

White Lake Preservation Project

Values Survey Results

Report by Watersheds Canada

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Prepared for the White Lake Preservation Project

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1. Introduction

The White Lake Preservation Project (WLPP) is an initiative started by concerned residents on White Lake with the overall goal of helping to restore White Lake to the healthy and sustainable waterbody it was in the past. To do this, the WLPP plans to involve as many landowners and interested individuals as possible to collect information on the condition of the lake, to identify areas of vulnerability from this information, and to implement stewardship programs, land use planning and policy approaches to protect and improve these areas of vulnerability. This report summarizes the results of a preliminary values survey which was distributed to 315 shoreline property owners on White Lake, 84 of whom provided their responses. Responses were analyzed by the Watersheds Canada (WC).

2. Methodology

Values surveys were distributed in paper form to 315 shoreline property owners on White Lake. Eighty-four of these surveys were mailed back to a White Lake Preservation Project representative, who provided them to WC. Fourteen questions were asked in the Values Survey (listed in Appendix A). The results of each survey were input by WC into Google Drive's Google Forms, which automatically analyzed responses in the form of histograms and tables. Some of the data was also exported from Google Drive into Microsoft Excel. The survey results were analyzed by WC to summarize the responses, identify potential trends among the responses, and identify potential stewardship initiatives that WLPP could focus their efforts based on the trends identified among the responses.

3. Results

3.1 Property Ownership on White Lake

Of the 84 respondents to the values survey, 63 (75%) identified themselves as seasonal residents, 18 (21%) identified themselves as permanent residents, two (2%) identified themselves as other types of residents, and one (1%) identified himself or herself as a farm operator, as shown in Figure 1 below. Six respondents selected more than one type of residency.

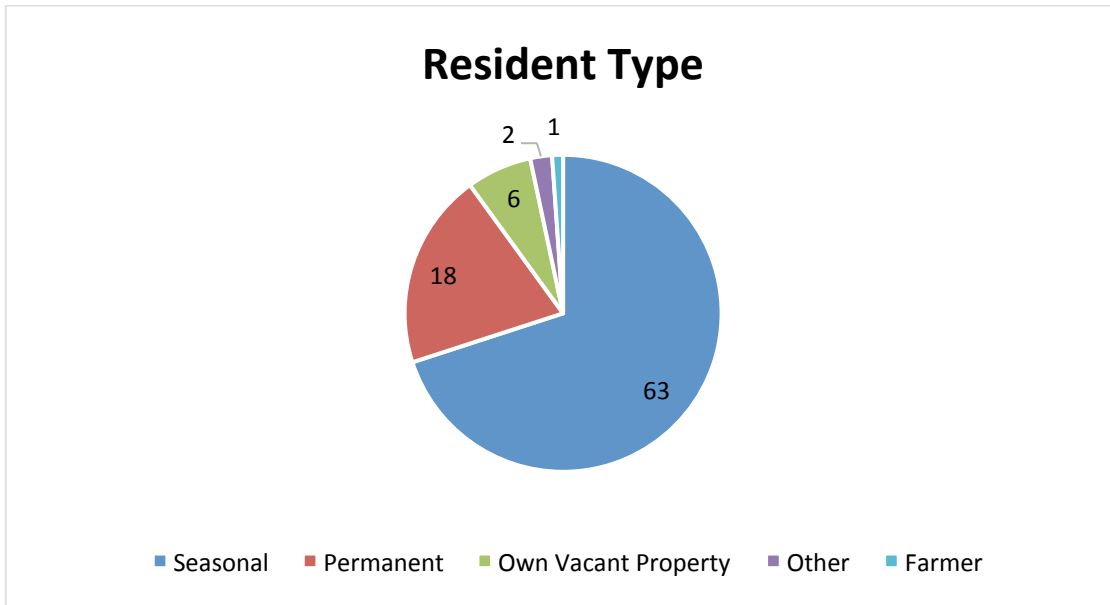


Figure 1. Resident types for 84 returned surveys, n=90.

Of the 63 seasonal residents, 33 (52%) said they do not plan to become permanent residents, three (5%) said they do plan to become permanent residents, and the remaining 36 (57%) of the seasonal residents do not know if they will become permanent residents, as shown in Figure 2 below. Of the 63 seasonal residents, nine selected more than one response.

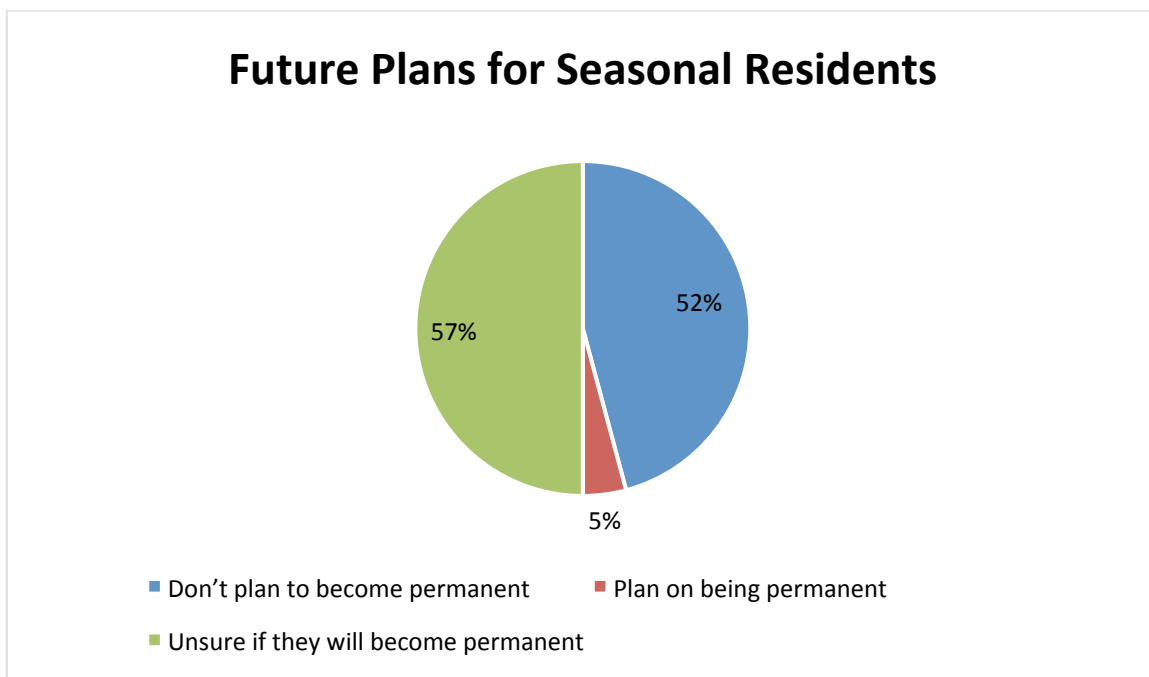


Figure 2. Future residence plans of 63 seasonal residents, n=72.

Time spent by landowners and their families on White Lake varied widely from one year to over 90 years, and the average (mean) number of years spent on the lake was 30.

3.2 Recreation on White Lake

The top five recreational activities identified by the 84 survey respondents included swimming, nature appreciation, power boating, fishing, canoeing/kayaking/sailing, and socializing. The least popular recreational activities included hunting, jet skiing, mountain biking, camping, and scuba diving. In order of popularity from most to least popular, the number and percentage of shoreline property owners on White Lake that participate in recreational activities are summarized in Table 1 below. Figure 3 below shows the distribution of these responses.

Table 1. White Lake shoreline property owner participation in recreational activities, n=84.

Recreational Activity	Number of Respondents	Percent of Respondents (%)
Swimming	81	96
Nature Appreciation	64	76
Power Boating	61	73
Fishing	59	70
Socializing	56	67
Canoeing, Kayaking, Sailing	56	67
Hiking	31	37
Water Skiing/Wake Boarding	27	32
Cross-Country Skiing	24	29
Snow Shoeing	22	26
Ice Fishing	15	18
Snowmobiling	14	17
ATVing	11	13
Wind Surfing	9	11
Sailing	9	11
Jet Skiing	5	6
Hunting	5	6
Mountain Biking	4	5
Scuba Diving	2	2
Camping	2	2

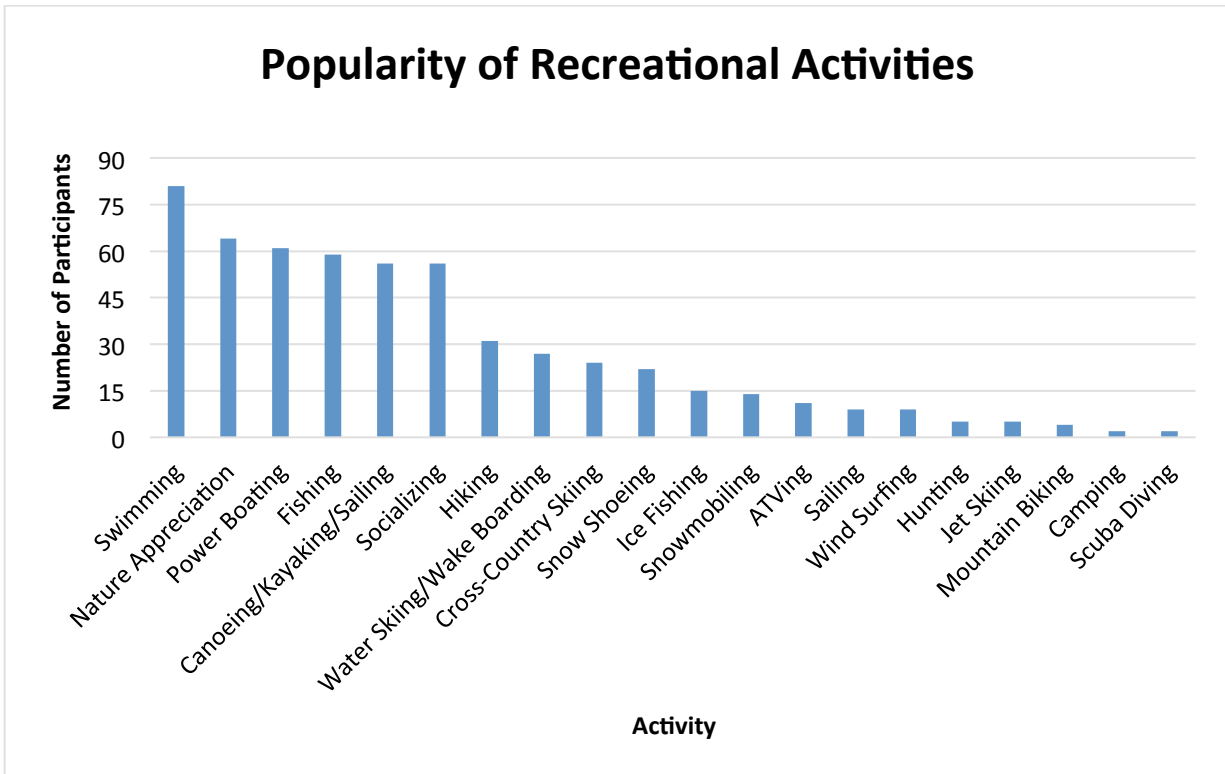


Figure 3. Distribution of shoreline property owner participation in recreational activities on White Lake, n-84.

3.3 Values Associated with Personal Enjoyment of White Lake

The most important elements of White Lake, valued for their impact on personal enjoyment of the lake, included water quality, scenery/view, swimming, and wildlife viewing. The least important elements lake social activities, ice fishing, and hunting. Figure 4 below shows the distribution of ranked values for each element, in order of the most valuable to least valuable element.

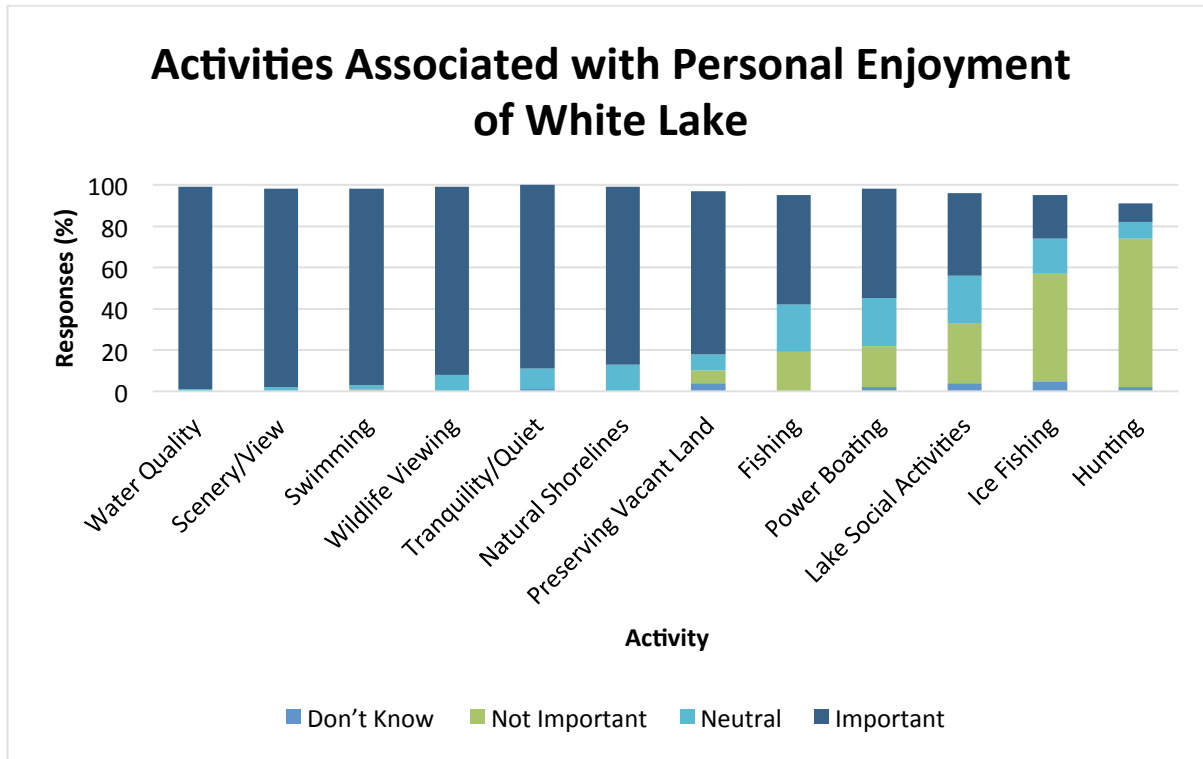


Figure 4. Distribution of White Lake shoreline property owner responses regarding elements affecting enjoyment of the lake, n=84.

3.4 Top Five Issues Facing White Lake

The most frequently identified issue facing White Lake provided by the 84 respondents was water quality, followed by faulty/poorly maintained septics, water levels, healthy fish populations, and shoreline development. The least frequently identified issues facing White Lake were wildlife, cottage conversions to permanent residences, and light pollution. Table 2 below summarizes the number and percentage of respondents that identified each issue as a top five concern. Figure 5 below shows the distribution of shoreline property owner responses regarding the top five issues facing White Lake.

Table 2. Issues facing White Lake as identified by shoreline property owners.

Issue	# Respondents	% Respondents
Water Quality	81	96
Faulty or Poorly Maintained Septics	58	69
Water Levels	53	63
Declining Fish Populations	51	61
Shoreline Development	43	51
Boating	33	39
Noise Pollution	26	31
Wildlife	19	23
Cottage Conversions to Permanent Homes	14	17
Light Pollution	13	15
Other	11	13

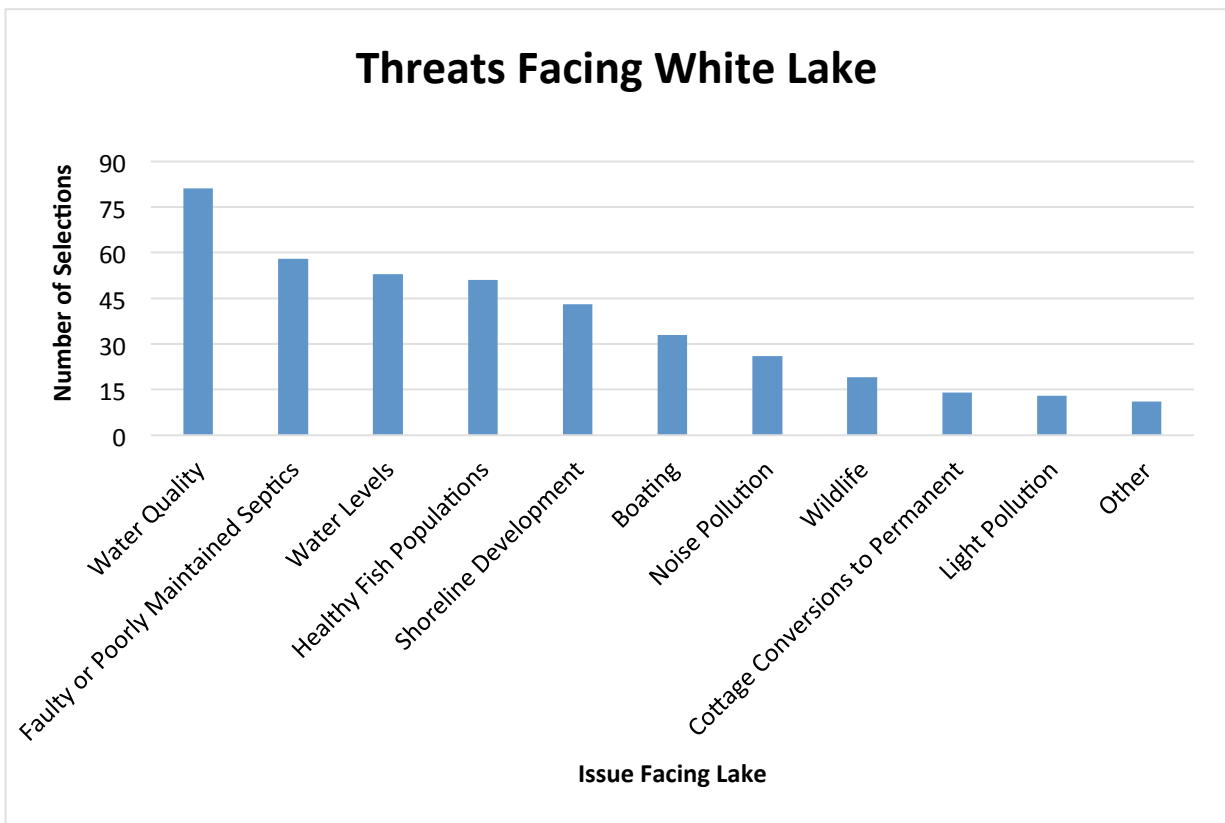


Figure 5. Distribution of shoreline property owner responses identifying the top five issues faced by White Lake, n=402.

3.5 Actions to Undertake to Benefit White Lake and Community

The most frequently identified actions shoreline property owners on White Lake believe would benefit the lake and community, from most to least popular responses, were to create or enforce stricter rules for new development, undertake a Lake Management Plan, engage in a septic re-inspection program, undertake more water quality testing, and provide educational materials to property owners on a variety of subjects. The least beneficial actions identified, from most to least popular, were create or enforce stricter rules for re-development (cottage conversions), improve communication between land owners and lake association, engage more property owners in lake activities, plant trees and shrubs along the shore, and stop mowing grass by the shoreline. The least beneficial action identified was to do nothing. Table 3 below summarizes the number of times and percentage of responses that each action was identified as beneficial to the lake and community. Figure 6 below shows the distribution of shoreline property owner responses regarding actions that would benefit the lake and community.

Table 3. Actions to benefit White Lake and the community as identified by shoreline property owners.

Actions to benefit the Lake and Community	# Selections	% of Selections
Create or enforce stricter rules for new development	36	43
Undertake a Lake Management Plan	35	42
Engage in a septic re-inspection program	31	37
Undertake more water quality testing	31	37
Provide educational materials to property owners on a variety of subjects	30	36
Limit boat wakes near shore	23	27
Create or enforce stricter rules for re-development (cottage conversions)	14	17
Improve communication between land owners and lake association	13	15
Engage more property owners in lake activities	11	13
Plant trees and shrubs along shore	10	12
Stop mowing grass by the shoreline	6	7
Nothing	1	1

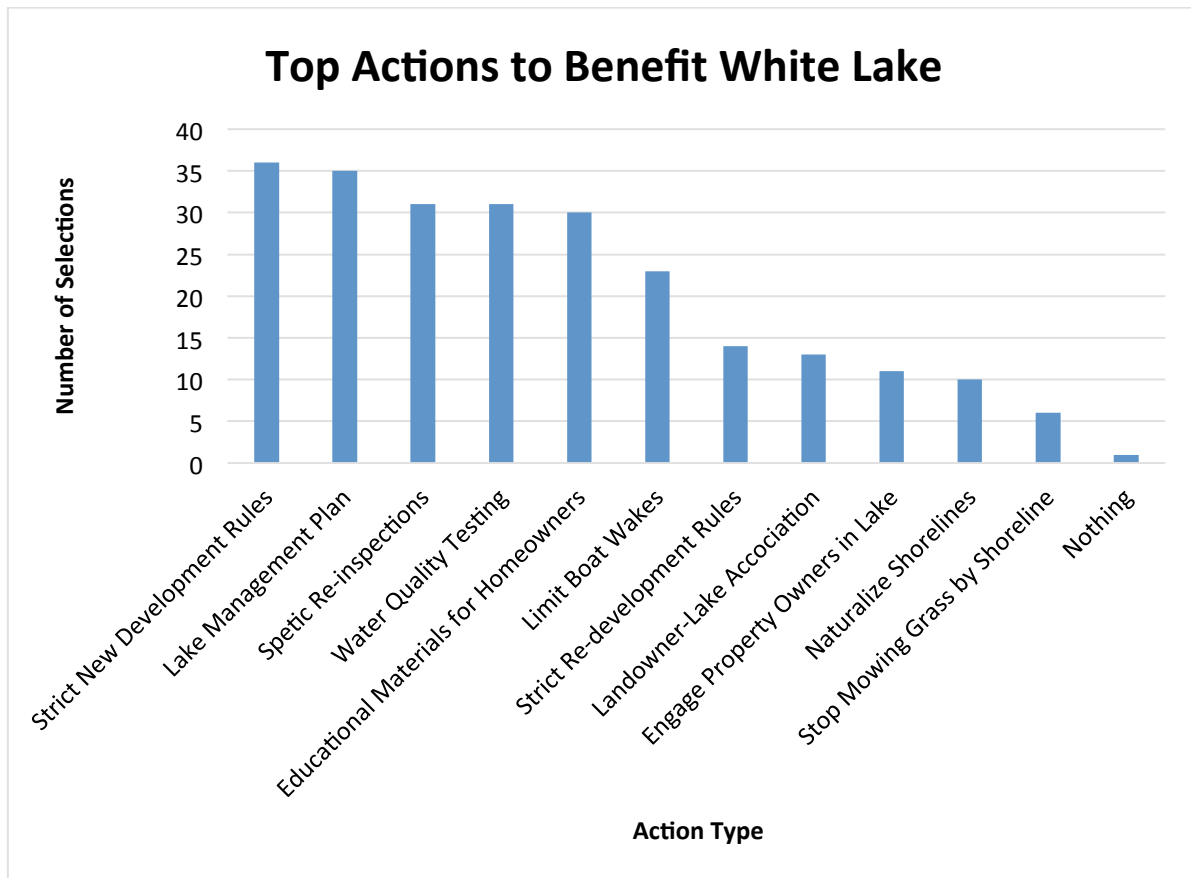


Figure 6. Distribution of opinions of top actions needed to benefit White Lake, n=241.

3.6 Perceived Water Quality and Water Quality Concerns on White Lake

Of the 84 survey respondents, 55 (65%) perceive water quality to be good, 13 (15%) perceive water quality to be poor, 13 (11%) don't know about the water quality, and 5 (6%) perceive water quality to be excellent. The top concerns expressed about water quality were algae or aquatic vegetation, bacteria, pollution, and clarity. The least common concerns expressed about water quality was smell, and three people had no concerns with respect to water quality. Table 4 summarized the number and percentage of responses identifying each water quality concern for White Lake. Figure 7 below shows the distribution of shoreline property owner responses regarding water quality concerns on White Lake.

Table 4. Water quality concerns expressed b shoreline property owners on White Lake.

Water Quality Concerns	# Selections	% of Selections
Algae/Aquatic Vegetation	71	85
Bacteria	51	61
Pollution	50	60
Clarity	32	38
Smell	12	14
No Concerns	3	4

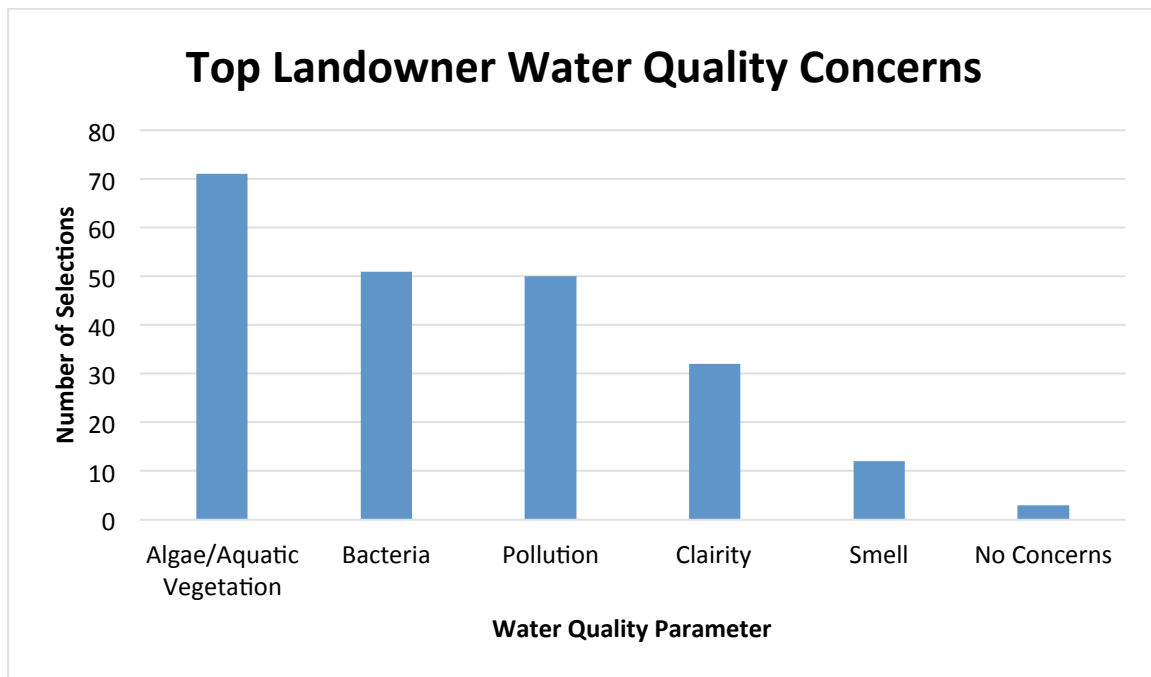


Figure 7. Distribution of the top landowner water quality concerns, n=219.

3.7 Shoreline Property Owner Interest in Stewardship Information and Activities

Of the 84 survey respondents, 78 (93%) expressed interest in being contacted by the WLPP via their provided email address. Additionally, of the 84 respondents 71 (85%) expressed interest in being contacted by WLPP to receive more information on how their activities as landowners can affect water quality, wildlife habitat, and ecosystem health.

3.8 Shoreline Property Owner Comments

Of the 84 survey respondents, 34 provided additional comments. There were a variety of comments, but most were focused on either perceived problems affecting the lake, or comments about the WLPP. Most of these comments are summarized below:

- Concerns about White Lake:
 - Water quality is the most important. More development = lower water quality. I am also concerned at the "Party Yachts" now on the lake disturbing our peace and quiet, anchoring just off our dock. When I asked them where they were dumping their waste they replied "White Lake Marina". This place does not have a dumping station.
 - Too many people, too many high powered boats, overfishing, bass fishermen not respecting property owners - all these are major problems.
 - The high population of deer is killing the forests. It is an old forest and with most of the new growth being eaten, our property is more of a parkland than a forest. I'm not sure if anything can be done about this.
 - Shells are a concern.
 - We have an island and because of permanent homes the water is kept high and our shoreline is washing away.
 - We do miss having a road but have mixed feelings about it: We would really appreciate the convenience but we also appreciate having things as they are for ecological reasons.
 - The "wake boats" create their own waves which are incredibly large (as we are on a point of Hardwood island). Waves as high as 2-3 ft causing our dock and boats to rock constantly, not to mention part of our shoreline being washed away. PS - a "watch your wake" sign might be helpful on a buoy to keep people away from driving too close to the point (lots of rocks there)
 - Worried about overfishing.
 - Very concerned about weed growth and development of new large campgrounds.
 - Invasiveness of snails is a concern.
 - Increased weed growth + peat accumulation at shoreline is a concern, plus the lowering of water levels as summer progresses
 - Problem with increasing Canada goose population. Lake has deteriorated over last 40 years. Introduction of Eurasian Milfoil weed (invasive), used to be only limited to indigenous weeds. Too much rental development on Lake. Should be a management/improvement plan before more cottages/parks are allowed. Lake must be returned to a healthy state before more people burden is allowed.
 - Several new cottages and now some older are "paving" the shoreline with sand and gravel. Thought that was already illegal? That hurts fish, wildlife, and the scenery.
 - Some what concerned about over fishing, making visitors more aware of slot size and limits, promote "catch and release"

- This lake requires a 3.5 ft differential between high and low levels on a seasonal basis, currently 1 ft. (close to stagnant pool). Present water level management of the lake is centered at the dam and does not take consideration of the ice on the large open area at the 3 Mile Bay --> Pickerel Bay while there is no sight of ice at the dam area. (2014 there was a 22" increase in the lake while there was 6" of ice in that area causing ice damage to shoreline and flooding of sensitive areas close to lake levels, washing out soil, killing trees, etc. 60' in from the shoreline)
- Limit boat engine sizes and limit size and number of bass fishing tournament events.
- Large boats creating large wakes
- Water levels have been kept too high in the last 10-15 years as a result we have a lot of cattail type swamps which help to filter lake. High water also hinders weed growth which oxygenates the water.
- Invasive species and leeching of chemicals are a concern.
- We think it is a huge mistake to allow the 200 site trailer park to be developed. The lake is already under stress with too much boat traffic and pollution (noise, water, light)
- Limit commercial camping and access to lake. Do not allow pressure treated wood to be used over and near waterways or shorelines.
- Comments in support of WLPP:
 - Many thanks for this. I am always concerned re water quality and development on our precious White Lake. I will happily do your survey and assist you.
 - Keep us informed about the Study and other issues in White Lake.
 - I am thrilled that someone has finally taken up the cause for caring for our lake, land, and wildlife....Thank you, very much. I am excited about this project and hope I can be a part of it in some way.
 - I don't know how much longer I will be able to enjoy the cottage but support any worthwhile projects to make water quality better!
 - Thank you for your initiative.
 - Thank you so much for all of your time and hard work despite your heavy schedules.
 - Appreciate WPLL's work on this and information provided - did not know about algal blooms!
 - We would want to be more involved in helping with their efforts. We could take water samples, help with mail outs, or other aspects.
 - I would like to help out with your efforts.
 - Thank you for your efforts on this matter. We want to ensure this beautiful lake and surrounding area will be around for future generations to enjoy.
 - We believe our lake association LLSH do much of what is listed, but there is always more that can be done, especially encouraging more property owners to join the association.
 - Please post information on how activities as landowners can affect water quality etc. on WLPP.ca.

4. Discussion

On the completed surveys, water quality emerged as one of the most important factors for landowners with 98% of landowners rating it as either important or extremely important for the enjoyment of the lake. The very strong support for water quality from the landowners is a significant result as it shows that WLPP's stewardship programs aimed at improving water quality may be supported by the landowners as well as the sampling work the White Lake Property Owners Association (WLPOA) is carrying out. For specific concerns about water quality, concerns were fairly spread out over algae/aquatic vegetation, clarity, bacteria, and pollution. Given that these issues likely have some common causes (e.g., upland drainage from tributaries may be causing excess nutrients to enter the lake, which increases algae and bacteria and reducing clarity) it may be best to implement a stewardship/mitigation program that addresses the root causes of these issues to best address the problem.

Healthy fish populations was also voted as a strong concern among landowners (61%) which shows that fish habitat enhancement projects would likely be supported by residents as well. Natural shorelines (86%) was also strongly supported by landowners which opens the door for the possibility of targeted shoreline naturalization projects as well.

Landowners almost unanimously identified swimming as the most popular recreational activity, with 96% saying they swim in the lake. This result could provide an opportunity to convey the importance of WLPP's and the lake associations mandate through explaining how not addressing current issues could jeopardize the suitability for swimming in White Lake (e.g., blue-green algae blooms prevent swimming).

When asked to rate overall water quality of White Lake, the majority of residents rated it as good (65%) followed by poor (15%), don't know (11%), and excellent (6%). This result is in contrast to previous results in the survey in which residents rated water quality as the biggest factor for enjoyment of the lake at 98% and when 96% rated water quality as a threat facing White Lake. These results indicate that residents may be concerned for water quality but don't feel it has become a serious problem that is affecting them. This could offer an opportunity for stewardship programs to better convey the current state of White Lake's water quality. The current state of White Lake's water quality is undergoing further analysis, but preliminary observations support the perception that the water quality is compromised and requires further monitoring.

The large majority of comments were supportive and offered encouragement and excitement for WLPP. Some common themes among concerns were water quality, too much boat traffic, overfishing, and the concern about the number of campgrounds and their further development. The overall tone of the comments suggests that landowners will welcome future planning projects on White Lake as well as opportunities for stewardship programs that address their primary concerns.

5. Conclusion

In conclusion, as evidenced by 93% of survey respondents approving contact by WLPP, many supportive and encouraging comments, and many important and manageable concerns voiced by White Lake landowners, there appears to be ample opportunity for planning and stewardship programs to help restore and preserve White Lake. Main concerns seem to be primarily centered on water quality, although 65% of respondents rated White Lake as having good water quality. Other main concerns were continued development of trailer parks, heavy boating traffic, overfishing, shoreline development, and faulty/poorly maintained septics. Overall, by working together with all interest groups and landowners in a coordinated effort, there is considerable support for projects and programs aimed at the protection of the future of White Lake.



White Lake (<http://www.whitelakeon.com/>)

Appendix A: Questions Asked in Values Surveys

1. Which of the following apply to you? (Check all that apply.)
 - Permanent Resident
 - Seasonal Resident
 - Own Vacant Property
 - Operate a Farm
 - Operate a Business
 - Other (please specify)

2. If you are a seasonal resident, do you plan on making this your permanent residence sometime in the future?
 - Yes
 - No
 - Don't Know

3. How long have you or your family been on your lake?
 - _____ Years

4. What types of recreational activity do you participate in at the lake? (Select as many as apply.)
 - ATVing
 - Cross-Country Skiing
 - Hiking
 - Jet Skiing
 - Power Boating
 - Snowmobiling
 - Camping
 - Fishing
 - Ice Fishing
 - Mountain Biking
 - Sailing
 - Snow Shoeing
 - Wind Surfing
 - Canoeing or Kayaking
 - Hunting
 - Ice Skating
 - Nature Appreciation
 - Scuba Diving
 - Socializing
 - Water Skiing/Wake Boarding

5. Please rate how the following 15 elements add to your personal enjoyment of your lake. Please circle only one number for each value.

Element	Not Important 1	2	3	4	Extremely Important 5	Don't Know
Water Quality	1	2	3	4	5	0
Natural Shorelines	1	2	3	4	5	0
Scenery/View	1	2	3	4	5	0
Wildlife Viewing	1	2	3	4	5	0
Dark Skies (No Light Pollution)	1	2	3	4	5	0
Tranquility/Quiet	1	2	3	4	5	0
Fishing	1	2	3	4	5	0
Ice Fishing	1	2	3	4	5	0
Preserving Vacant Land	1	2	3	4	5	0
Hunting	1	2	3	4	5	0
Swimming	1	2	3	4	5	0
Power Boating	1	2	3	4	5	0
Non-Power Boating	1	2	3	4	5	0
Lake Social Activities	1	2	3	4	5	0
Other (Please Identify)	1	2	3	4	5	0

6. What do you see as the top five issues facing your lake and your lake use?

- Water quality
- Water levels
- Declining fish populations
- Boating
- Cottage conversions to permanent homes
- Shoreline development
- Faulty or poorly maintained septic
- Noise pollution
- Light pollution
- Wildlife
- Other

7. Please identify the top three actions you believe should be undertaken to benefit your lake and lake community.

- Stop mowing grass by the shoreline
- Plant trees and shrubs along shore
- Limit boat wakes near shore
- Engage in a septic re-inspection program
- Provide education materials to property owners on a variety of subjects
- Undertake more water quality testing
- Create or enforce stricter rules for new development
- Create or enforce stricter rules for re-development (cottage conversions)
- Improve communication between land owners and lake association
- Engage more property owners in lake activities

- Undertake a lake management plan
- Nothing
- Other

8. In your opinion, describe your lake water quality.

- Excellent
- Good
- Poor
- Don't Know

9. What are your particular concerns with respect to water quality?

- Bacteria
- Smell
- Algae/Aquatic vegetation
- Clarity
- Pollution
- No Concerns
- Other

10. Are you interested in learning more about how your activities as a landowner can affect water quality, wildlife habitat, and the overall health of your lake?

- Yes
- No

11. Would you be interested in participating in stewardship projects/activities related to your lake?

- Yes
- No