activity on Minnesota's lakes, with many different kinds of fish fished out of their water on a regular basis. 90% of surveyed lake associations indicate Panfish as a popular species for fishing, while Bass, Northern Pike, and Walleye followed close behind (Figure 2.3).

Many lake services exist on lakes including stations with information on invasive species and/or fishing regulations, restaurants, gas stations, convenience stores, and marinas. The majority of respondents (71%) indicated that stations with invasive species information are one of the most common services provided on the lakes (Figure 2.4).

While most lakes have fewer public boat accesses than private boat accesses (Figures 2.5 and 2.6), the public boat accesses typically have more boat traffic per day than private boat accesses (Figure 2.7 and 2.8).

Figure 2.1
"What economic contributions does the lake offer your community?"

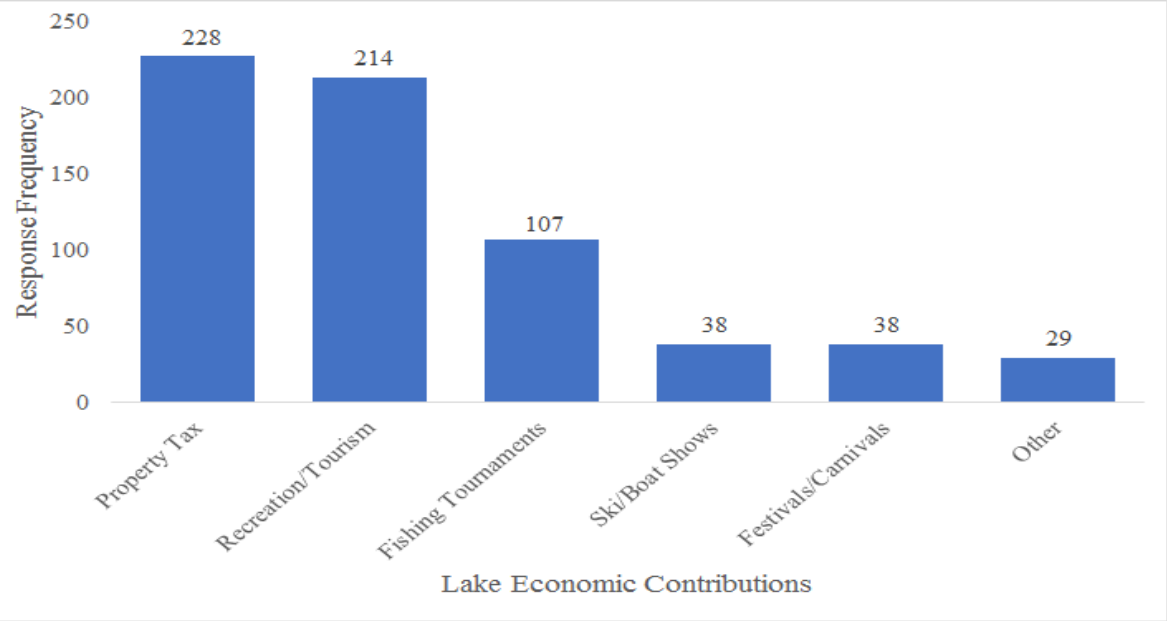


Figure 2.2
What Types of boats are most used on the lake?"

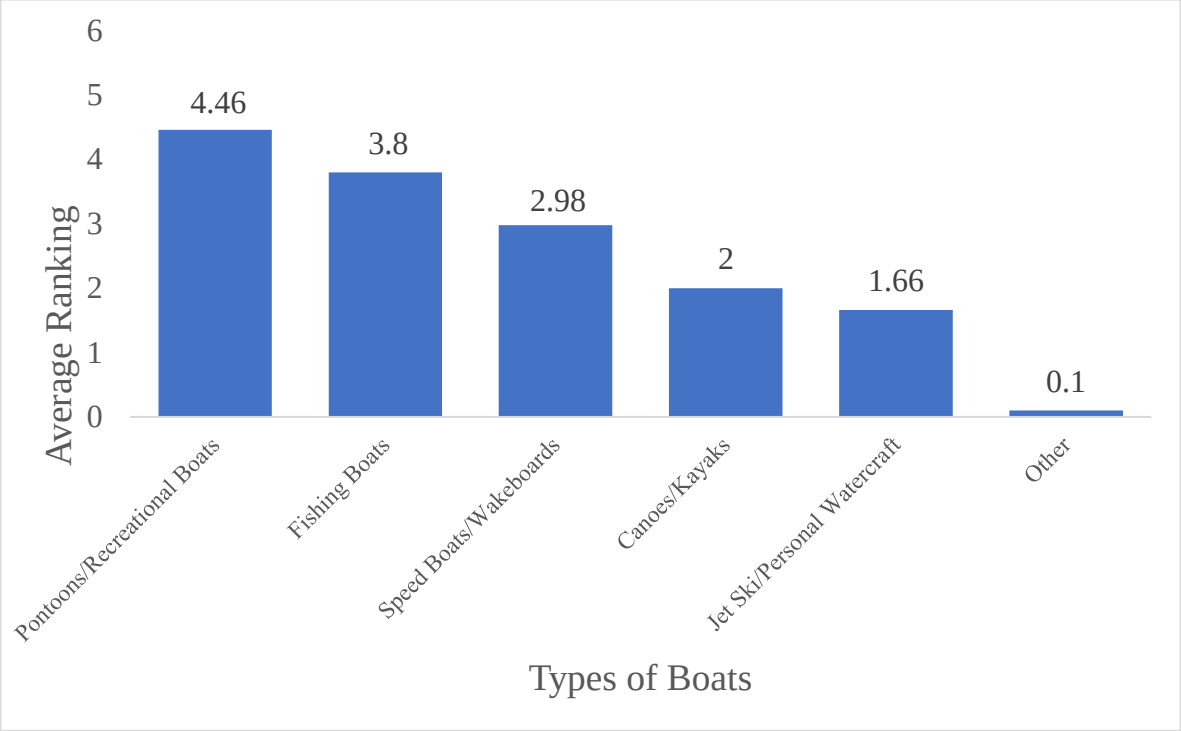


Figure 2.3
"What kinds of fish are most fished in your lake?"

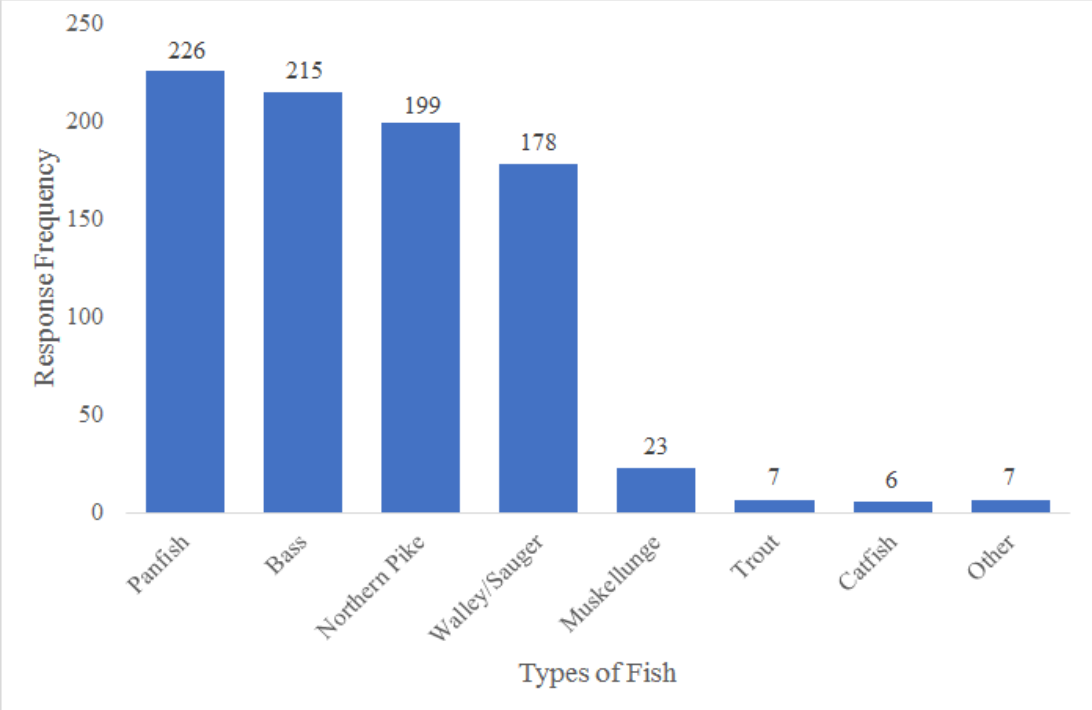


Figure 2.4
"What Services are available at the lake?"

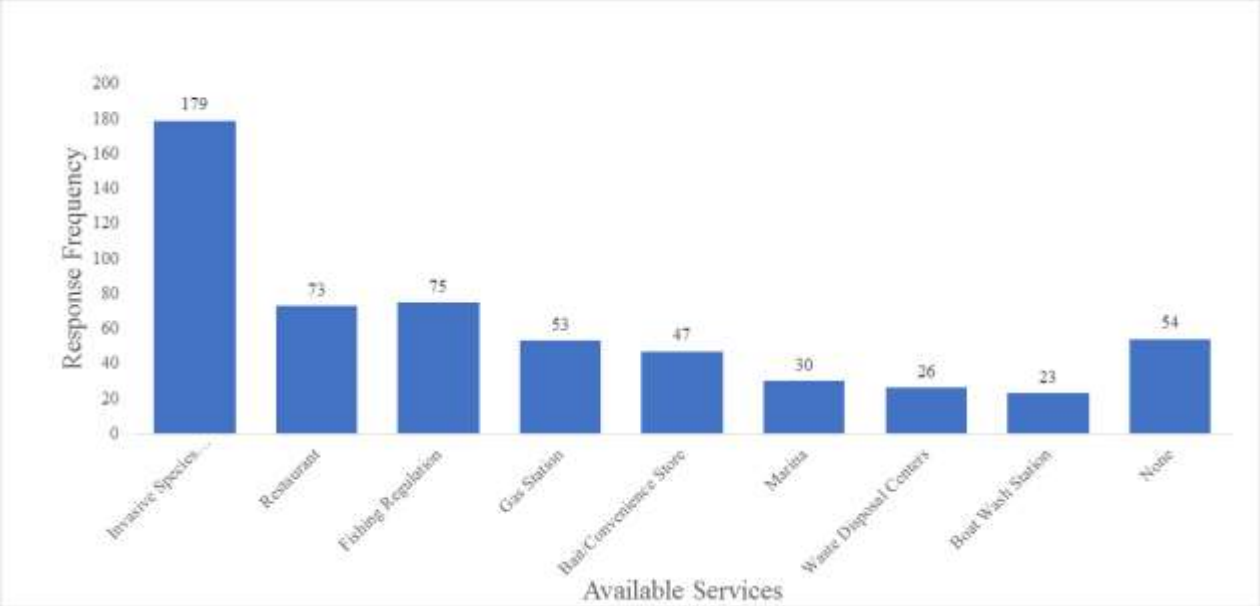


Figure 2.5
"How many public boat accesses are on the lake?"

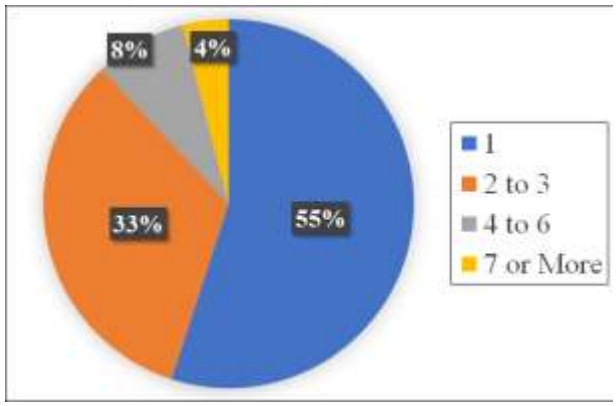


Figure 2.6
"How many private boat accesses are on the lake?"

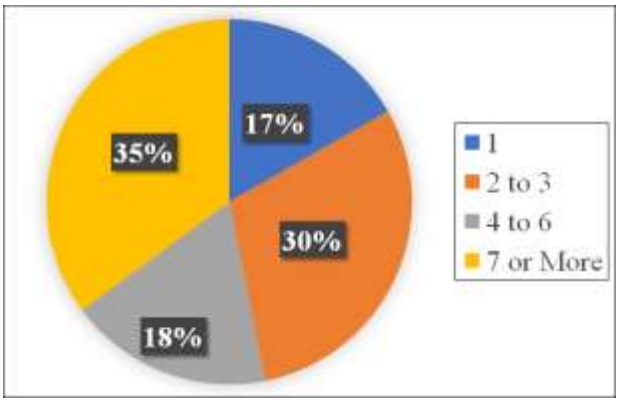


Figure 2.7
"How would you rate the typical boat traffic at public boat accesses?"

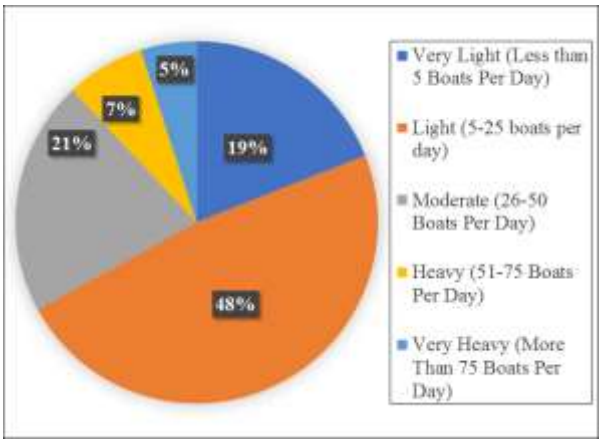
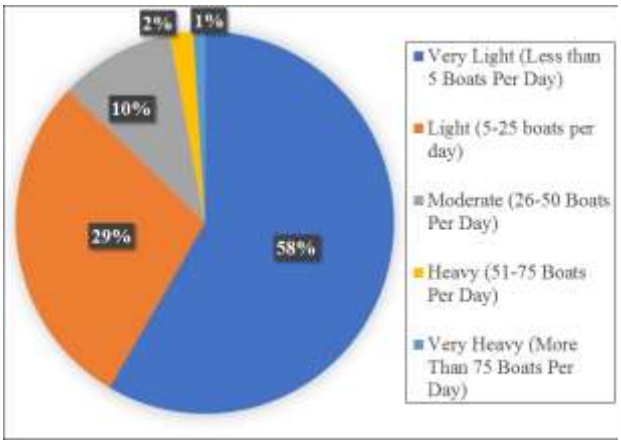


Figure 2.8
"How would you rate the typical boat traffic at private boat accesses?"



Study Question 3: Who are the Members of the Minnesota Lake associations?

Most members of Minnesota lake associations are residents of the state (82.3%) who live seasonally at the lake (52.7%), and who can vote on legislation that affects the lake (69.7%) (Table 3.1).

Table 3.1
Characteristics of Minnesota lake Association Members

Characteristic	% of Respondents
Year-round residents of the lake	42.8
Seasonal residents of the lake	52.7
Regular lake goers and do not own property on the lake	4.9
Minnesota residents	82.3
Residents who can vote on legislation that affects lakes	69.7

Study Question 4: What characterizes lake association finances?

44% of Minnesota's lake associations operate on an annual budget of $5000 or less (Figure 4.1), which come mainly from the dues they collect from their volunteer members (Figure 4.2). The median annual budget of a lake association in our sample is about $12,500. This means that,

collectively, the 500+ Minnesota lake associations donate about $6.25 million, annually, to the care of Minnesota's lakes.

Membership dues range from a minimum of $0 to a maximum of $100 or more, with the average membership costing $20. Other sources of funds for lake associations include private donations, grants from municipal agencies, basic fundraisers, and memorials (Figure 4.2). 70% of lake associations indicated having a tax-exempt status.

Figure 4.1
"What is the average amount of funds that your association raises per year?"

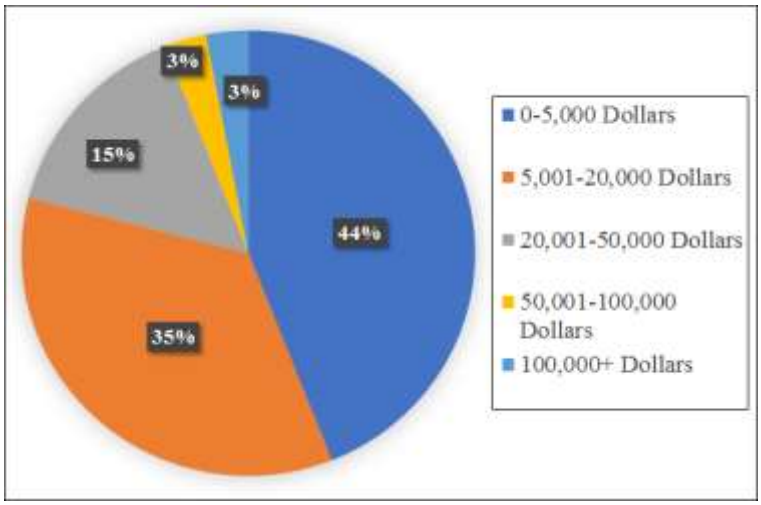
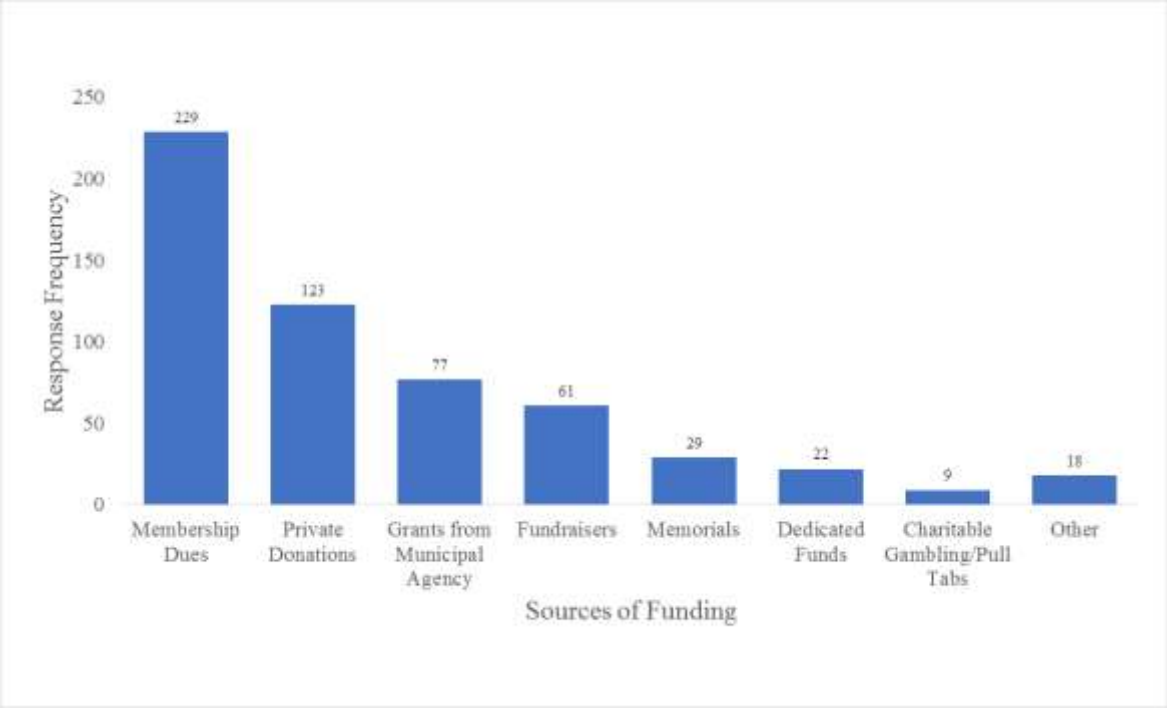


Figure 4.2
"How do you raise money for your lake association?"



Study Question 5: How active are lake associations and what specific activities do they spend their time and funds on?

Lake associations vary in size and activity level depending on various factors including presence of AIS in their lake, number of members, and geographic location. 36% of lake associations surveyed indicated that they have a relatively high level of activity, and 47% of associations reported a moderate level of activity (Figure 5.1). 76% of surveyed lake associations reported having between 1 and 6 annual meetings (Figure 5.2).

Lake associations play a key role in managing and maintaining lakes. They put a lot of time and money in into preserving their lake ecosystems and have a vast array of responsibilities regarding lake management. To properly address each separate issue, they typically divide into committees which work to maintain lake health and monitor the financial well-being of the lake association. The most common committee is one that works on water quality and lake health (Figure 5.3). Other common committees include: AIS maintenance, social/community relations, audit/finance, and executive committees (Figure 5.3).

Lake associations in our sample spend an average of 101 hours per month on the following three activities: AIS inspection, attendance of meetings, and water quality testing (Figure 5.4). This means that the 500+ lake associations across Minnesota probably volunteer an average of 606,000 hours annually on these three activities. Averaging across all the activities that lake associations engage in, our survey revealed that lake associations contribute about 207 volunteer hours per month overall. Given that there are more than 500 lake associations in Minnesota, this amounts to at least 1.2 million volunteer hours that lake associations collectively contribute to lake protection every year.

On average, lake associations spend the majority of their funds on water quality testing (20%), community outreach (17%), AIS inspection (14%), and association meetings (13%). Other activities that lake associations fund include fish stocking, water safety, and shoreland restoration (Figure 5.5).

Figure 5.1
"How would you rate the activity level of your lake association?"

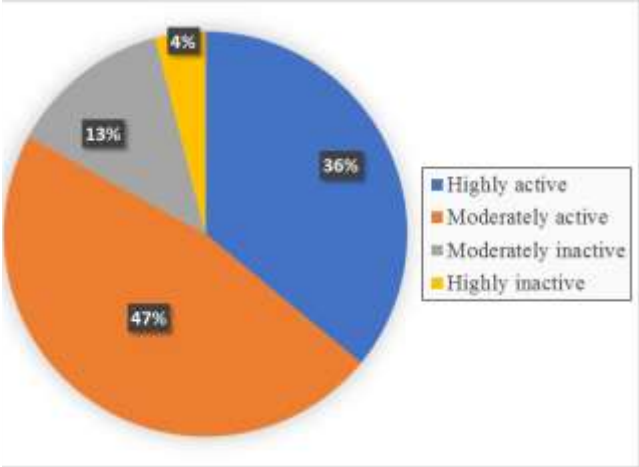


Figure 5.2
"How frequently does your lake association hold meetings?"

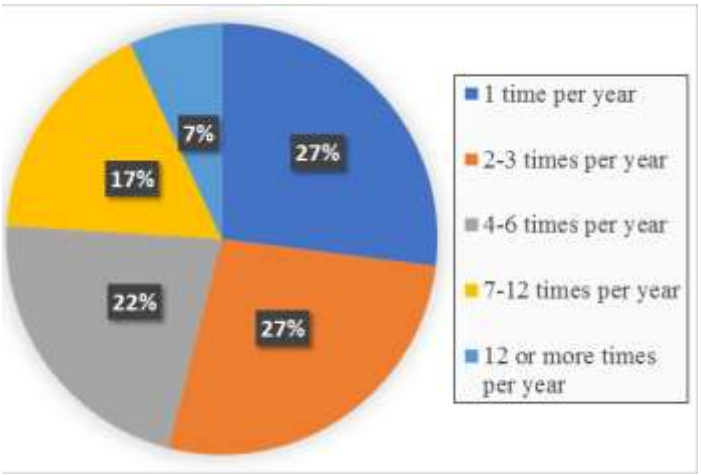


Figure 5.3
"What committees does your lake association have?

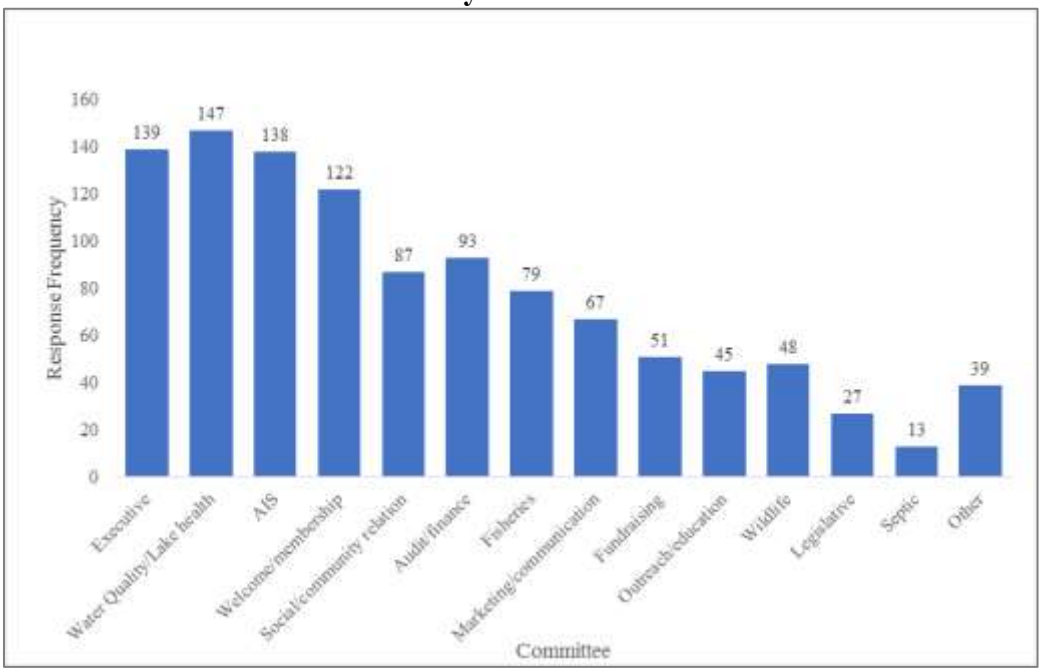


Figure 5.4
"How many volunteer hours/month are dedicated to this activity?"

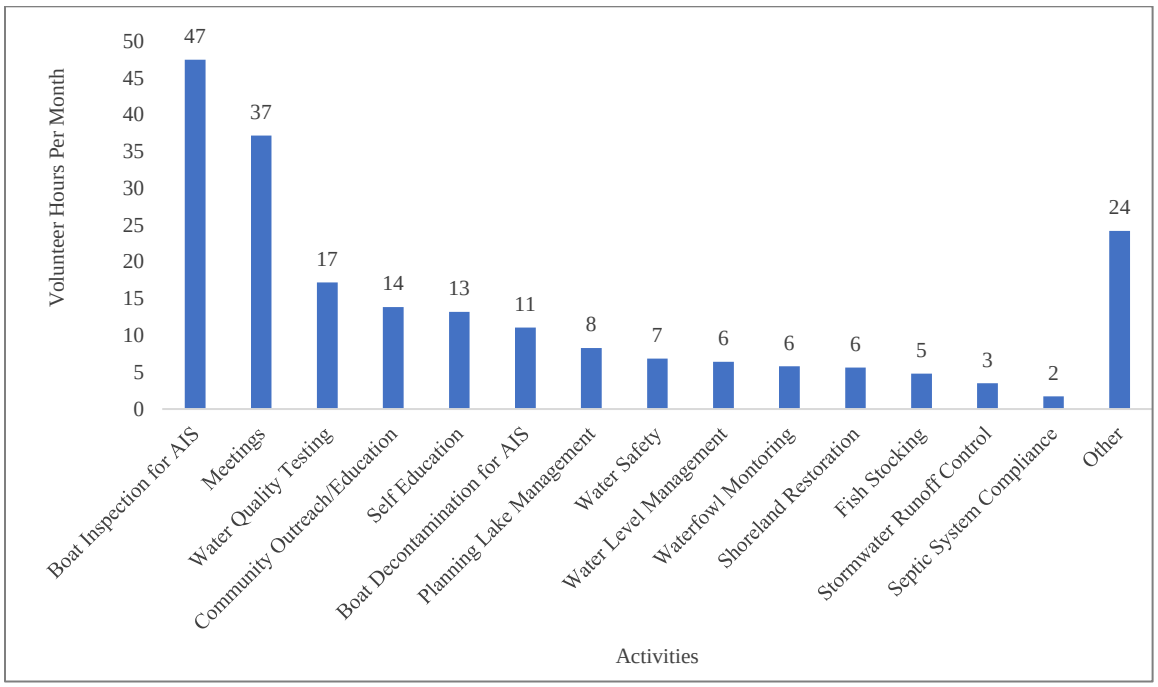
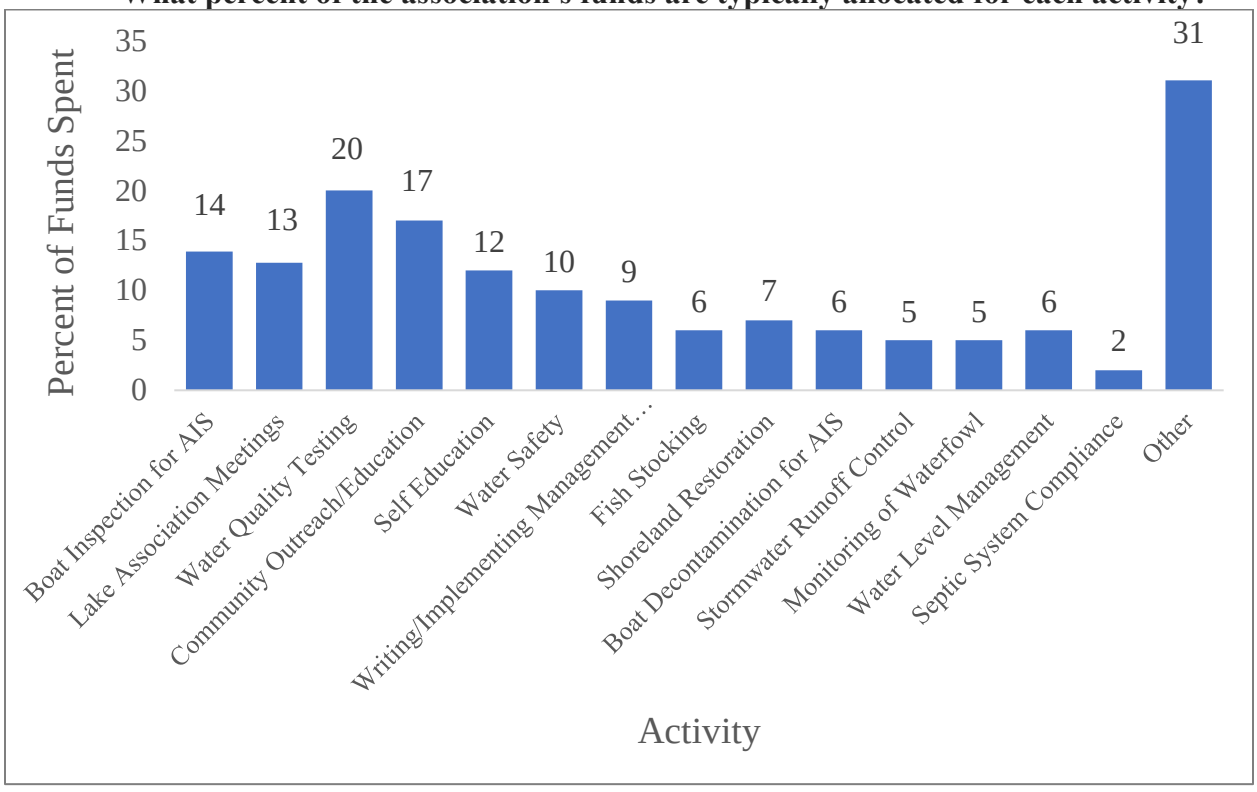


Figure 5.5
"What percent of the association's funds are typically allocated for each activity?"



Study Question 6: What collaborations/outreach initiatives do Minnesota lake associations engage in?

Lake associations tend to collaborate with a wide variety of entities. 67% of the respondents reported that their lake association belongs to a Coalition of lake associations, or COLA, and 50% report that their lake association also collaborates with other lake associations outside of a COLA. Lake associations collaborate with many organizations at the federal, state, and county levels as well. The top 7 organizations that lake associations collaborate with, in order of most to least, apart from COLA's are:

1. Department of Natural Resources
2. County Government Units (County Commission, Emergency Management).
3. Soil Watershed District
4. Minnesota Lakes and Rivers Advocates
5. Law Enforcement (Sheriff, Police)
6. City Government Units
7. Other State Governmental Units (MPCA, Department of Health)

Most lake associations (67%) are active in providing programs to educate the public on important conservation topics. 56% of the respondents reported that their lake association provides AIS education, while 41% reported providing water-testing education, and 16% reported providing water-safety education.

Lake associations use many different venues for community outreach and education including:

- Email (53%)
- Websites or facebook postings (46%)
- Workshops/Presentations (26%)
- Newspaper/magazine articles (21%)
- Going on door-to-door visits (16%)
- Radio interviews (5%)

Study Question 7: What are the primary goals, challenges, and concerns of Minnesota lake associations?

57% of lake associations surveyed reported having some form of aquatic invasive species (AIS) on their lake. Commonly reported AIS species on lakes include curly-leaf pondweed, Eurasian watermilfoil, and zebra mussels (Figure 7.1).

Not surprisingly, the top concern of most lake associations is AIS, followed by overall water quality and runoff (Table 7.1), and the top goal that they currently have is to control AIS in the lake. Other goals include improving water quality, improving fisheries, increasing lake safety,

lake clean-up/trash removal, and limiting shoreland development (Figure 7.2).

The majority (64%) of the respondents indicate that their lake association members are motivated to reach the lake association's goals (Figure 7.3), and 57% of lake associations report being able to engage their members in activities and advocacy for clean water (Figure 7.4). At the same time, 57% of the respondents think that their association faces hurdles in becoming more engaged in lake conservation activities (Figure 7.5). The top 3 challenges that lake associations in our sample face as they work on achieving their goals are inadequate member participation (i.e. the needs far exceed the available human capital), not being heard/taken seriously by the DNR, and the aging population of lake property owners (Table 7.2).

Alarmingly, the majority (55%) of the respondents do not agree that their lake association is authentically included in the lake planning process (Figure 7.6) and 78% do not feel that their lake association has real authority over the lake (Figure 7.7). Moreover, only 22% of the respondents think that the DNR has sufficient lake management policies in place (Figure 7.8).

Figure 7.1
"Which species of AIS are found on your lake?"

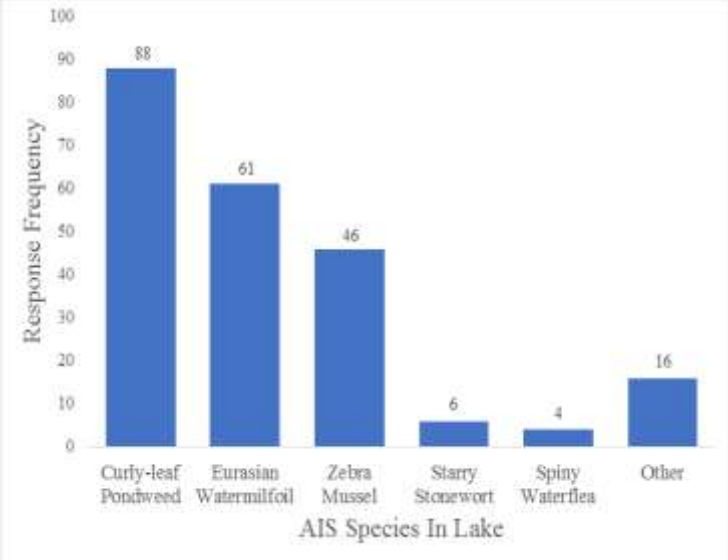


Figure 7.2
"What are the most important goals of your lake association?"

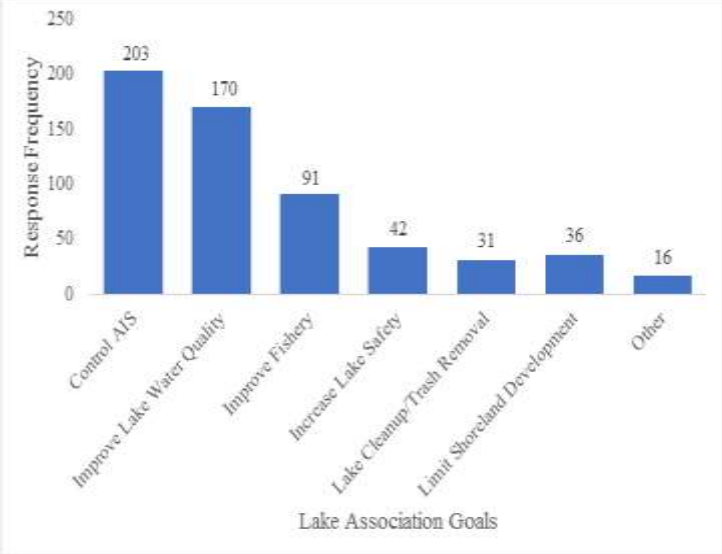


Figure 7.3
"How motivated are members to reach the lake association's goals?"

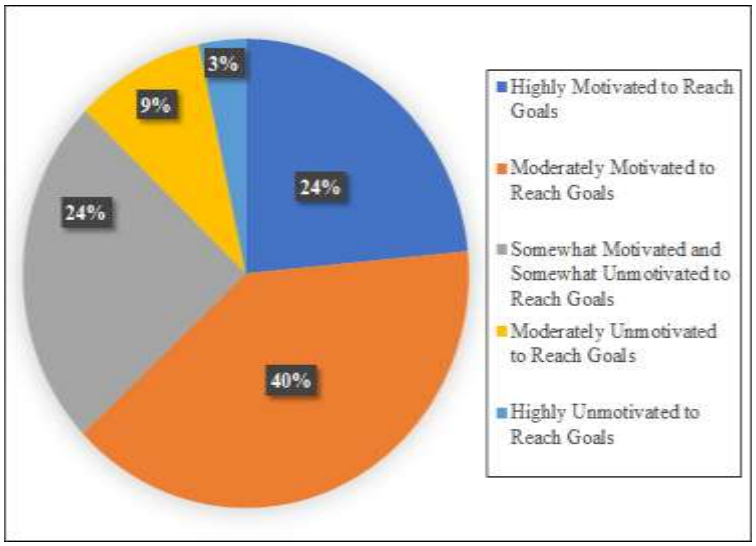


Figure 7.4
"I am able to engage members in activities and advocacy for clean water."

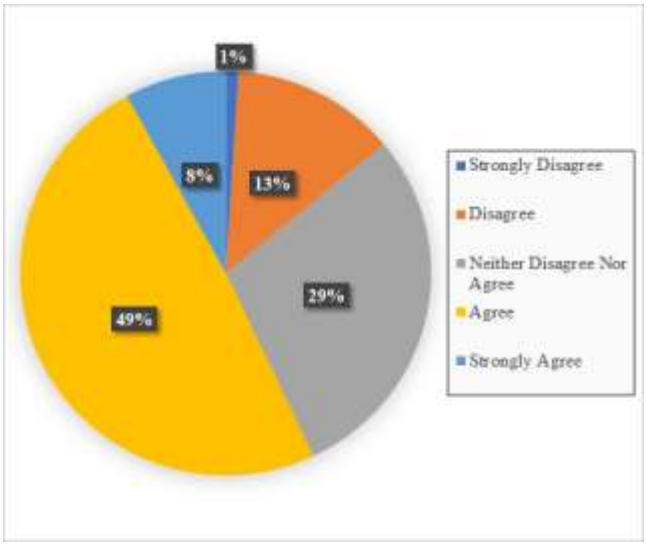


Table 7.1
Rank-Ordered List of Concerns for Lake Conservation

Concern	Rank
Presence and prevention of AIS	1
Overall water quality	2
Runoff control	3
Weeds/aquatic plants	4
Shoreline development	5
Lake water level	6
Declining fisheries/fishing pressure	7
Boat traffic/safety	8
Tax pressure	9
Septic system runoff	10
Winter safety	11

Figure 7.5
"I think my lake association faces hurdles in becoming more engaged."

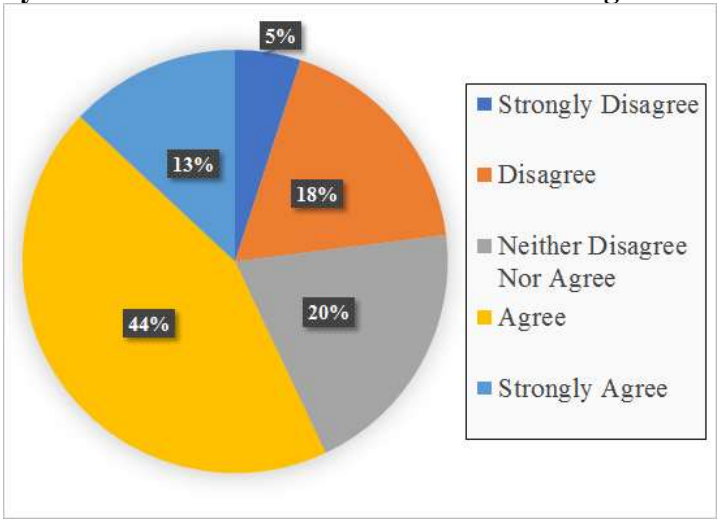


Table 7.2
"What challenges does your lake association face?"

Ranking	Challenge	Response Frequency
1	Inadequate Membership Participation	119
2	Not Being Heard/Taken Seriously by the DNR	126
3	Aging Population	99
4	Inconsistent administration of Government Ordinances	104
5	Inadequate Measures for Controlling AIS	71
6	Insufficient Financial Resources	81
7	Lack of Time	81
8	Inadequate Representation on Government Councils/Committees	59
9	Restrictive DNR/Governmental Policies	58
10	Declining Membership	29

Figure 7.6
"My lake association is authentically included in the lake planning process."

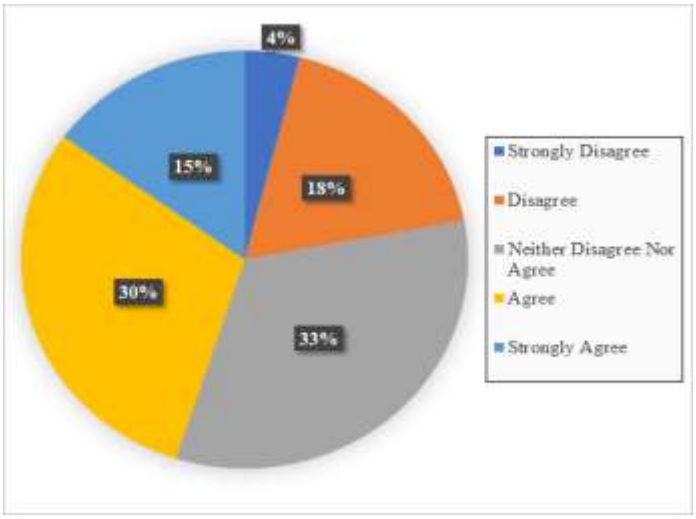


Figure 7.7
"I feel that my lake association has real authority over the lake."

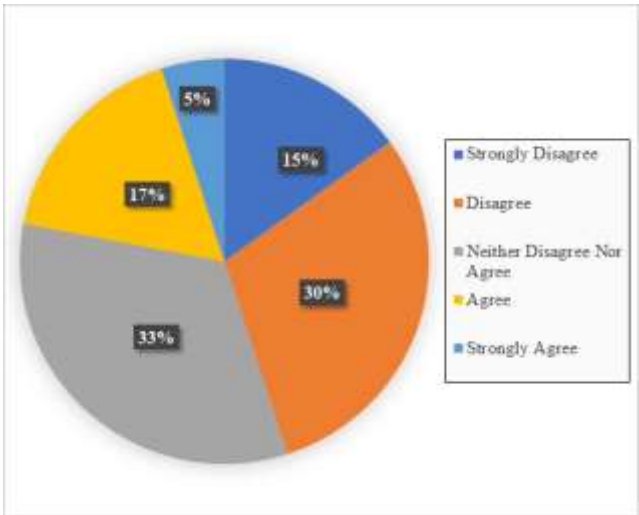
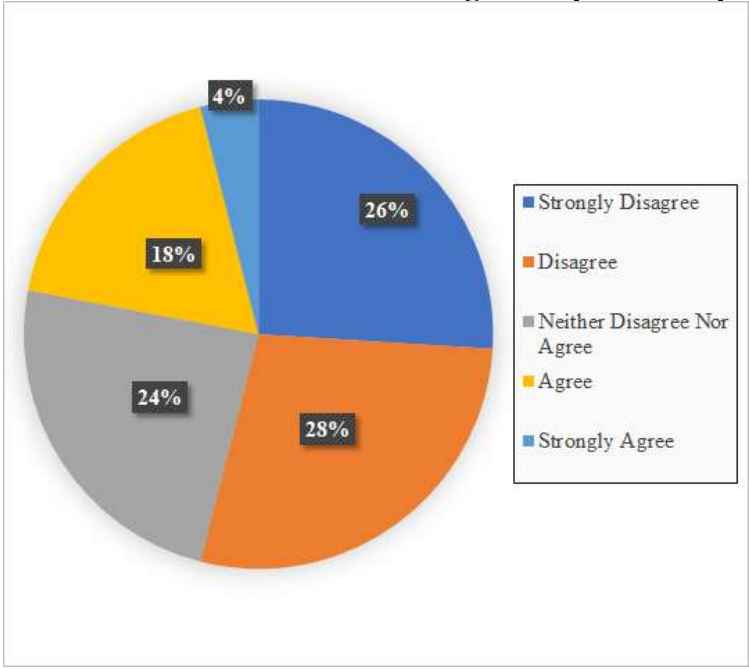


Figure 7.8
"I think DNR has sufficient lake management policies in place."



Qualitative findings

While the locations of the lake associations that the research team visited were scattered around Minnesota, the concerns, meeting minutes, and structure of the meetings were similar across the locations. Lake associations seemed to be concerned primarily with AIS, communication with the DNR, and water level/quality management, in order. AIS has been an increasing problem in Minnesota so it is of no surprise that it was a top concern during lake association meetings.

Comments collected via email, phone conversations, and in the survey (see Appendix C, question 56), echoed many of the sentiments observed in the lake association meetings by researchers. Control of AIS, communication with the DNR, and lake management were stated to be top concerns.

In addition to the three concerns that emerged from analyzing field notes, one concern not observed at the field visits but mentioned frequently in the open question within the survey in the concern about the insufficiency of the available resources compared to the responsibilities that lake associations have to shoulder.

Below, we present some verbatim quotes to corroborate the main concerns that emerged from the qualitative data. The concerns, particularly those about AIS, the DNR, and the inadequacy of the available resources seem to intertwined in many cases as many lake associations expressed concern that ineffective DNR policies are making AIS problems even worse and are placing an unfair burden on lake owners to do quite a bit of the lake conservation work.

Concerns with AIS

- "Our biggest concern is the spread of Aquatic Invasive Species, and the lead agency (MNDNR) seems to care little about the plans for controlling the spread of AIS in Minnesota. We keep prodding the DNR to do more but it seems to be the Lake Associations running the program. There seems to be no focus in the DNR, to obtain additional funds for this important program. Our lakes are the Legacy of Minnesota that is the reason people stay or come here. It is disappointing that the DNR seems to be more focused on permits and licenses and compliance with those licenses. They don't seem to follow up on enforcing permitted activities once the permits are issued. They are very inconsistent in applying rules as they pertain to these permitted activities."
- "We need stronger laws to prevent the spread of AIS, such as $1000 fines. The counties need more control of our lakes, not DNR. We need to quarantine our lakes like hospitals do until the problem is solved."
- "Invasive species. Our lake for the present is clean. However, we believe it is only a matter of time before we will find an invasive species in the lake. We are highly skeptical of the value of the monitoring process that goes on at some lakes. First, it is not 24/7 coverage. Second, the monitors have no real power to prevent a boat entering a lake. And third, the invasive species can hide in nooks and crannies of watercraft, even if it is

'cleaned' and then infect a lake. We would much rather take those funds and direct them to research that could result in eradicating said species."

- "We recently identified Eurasion Milfoi (EM) in one of our member lakes. We immediately informed DNR about this situation and were informed that sufficient resources were not available to combat this situation. As a result, our association is covering the costs of treatment and remediation. We were surprised that DNR resources were not adequately appropriated to fight what we consider to be an ever increasing problem. We were also surprised that the city …was not willing to close their public access to contain the spread of EM."
- "AIS prevention is huge unfunded issue. Need boater fee to pay for AIS inspections. Need county government to be required to inspect resort septic systems and boat launches. Private boat launch owners need awareness and training."
- "The Association and its membership have really stepped up to the AIS threat that we have for the other lakes. However, DNR continues to get in the way of providing help and guidance. We need active support from the legislature to fix the DNR. Protecting the natural resources should be the main goal of DNR rather than access."

Concerns with the DNR

At every meeting we attended, concerns regarding the DNR and its role in lake management arose. The DNR was the focus of the criticism. Many lake associations recognized the role of the DNR and getting watercraft inspectors onto their lake. Concerns with the DNR extended to bureaucracy, general inaction, lack of funding, and a general lack of action. One specific concern reported by participants was that the interests of the DNR Section of Fisheries seemed to supersede the concerns of lake association members. For example, from at one lake association meeting, the lake residents were opposed to Muskie stocking, yet the stocking was done anyway. While inaction over invasive species predominated, the concerns extended beyond that.

- "MN DNR is ineffective and is not managing AIS. And I do not see any hope that they will ever manage AIS in the state. Changes at the state level need to be made very soon, if not we will lose MN lakes forever."
- DNR Fisheries is totally out of control which was made clear when muskies were stocked in [the] Lake despite overwhelming (70%) opposition of property owners on the lake. This money could have been spent on lakes that need help … It is obvious that DNR fisheries listens to Muskie special interest groups while totally ignoring the property owners.
- "… The DNR's total lack of stepping up to fight invasives is a nightmare. Plans have to be constantly changed from 1 DNR department to another and still it isn't good enough for the DNR and whoever has the final say in getting this implemented. Therefore, more lakes are becoming infested and they have the gall to say it is ONLY 5 percent. DNR should be eradicated!!!!!!!"

- We are concerned the DNR is doing nothing to help. What aren't people being severely fined for bringing in AIS? Why are boat registration fees raised to reflect the need for more AIS work?
- "It is VERY frustrating to have so many limitations put on us by the DNR. I realize that they have to be consistent throughout the State of MN but it would be nice to have more authority over some of the boating practices on the lake such as places where wake boats should boat and when they can operate. There just aren't enough DNR personnel to "police" the lake. It is also difficult to have them do more boat inspections when their time and money is limited as well."
- "…I am disgusted with the ability of the government and DNR to not aggressively close launches and prevent the spread from lakes with this AIS…They have difficulty closing launches where the AIS is growing until something can be done. Totally inadequate in my opinion. This has to change and quickly. Education is not good enough, highway stops and central boat cleaning need to be supported. I do not believe that only 5% of the lakes have AIS, funny numbers that are being used to make this seem like not a very big issue. The state government needs to take AIS seriously."

Concerns with Insufficient Resources

- "MN lakes are public waters and too much responsibility is shouldered by lake homeowners to attempt to adequately protect the lake's natural eco-system. Even with more authority there would be insufficient volunteer hours to manage the granted authorities and lack of expertise to properly manage the project(s). As it is now, too much red tape is required to accomplish necessary tasks, primarily by being stonewalled by the MN DNR and previously interested homeowners have given up. The Governor and MN DNR has done nothing to publicize their appreciation for what lake associations do to protect public waters but are quick to recognize ATV trainers, duck stamp winners, and on and on…There is not enough revenue (or time to generate) sufficient revenue to hire staff to implement an adequate protection infra-structure. Something has to drastically change in order for MN to retain their most valuable natural resource - WATER!"
- "Financially, many lake associations are drowning when it comes to support from the DNR to help with AIS when there is an infestation."
- "We are concerned that we are spending about $15,000 each year to fund inspections at [the] Lake, which is more than either the City or County are spending. We are fortunate that our members are willing to fund this, but unsure how much longer we can spend at this level. Also, several of our members are concerned that although boats are inspected during most daylight hours from fishing opener to the end of October, boaters can still launch anytime there is no inspector on duty, which is a risk. We feel that since the lake is a public asset, it should be public money, not lake association money, that funds the inspections."

- "It has become very difficult to recruit Board members… The good Board members are burned out with doing all the work, butting heads with the DNR and local government officials who have no interests in our concerns."
- "The lake is public until there is an issue and then it is left to the property owners/lake association to deal with and financially support."
- "I would like to see a Lake Association 101 workshop that helps lake associations with how to issues such as….how to keep members interest and active…Maybe a curriculum on line or a workshop…Time no one seems to have the time to do anything."

Concerns with Water Management

- "Need more involvement and commitment from county level government agencies to establish funding mechanism for clean water projects matching funds needed for grant applications. It is my opinion that water quality is taken for granted in MN because we have so many lakes."
- "Biggest concern is the long term effect on the lake from zebra mussels, including effect on walleye fishery and food chain. To that end, have hired RMB Environmental Labs to do water quality and algae testing over the next several years."
- "We have privately funded buffer strips along incoming streams that influence water quality since 1999; consider government funding for these strategic areas."
- "We benefit from gov't agencies/staff people who represent our interests over time and who are willing to work with other gov't agencies toward common goals--clean water, preserving a sense of wilderness around our lake."

The verbatim quotes above, obtained from the open-ended survey question and email communications, are consistent with the observations gathered at field visits. AIS, DNR communication, and lake management are top concerns of lake associations as well as the insufficient human and financial resources available to lake associations.

In sum, while lake associations have many hurdles to cross in order to achieve their desired goals, the qualitative findings of this study, paired with the quantitative findings presented earlier, show that lake associations are deeply involved, committed, and concerned about Minnesota's waters. Engaging them as equal partners in lake conservation efforts would help them become even more engaged and effective. This would be for the benefit of Minnesota's valuable water resources.

Conclusions

Providing vigorous economic stimulation and countless hours of family/community recreation, lakes are ingrained into the lifestyle and heritage of Minnesotans across the state. It is no small feat to properly maintain and preserve these lake, as it takes the combined efforts of various governmental and local units to conserve these waterways. On the forefront of these preservation efforts are lake associations, who reported, most frequently, their purpose for forming was to protect and preserve their lakes.

Services provided by the volunteer members of lake associations include monitoring water quality, inspecting for AIS, tracking waterfowl behavior, preserving natural shorelines, and much more. In addition, most of these projects are financed by the lake associations alone, which runs on an average annual funding of a mere 5000 dollars.

The size of a lake association varies across the state of Minnesota and is dependent on a variety of factors, yet doesn't retract from the level of member motivation. Many members live directly on the lake and claim that it has been a part of their family for generations. The goal to someday "pass down" a healthy and AIS free lake to the next generation was clearly communicated to the research team during the field visits.

However, the impending threat of AIS infestation in the lake is a major concern for most lake associations. Other major concerns include poor water quality, runoff, aquatic plants/weeds, and a perceived lack of control over lake processes. In order to achieve the goal of a healthy lake for generations to come, the approximate 500 lake associations across the state of Minnesota have collectively donate nearly 6.25 million dollars and nearly 1.2 million hours, annually, to the conservation of their lakes.

The goal of this study was to collect data on lake associations and find out who they are and the activities they perform. It is the hope of the research team and MLR, that by quantifying their demographics and identifying their vital roles in lake ecosystems, they may soon be better represented in the state of Minnesota. This would require strengthening the lines of communication between the DNR and lake associations, as well as providing legislative help that allows for more effective lake management. A collaborative, statewide effort to conserve lakes will allow one of Minnesota's greatest natural resources to thrive for generations to come and would greatly benefit the entire country.

Future research should be focused on the individual differences that result in such a diversity of lake associations. As noted above, lake associations vary in size, as well as motivation level, number of concerns, types of goals, conservation efforts, membership participation, and so on. To identify why these major differences exist may allow future researchers to create a prototype of lake associations based on representative factors such as lake size or membership composition. This research may lead to a model of lake association efficiency based on the factors that make them unique, thus better helping them in their conservation efforts and supporting achievement of their goals.

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Appendix A:
Invitation Email

Dear Minnesota lake association member,

You are being asked to complete the enclosed survey because you belong to a Minnesota lake association and we are conducting a study to better understand who Minnesota's lake associations are, what activities they engage in, what social and financial capital they invest in managing and protecting lakes. and what concerns they have. The study, which is the first of its kind, is being conducted by researchers at Concordia College, Moorhead on behalf of Minnesota Lakes and Rivers Advocates (MLR). Documenting and understanding Minnesota's lake associations' vital role in lake conservation would help in developing better partnerships with and more support for these lake associations.

The survey takes about 30 minutes to complete. There are no anticipated risks to you as a result of completing this survey. Only aggregated group data will be reported. Your responses will be confidential as they will not be linked to your name or to the name of your lake association in any reports of the data. Individual responses will be accessed only by the Concordia College researchers (Drs. Mona Ibrahim and Michelle Marko, and their research assistants: Matthew Zabel and Benjamin Bjertness), and by the Executive Director of Minnesota Lakes and Rivers Advocates (Jeff Forester).

Your participation is voluntary and you may skip any questions on the survey that you would prefer not to answer. Should you have any questions or comments, please contact Dr. Mona Ibrahim (ibrahim@cord.edu) or Jeff Forester (jeff@mnlakesandrivers.org). If you have any concerns about how this study is conducted, please contact Concordia College's Institutional Review Board (218-299-3001).

Thank you very much for your willingness to complete this survey. Your feedback will help improve understanding of Minnesota's lake associations and will help increase support for the work they do. **We would appreciate receiving your responses before June 12, 2017.**

Sincerely,

Jeff Forester, Executive Director, Minnesota Lakes and Rivers Advocates
Dr. Mona Ibrahim, Psychology Department, Concordia College
Dr. Michelle Marko, Biology Department, Concordia College

Appendix B:
The Pilot Survey

Minnesota Lake Associations Pilot Survey

Informed Consent

You are being asked to complete this survey because you are a member of a lake association or coalition and we are conducting a study of Minnesota lake associations. The study is being conducted by researchers at Concordia College in Moorhead on behalf of Minnesota Lakes and Rivers Advocates. The purpose of the study is to gain a better understanding of what lake associations exist in Minnesota, what activities they engage in, and what challenges they face. We are attempting to quantify the vital role that Minnesota's lake associations have in lake conservation efforts.

There are no anticipated risks to you as a result of completing this survey and the survey is confidential. Your individual answers will not be linked to your name or to the name of your lake association in any reports of the data. Only aggregated group data will be reported. Individual responses will be accessed only by the Concordia College researchers (Drs. Mona Ibrahim and Michelle Marko, and their research assistants: Matthew Zabel and Benjamin Bjertness), and by the Executive Director of Minnesota Lakes and Rivers Advocates (Jeff Forester).

Your participation is voluntary and you may skip any questions on the survey that you would prefer not to answer. Should you have any questions or comments, please contact Dr. Michelle Marko (marko@cord.edu), Dr. Mona Ibrahim (ibrahim@cord.edu), or Jeff Forester (jeff@mnlakesandrivers.org). If you have any concerns about how this study is conducted, please contact Concordia College's Institutional Review Board (218-299-3001). We would very much appreciate your participation in this study. Responding to the survey would take about 30 minutes of your time.

Q1. Do you agree to participate in this study? (*Please check one*)

- ❍ **Yes.** (Please mail us the completed survey, along with this consent form, in the envelope provided)
- ❍ **No.** (Please mail us back the blank survey, along with this consent form, in the envelope provided)

General Information

Q2. ***Please provide the following information.***

Your Name: _____

Your lake association's name and mailing address: _____

_____

Name of the lake: _____

County of the lake:_____

Your lake association's email address:_____

Your lake association's tax-exempt status:_____

Your lake association's website URL:_____

The Facebook page of your lake association:_____

The phone number of your lake association:_____

Any additional contact information for your lake association: _____

_____

_____

Q3. How many officers does your lake association have? (*Please check one*)

- ❍ 0
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7 or more

Q4. Please list the mailing address, email, phone number, occupation, lake conservation expertise, and role within the lake association for each of the officers. (*If none, leave blank).*

Officer 1

Name:_____

Mailing address:_____

Email:_____

Phone #:_____

Occupation:_____

Lake interest/ Conservation Expertise:_____

Role within the lake association:_____

Officer 2

Name:_____

Mailing address:_____

Email:_____

Phone #:_____

Occupation:_____

Lake interest/ Conservation Expertise:_____

Role within the lake association:_____

Officer 3

Name:_____

Mailing address:_____

Email:_____

Phone #:_____

Occupation:_____

Lake interest/ Conservation Expertise:_____

Role within the lake association:_____

Officer 4

Name:_____

Mailing address:_____

Email:_____

Phone #:_____

Occupation:_____

Lake interest/ Conservation Expertise:_____

Role within the lake association:_____

Officer 5

Name:_____

Mailing address:_____

Email:_____

Phone #:_____

Occupation:_____

Lake interest/ Conservation Expertise:_____

Role within the lake association:_____

Officer 6

Name:_____

Mailing address:_____

Email:_____

Phone #:_____

Occupation:_____

Lake interest/ Conservation Expertise:_____

Role within the lake association:_____

Officer 7

Name:_____

Mailing address:_____

Email:_____

Phone #:_____

Occupation:_____

Lake interest/ Conservation Expertise:_____

Role within the lake association:_____

Officer 8

Name:_____

Mailing address:_____

Email:_____

Phone #:_____

Occupation:_____

Lake interest/ Conservation Expertise:_____

Role within the lake association:_____

Additional Officer(s)

Name(s):_____

_____

_____

Mailing address(es):_____

_____

_____

Email(s):_____

_____

_____

Phone #('s):_____

_____

Occupation(s):_____

_____

Lake interest/ Conservation Expertise:_____

_____

_____

Role(s) within the lake association:_____

_____

_____

Background Information

Q5. Approximately, how many properties are on the lake?_____

Q6. Which best describes the environment around the lake? (Check all that apply).

- ❑ Urban
- ❑ Rural-agricultural
- ❑ Rural-forested
- ❑ Rural-prairie
- ❑ Don't Know

Q7. What is the largest economic driver for the lake community?_____
_____

Q8. What year, approximately, was your lake association formed?_____

Q9. Who formed your lake association?_____

Q10. For what purpose(s) was your lake association formed?_____
_____
_____
_____

Q11. How many members does your lake association have?_____

Q12. How much is your lake association's annual membership fee?_____

Q13. What are the benefits of membership in your lake association?_____
_____
_____

Q14. Who may gain membership in your lake association? (Check all that apply)

- ❑ Property owners
- ❑ People who do not own property on the lake
- ❑ Local businesses (ex. resort owners, angling guides, etc.)
- ❑ Anyone interested in the welfare of the lake
- ❑ Others (please specify): _____

Q15. What criteria must be met in order to gain membership in your lake association?
_____
_____
_____

Q16. What percentage of your membership are seasonal residents of their lake homes? ____%

Q17. What percentage of your membership are permanent residents of their lake homes? ____%

Partnerships

Q18. Do you belong to a Coalition of Lake Associations (COLA)?

- ❍ Yes (please name your COLA): _____
- ❍ No

Q19. Does your lake association collaborate with other lake associations? (*If no, skip to question 21*).

- ❍ Yes
- ❍ No

Q20. Please list the lake association(s) you collaborate with and their contact information below.

_____

_____

Q21. Does your lake association collaborate with any other local organizations (ex. local business, watershed districts, Soil Water Conservation Districts, etc.)? (*If no, skip to question 23*).

- ❍ Yes
- ❍ No

Q22. Please list the local organization(s) that you collaborate with._____

_____

_____

Activity Level

Q23. How would you rate the activity level of your lake association?

- ❍ Highly active
- ❍ Moderately active
- ❍ Moderately inactive
- ❍ Highly inactive

Q24. How frequently do you hold meetings?

- ❍ 1 time per year
- ❍ 2-3 times per year
- ❍ 4-6 times per year
- ❍ 7-12 times per year
- ❍ 12+ times per year

Q25. How many committees does your lake association have?

- ❍ 0
- ❍ 1-2. Please list:_____
- ❍ 3-4. Please list: _____
- ❍ 5-6. Please list: _____

  _____
- ❍ 7+. Please list: _____

  _____

  _____

  _____

Q26. Please indicate the activities that your lake association's members engage in and the average number of monthly volunteer hours that they put into each activity.

(Please report **cumulative monthly** volunteer hours, ex. if a ten-member board meets once monthly, then report 10 cumulative volunteer hours per month for the "board/committee services" category).

	Do your members engage in this activity?		Approximately, how many cumulative volunteer hours per month do your members put into this activity?
	Yes	**No**	**# volunteer hrs/month**
Board/committee services	❍	❍	
Member/staff education (ex. workshop or seminar attendance)	❍	❍	
Online learning	❍	❍	
Community outreach/education	❍	❍	
Attendance at other lake association meetings	❍	❍	
Lake monitoring (Water level, invasive species, Secchi disk readings, water quality testing)	❍	❍	
Aquatic invasive species (AIS) inspection/education	❍	❍	
Other. Please list.	❍	❍	

Fundraising/Finances

Q27. How do you raise money for your lake association? (Check all that apply)

- ❑ Membership dues
- ❑ Fundraisers
- ❑ Private donations

- ❑ Dedicated funds
- ❑ Charitable gambling/Pull tabs
- ❑ Grant from municipal/governmental agency
- ❑ Other (please list) _____

Q28. What is the average amount of funds that your lake association raises in one year? $_____

Q29. Please indicate the specific activities that your lake association spends funds on, and your rough estimate of the proportion of funds allocated for each of them.

	Does your lake association spend funds on this activity?		If yes, what percent of your lake association's funds are allocated for this activity?
	Yes	**No**	**% funds (rough estimate)**
Community-building activities (ex. picnics)	❍	❍	
Invasive species management	❍	❍	
Boat inspections for aquatic invasive species	❍	❍	
Boat decontamination for aquatic invasive species	❍	❍	
Water quality testing	❍	❍	
Water quality improvement	❍	❍	
Water safety (ex: making channels, removing floating objects, putting out bios to mark underwater hazards, etc.)	❍	❍	
Water level management	❍	❍	
Shoreland restoration	❍	❍	
Stormwater runoff control	❍	❍	
Septic system compliance	❍	❍	
Fish stocking	❍	❍	
Monitoring of loons, ducks, and/or other waterfowl	❍	❍	
Writing/implementing lake management plans	❍	❍	
Secchi disc water testing	❍	❍	
Other. Please list:	❍	❍	

Community Involvement

Q30. Does your lake association provide programs to educate the community (ex. schools, colleges, etc.) on topics such as lake conservation, aquatic resources, or ecology? (*If no, skip to questing 32*).

- ❍ Yes
- ❍ No

Q31. Please list the community education program(s) that your lake association offers.

_____

_____

_____

_____

Q32. Do you work with other civic organizations in the lake area? (*If no,skip to question 34*)

- ❍ Yes
- ❍ No

Q33. Please list the civic organizations you work with and describe the type of work you do together. _

_____

_____

_____

Lake Use and Concerns

Q34. What types of boat accesses are on the lake? (Check all that apply)

- ❑ Public
- ❑ Private
- ❑ Department of Natural of Resources (DNR)
- ❑ Resort/Marina
- ❑ Other (Please Specify) _____

Q35. In your estimation, how many boats use the boat accesses on the lake every year? _____per year

Q36. How many **public** boat accesses are on the lake? (*Skip if none*).

- ❍ 1
- ❍ 2-3
- ❍ 4-6
- ❍ 7+

Q37. How would you rate the typical boat traffic at **public** boat accesses on the lake? (*Skip if none*).

- ❍ Very light (less than 5 boats per day)
- ❍ Light (5-25 boats per day)
- ❍ Moderate (26-50 boats per day)
- ❍ Heavy (51-75 boats per day)
- ❍ Very Heavy (more than 75 boats per day)

Q38. How many **private** boat accesses are on the lake? (*Skip if none*).

- ❍ 1
- ❍ 2-3
- ❍ 4-6
- ❍ 7+

Q39. How would you rate the typical boat traffic at **private** boat accesses on the lake? (*Skip if none*).

- ❍ Very light (less than 5 boats per day)
- ❍ Light (5-25 boats per day)
- ❍ Moderate (26-50 boats per day)
- ❍ Heavy (51-75 boats per day)
- ❍ Very heavy (more than 75 boats per day)

Q40. How many **DNR** boat accesses are on the lake? (*Skip if none*).

- ❍ 1
- ❍ 2-3
- ❍ 4-6
- ❍ 7+

Q41. How would you rate the typical boat traffic at **DNR** boat accesses on the lake? (*Skip if none*).

- ❍ Very light (less than 5 boats per day)
- ❍ Light (5-25 boats per day)
- ❍ Moderate (26-50 boats per day)
- ❍ Heavy (51-75 boats per day)
- ❍ Very heavy (more than 75 boats per day)

Q42. How many **resort/marina** boat accesses are on the lake? (*Skip if none*).

- ❍ 1
- ❍ 2-3
- ❍ 4-6
- ❍ 7+

Q43. How would you rate the typical boat traffic at **resort/marina** boat accesses on the lake? (*Skip if none*).

- ❍ Very light (less than 5 boats per day)
- ❍ Light (5-25 boats per day)
- ❍ Moderate (26-50 boats per day)
- ❍ Heavy (51-75 boats per day)
- ❍ Very heavy (more than 75 boats per day)

Q44. How many **other** boat accesses are on the lake? (*Skip if none*).

- ❍ 1
- ❍ 2-3
- ❍ 4-6
- ❍ 7+

Q45. How would you rate the typical boat traffic at **other** boat accesses on the lake? (*Skip if none*).

- ❍ Very light (less than 5 boats per day)
- ❍ Light (5-25 boats per day)
- ❍ Moderate (26-50 boats per day)
- ❍ Heavy (51-75 boats per day)
- ❍ Very heavy (more than 75 boats per day)

Q46. Please rank the following concerns for lake conservation in order from most concerning (1) to least concerning (10) by putting a number between 1 and 10 in the space provided next to each concern.

_____ Non-agricultural runoff
_____ Agricultural runoff
_____ Aquatic invasive species (AIS)
_____ Shoreline development
_____ Declining fishery/Fishing pressure
_____ Tax pressure
_____ Lake water level
_____ Noise pollution
_____ Boater Safety
_____ Other (Please specify)

Q47. Currently, what are the most important goals of your lake association?

_____
_____
_____

Q48. How motivated are your members to reach your lake association's goals?

- ❍ Highly motivated
- ❍ Moderately motivated
- ❍ Somewhat motivated and somewhat unmotivated
- ❍ Moderately unmotivated
- ❍ Highly unmotivated

Q49, What are the challenges that your lake association currently faces as it works on achieving its goals? _____

_____

_____

Q50. Please indicate how much you agree or disagree with each of the statements below.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I think that my lake association faces hurdles in becoming more engaged in lake conservation activities.	❍	❍	❍	❍	❍
My lake association is authentically included in the lake planning process.	❍	❍	❍	❍	❍
I feel that my lake association has real authority over the lake.	❍	❍	❍	❍	❍
I am able to engage my lake association members in activities and advocacy for clean water.	❍	❍	❍	❍	❍

Q51. What hurdles, if any, does your lake association currently face in becoming more engaged in lake conservation activities? _____

_____

_____

Q52. Please share any additional information you would like us to know about your lake association and its activities. _____

_____

_____

Demographic Information

Q53. What is your gender?

- ❍ Male
- ❍ Female
- ❍ Other (please specify): _____

Q54. What is your age? _____

Q55. What is the highest degree you have earned?

- ❍ None
- ❍ High school diploma or the equivalent (GED)
- ❍ Associate degree
- ❍ Bachelor's degree
- ❍ Master's degree
- ❍ Professional degree (MD, DDS, DVM, LLB, JD, DD)
- ❍ Doctorate degree (Ph.D. or Ed.D.)

Q56. What is your current employment status?

- ❍ Student
- ❍ Employed. Please indicate your occupation: _____
- ❍ Retired
- ❍ Job seeking

Q57. You have reached the end of the survey! Please share any comments or suggestions that you may have for improving this survey.

_____

_____

_____

_____

_____

Thank you for your Participation! We appreciate your responses.

Appendix C:
The Final Survey

Minnesota Lake Associations Survey

Informed Consent

You are being asked to complete this survey because you are a member of a lake association or coalition and we are conducting a study of Minnesota lake associations. The study is being conducted by researchers at Concordia College in Moorhead on behalf of Minnesota Lakes and Rivers Advocates (MLR). The purpose of the study is to gain a better understanding of what lake associations exist in Minnesota, what activities they engage in, and what challenges they face. We are attempting to quantify the vital role that Minnesota's lake associations have in lake conservation efforts. There are no anticipated risks to you as a result of completing this survey, and the survey is confidential. Your individual answers will not be linked to your name or to the name of your lake association in any reports of the data. Only aggregated group data will be reported. Individual responses will be accessed only by the Concordia College researchers (Drs. Mona Ibrahim and Michelle Marko, and their research assistants: Matthew Zabel and Benjamin Bjertness) and by the Executive Director of Minnesota Lakes and Rivers Advocates (Jeff Forester). Your participation is voluntary, and you may skip any questions on the survey that you would prefer not to answer. Should you have any questions or comments, please contact Dr. Michelle Marko (marko@cord.edu), Dr. Mona Ibrahim (ibrahim@cord.edu), or Jeff Forester (jeff@mnlakesandrivers.org). If you have any concerns about how this study is conducted, please contact Concordia College's Institutional Review Board (218-299-3001). We would very much appreciate your participation in this study. Responding to the survey will take about 30 minutes of your time.

Do you agree to participate in this study?

○ Yes

○ No

Identification

○ **Your Name:**

_____

○ **Your lake association's name**: _____

○ **Your lake association's mailing address:**

_____

○ **Name of the lake(s):**

_____

○ **County of the lake(s):**

_____

The Lake and Lake Use

Q4. **Approximately, how many acres is the area of your lake?**

○ < 100

○ 101-300

○ 301-600

○ 601-1000

○ > 1000

Q5. **Approximately, how many residences (including homes, time shares, condos, multiple dwellings, etc.) are on the lake?**

○ Less than 50

○ 50-199

- ○ 200-599
- ○ 600-999
- ○ 1,000-3,999
- ○ 4,000-7,999
- ○ 8,000 or more

Q6. **Which best describes the environment around the lake? (Check all that apply)**

- ☐ Urban
- ☐ Rural
- ☐ Agricultural
- ☐ Forested
- ☐ Other. Please indicate: _____

Q7. **What economic contributions does the lake offer your community? (Check all that apply)**

- ☐ Ski / boat shows
- ☐ Festivals / carnivals
- ☐ Fishing tournaments
- ☐ Recreation / tourism
- ☐ Property taxes

☐ Other. Please specify: _____

Q8. **What kinds of fish are most fished in your lake? (Check all that apply)**

☐ Walleye / Sauger

☐ Northern pike

☐ Bass

☐ Pan fish (including Crappie, Perch, Sunfish)

☐ Trout

☐ Catfish

☐ Muskellunge

☐ Other. Please specify: _____

Q9. **Please rank the following types of boats in order from most used (1) on the lake to least used (6).**

_____ Canoes / kayaks
_____ Pontoons / recreational boats
_____ Speed boats / wakeboards
_____ Fishing boats
_____ Jet ski / Personal watercraft
_____ Other. Please specify:

Q10. **What services are available at the lake? (Check all that apply)**

☐ Boat wash station

☐ Bait / convenience store

- [ ] Gas station
- [ ] Marina
- [ ] Restaurant
- [ ] Waste disposal centers
- [ ] Fishing regulations
- [ ] Invasive Species information
- [ ] None

Q11. **What types of boat accesses are on the lake? (Check all that apply)**

- [ ] Public (Including DNR, city, county, state)
- [ ] Private (including personal, resort, and marinas)

Q12. **How many public boat accesses are on the lake (including DNR, city, county, and state)?**

- ○ 1
- ○ 2-3
- ○ 4-6
- ○ 7+

Q13. **How would you rate the typical boat traffic at public boat accesses on the lake (including DNR, city, county, and state)?**

- ○ Very light (less than 5 boats per day)
- ○ Light (5-25 boats per day)
- ○ Moderate (26-50 boats per day)
- ○ Heavy (51-75 boats per day)
- ○ Very Heavy (more than 75 boats per day)

Q14. **How many private boat accesses are on the lake (including personal, resort and marina)?**

- ○ 1
- ○ 2-3
- ○ 4-6
- ○ 7+

Q15. **How would you rate the typical boat traffic at private boat accesses on the lake (including personal, resort, and marina)?**

- ○ Very light (less than 5 boats per day)
- ○ Light (5-25 boats per day)
- ○ Moderate (26-50 boats per day)
- ○ Heavy (51-75 boats per day)
- ○ Very heavy (more than 75 boats per day)

The Lake Association

Q17. **Approximately, when was your lake association formed?**

- ○ Before 1940
- ○ Between 1940 and 1959
- ○ Between 1960 and 1979
- ○ Between 1980 and 1999
- ○ in 2000 or later

Q18. **For what purpose(s) was your lake association formed? (Check all that apply)**

- ☐ To protect / preserve the lake
- ☐ To restrict over-development on or around the lake
- ☐ To improve the lake / watershed district around the lake
- ☐ To coordinate with government agencies
- ☐ To promote social activities among the lake property owners
- ☐ Other. Please specify: _____

Q19. **Who may gain membership in your lake association? (Check all that apply)**

- ☐ People who own property within a certain from the lake
- ☐ People who rent property within a certain distance from the lake
- ☐ Local businesses (ex. resort owners, angling guides, etc.)
- ☐ Renters in campgrounds

☐ Anyone interested in joining

☐ Other. Please specify: _____

Q20. **How much is your lake association's annual membership fee?**

○ $0

○ $1-$25

○ $26-$50

○ $51-$75

○ $76-$100

○ more than $100

Q21. **What are the benefits of membership in your lake association? (Check all that apply)**

☐ Periodic / regular meetings

☐ Voting rights

☐ Newsletter / email updates

☐ Directory of members

☐ Social / community events

☐ Volunteer opportunities

☐ Educational programs / materials

☐ Information about legislative activities

☐ Coordination of lake preservation activities

☐ AIS inspection

☐ Other. Please specify: _____

Q22. **How many board members does your lake association have?**

○ 0-3

○ 4-6

○ 7-9

○ 10 or more

Q23. **Do your board members have any specific lake conservation expertise (ex. AIS, fisheries, etc.)?**

○ Yes. Please describe: _____

○ No

Q24. **Are any of your board members elected officials who contribute to legislation affecting the lake?**

○ Yes. Please describe: _____

○ No

Q25. **Please provide the information below in order to enable MLR to get you updated information on grants, proposed legislation, proposed feed lots in your area, etc.**

○ Your lake association's most reliable email address: _____

○ The phone number of your lake association: _____

○ Often, the only way to contact a lake association is through the officers. Please provide any officer contact information that you can share. MLR keeps the list of contacts secure and does not share it or sell it to anyone.

_____
_____
_____

○ Your lake association's website URL: _____

○ The Facebook page of your lake association: _____

The Members

Q28. **How many individual members does your lake association have?**

○ Less than 100

○ 100-399

○ 400-699

○ 700-999

○ 1,000-1,999

○ 2,000 or more

Q29. **Approximately, what percent of your membership are year-round residents of their lake homes?**

% year-round residents	

Q30. **Approximately, what percent of your membership are seasonal residents of their lake homes?**

% seasonal residents	

Q31. **Approximately, what percent of your membership are Minnesota residents?**

% MN residents	

Q32. **Approximately, what percent of your membership are able to vote on legislation that affects your lake?**

% can vote	

Activities and Finances

Q34. **How would you rate the activity level of your lake association?**

- ○ Highly active
- ○ Moderately active
- ○ Moderately inactive
- ○ Highly inactive

Q35. **How frequently does your lake association hold meetings?**

- ○ 1 time per year
- ○ 2-3 times per year
- ○ 4-6 times per year
- ○ 7-12 times per year
- ○ 12+ times per year

Q36. **What committees does your lake association have? (Check all that apply)**

- ☐ Executive
- ☐ AIS
- ☐ Water quality / Lake health
- ☐ Fishing / Fisheries
- ☐ Wildlife (including loon) protection or problems

- [ ] Welcome / Membership
- [ ] Audit / Finances
- [ ] Fundraising
- [ ] Legislative
- [ ] Marketing / Communications
- [ ] Outreach / Education
- [ ] Septic
- [ ] Social / community relations
- [ ] Other. Please specify: _____

Q37. **How do you raise money for your lake association? (Check all that apply)**

- [ ] Membership dues
- [ ] Fundraisers
- [ ] Private donations
- [ ] Dedicated funds
- [ ] Charitable gambling / Pull tabs
- [ ] Grant from municipal / governmental agency
- [ ] Memorials

☐ Other. Please specify: _____

Q38. **Does your lake association have tax-exempt status?**

○ Yes

○ No

Q39. **What is the average amount of funds that your lake association raises in one year?**

○ 0-5,000 dollars

○ 5,001-20,000 dollars

○ 20,001-50,000 dollars

○ 50,001-100,000 dollars

○ 100,000+ dollars

Q40. **Please indicate your best estimate for time and funding that your lake association puts into each of the activities below.**

	Approximately, how many volunteer **hours / month** are typically dedicated to this activity? (Report cumulative hours, ex. if 2 volunteers dedicate about 12 hrs/mo each then select "21-40" for that activity)					Approximately, what **percent of the association's funds** are typically allocated for this activity?				
	0 hrs	1-20 hrs	21-100 hrs	101-200 hrs	>200 hrs	0 %	1-25 %	26-50 %	51-75 %	76-100 %

Lake association meetings	○	○	○	○	○	○	○	○	○	○
Self Education	○	○	○	○	○	○	○	○	○	○
Community outreach / education	○	○	○	○	○	○	○	○	○	○
Boat inspections for AIS	○	○	○	○	○	○	○	○	○	○
Boat decontamination for AIS	○	○	○	○	○	○	○	○	○	○
Water quality testing	○	○	○	○	○	○	○	○	○	○

Water safety	○	○	○	○	○	○	○	○	○	○
Water level management	○	○	○	○	○	○	○	○	○	○
Shoreland restoration	○	○	○	○	○	○	○	○	○	○
Stormwater runoff control	○	○	○	○	○	○	○	○	○	○
Septic system compliance	○	○	○	○	○	○	○	○	○	○
Fish stocking	○	○	○	○	○	○	○	○	○	○
Monitoring of loons, ducks, and / or other waterfowl	○	○	○	○	○	○	○	○	○	○
Writing / implementing lake management plans	○	○	○	○	○	○	○	○	○	○

Other. Please list:	○ ○ ○ ○ ○ ○ ○ ○ ○ ○

Collaborations/Outreach

Q42. **Do you belong to a Coalition of Lake Associations (COLA)?**

○ Yes. Please name your COLA (Full non-abbreviated name):

_____

○ No

Q43. **Does your lake association collaborate with other lake associations outside of a COLA?**

○ Yes

○ No

Q44. **Please list the lake association(s) you collaborate with. If available, please also provide their contact information so that MLR can keep in touch with them.**

_____

_____

_____

Q45. **What organizations, if any, does your lake association interact with? (Check all that apply)**

☐ City governmental units (ex. chamber of commerce, city council, planning commissions)

☐ Law enforcement (ex. sheriff, police)

☐ County governmental units (ex. county commission, emergency management)

☐ Watershed District

☐ DNR (Department of Natural Resources)

☐ State governmental units other than DNR (ex. SWCD, MPCA, department of health)

☐ MAISRC (U of MN AIS Research Center)

☐ University of Minnesota Extension or other offices

☐ MLR (MN Lakes and Rivers Advocates)

☐ Non-profit organizations other than MLR (ex. Isaac Walton League, Ducks Unlimited, Muskies Inc.)

☐ Private business (ex. restaurants, dive shops)

☐ Federal governmental units (ex. USFWS, EPA, BLM)

☐ Other. Please specify: _____

☐ None

Q46. **What lake conservation issues, if any, does your lake association have programs to educate the community (ex. schools, scouts, etc.) on? (Check all that apply)**

☐ AIS

☐ Water Testing

☐ Boater safety

☐ Other. Please Specify: _____

☐ None

Q47. **What venues does your lake association use to educate the community on lake conservation issues? (Check all that apply)**

☐ Radio interviews

☐ Newspaper / Magazine articles

☐ Workshops / Presentations

☐ Website / Facebook postings

☐ Email

☐ Door-to-door visits

☐ Other. Please Specify: _____

Challenges and Concerns

Q49. **Does you lake have AIS?**

- ○ Yes
- ○ No

Q50. **Please indicate which species of AIS are found on your lake. (Check all that apply)**

- ☐ Zebra mussel
- ☐ Eurasian watermilfoil
- ☐ Spiny waterflea
- ☐ Curly-leaf pondweed
- ☐ Starry stonewort
- ☐ Other. please specify: _____

Q51. **Please rank the following concerns for lake conservation in order from most concerning (1) to least concerning (12).**

_____ Runoff (including agricultural and non-agricultural runoff)
_____ Aquatic invasive species (AIS)
_____ Shoreline development
_____ Declining fishery / Fishing pressure
_____ Tax pressure
_____ Lake water level
_____ Boat traffic / safety
_____ Winter safety
_____ Weeds / aquatic plants
_____ Septic system runoff
_____ Overall water quality
_____ Other. Please specify:

Q52. **Currently, what are the most important goals of your lake association? (Check all that apply)**

- [ ] Control AIS
- [ ] Improve fishery
- [ ] Improve lake water quality
- [ ] Increase lake safety
- [ ] Limit shoreland development
- [ ] Lake cleanup / trash removal
- [ ] Other. Please specify: _____

Q53. **Overall, how motivated are most of the members to reach the lake association's goals?**

- ○ Highly motivated
- ○ Moderately motivated
- ○ Somewhat motivated and somewhat unmotivated
- ○ Moderately unmotivated
- ○ Highly unmotivated

Q54. **What challenges does your lake association face as it works on achieving its current goals? (Check all that apply)**

- [ ] Inadequate governmental policies
- [ ] Restrictive governmental policies
- [ ] Inconsistent administration of governmental policies
- [ ] Inadequate representation on government councils / committees

- [ ] Not having real power to influence government policies
- [ ] Lack of time
- [ ] Declining membership
- [ ] The aging population of lake property owners
- [ ] Inadequate member participation
- [ ] Insufficient financial resources
- [ ] Other. Please specify: _____

Q55. **Please indicate how much you agree or disagree with each of the statements below.**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I think that my lake association faces hurdles in becoming more engaged in lake conservation activities.	○	○	○	○	○
My lake association is authentically included in the lake planning process.	○	○	○	○	○

I feel that my lake association has real authority over the lake.	○	○	○	○	○
I am able to engage my lake association members in activities and advocacy for clean water.	○	○	○	○	○
I think DNR has sufficient lake management policies in place.	○	○	○	○	○

Q56. **Please share any additional information you would like us to know about your lake association, its activities, its needs, and/or its concerns.**

About You

Q58. **What is your gender?**

○ Male ○ Female

Q59. **What is your age range?**

○ <40

○ 40-60

○ 61-80

○ >80

Q60. **What is the highest degree you have earned?**

○ None

○ High school diploma or the equivalent (GED)

○ Associate degree

○ Bachelor's degree

○ Master's degree

○ Professional degree (MD, DDS, DVM, LLB, JD, DD)

○ Doctorate degree (Ph.D. or Ed.D.)

Q61. **What is your current employment status?**

○ Employed. Please indicate your occupation: _____

○ Retired

○ Other. Please specify: _____

You have reached the end of the survey! Please use the envelope that came with this survey to mail it back to Concordia College: 901 8th St. SO. Moorhead, MN, 56562, CPO 5121. You are also welcome to mail any information about your lake association including newsletters, meeting itineraries, or agendas. Thank you!