



Lake Stewardship Plan for Malcolm/Ardoch Lakes Executive Summary 2016

The Malcolm/Ardoch Lakes Stewardship Plan is designed to be a community plan that uses a process of consultation, collaboration and consensus building. Although the LSC (Lakes Stewardship Committee) may facilitate the process, it belongs to all property owners and users from the community. It is not a legal document and is not designed to regulate or give authority to individuals. The power and influence of the plan comes only with self-regulation.

Through education and communication with the public, the process can be open, transparent and meaningful. The main principle of its success is voluntary stewardship.

The overall goal is to protect and improve our lakes for future generations. The purposes are to:
provide a resource



Photo courtesy of Justin Whitten

document concerning present state of the lakes; foster positive relationships with property owners; use education to encourage lake users to respect and preserve the character of the lakes; identify environmental concerns and provide recommendations for action; influence decision-makers to develop and maintain policies and programs that ensure the protection and enhancement of the great natural resources- our lakes. The Executive Summary focuses upon priorities and recommended actions to be taken.

Aim of the Stewardship Plan



Photo courtesy of Sheryl Weber

The Lake Stewardship Plan was developed in response to surveys and issues raised by MALLA members from 2012 to present who identified the desirable qualities of the two lakes and expressed a need to protect the lakes for future generations. Values such as peace and tranquility, an environmentally friendly lifestyle, respect for the rights of property owners and precaution in the nature and degree of development around the lake(s) were priorities. The aim of the plan is to achieve the goals through education, participation, collaboration and shared responsibility.

The plan describes the physical and natural environment, biological features, tourism/economic development, natural resources, and residential development.

The type and amount of development on the lake(s), the impact of social and recreational activities and climate change are presented as they impact on the lakes' ecology.

The Lake Stewardship Plan is designed to:

- Identify what makes Malcolm and Ardoch Lakes a desirable place to live and visit;
- Identify challenges to maintain a healthy sustainable lake community;
- Establish a baseline for ongoing monitoring and collection of data for the lakes;
- Recommend actions for sustaining the environmental, social and cultural health;
- Provide a structure for the ongoing planning, education and action; the background document is a living document that should be reviewed regularly and revised to reflect the changing needs of the MALLA community.



Photo courtesy of Marlene Gray

Stewards of the Lake(s) aim to promote:

- Healthy water quality;
- Biological health and diversity;
- Responsible recreational activity;
- Environmentally sustainable development;
- A friendly approachable attitude towards neighbours and community;
- A healthy fishery; and a peaceful, respectful enjoyment of the lakes.

CONTENT OF THE PLAN

The Background Document provides 178 pages with colour, charts, maps, figures, photographs, and appendices to: 1) provide a summary of what is currently known about the health of the lakes; 2) identify trends and changes over time; 3) present issues and concerns as identified by the lake community; and 4) indicate how our current activities have potential impact upon the lakes and surrounding environment.

A community History Work Committee prepared the historical information as the starting point for the Lake Plan. It is available in the 268 page book, [History of The Lakes: Malcolm and Ardoch \(2015\)](#). The Background Document highlights the early settlers from the 1860s until present time, the expansion of the Ardoch settlement in terms of services such as medical, mail, telephone, churches, schools, businesses, and social life.

An overview of the Physical and Natural Environment describes the location of Malcolm and Ardoch Lakes and the characteristics of each. Data on water quality are central to the document as this was deemed a priority by MALLA membership (in surveys and at AGMs) throughout the Lake Plan process. A brief Physiography and Geology section describes the lake(s) and surrounding rock structures. The shoreline assessment was supplemented



Photo courtesy of Justin Whitten

through the Love-Your-Lake program to help determine the degree of rehabilitation needed. The Biological Features section provides lists of plant and animals found in the area with Appendices for observation tracking. A section on “Wildlife of Special Concern” describes animals including insects where stewardship actions will be important for their protection. The Fish and Habitat section highlights concerns for the sustainability of the fish population and the need for cooperation with agencies for a management plan. The Invasive Species section describes aquatic plants and animals that pose threats to the health of our lakes.

Recreation provides a focus on activities for personal enjoyment without infringing on the rights of others. Services provided within the township and those specific to the lakes such as waste disposal and septic system maintenance are highlighted. Brief descriptions of Forest Resources and Mining are provided. Residential Development has considerable information about the need for an updated Official Plan, management of township by-laws and land use/development. From 2012 to present a proposed condominium project on Ardoch Lake has created major concerns for MALLA. As the project is presently proposed, the density of development is far too great for a lake of Ardoch’s size to maintain water quality, aesthetics, existing recreational qualities, fisheries resources and wildlife habitat. Impacts of Climate Change are briefly outlined in a general format. Appendices contain support information and checklists for observation of species.



Photo courtesy of Mike Higgins

The Lake Planning Process

This is a community project since local residents and seasonal visitors use the lakes as well as property owners. The LSC for Malcolm/Ardoch encourages a community-based approach with multiple opportunities for involvement where interested parties may provide input, discuss issues and solutions pertaining to the lakes. Only the Chair of the LSC has permanent residence on the lake; thus the period between May and October each year was used as key discussion and planning time. With the aid of technology the LSC members were able to research, collect and exchange parts of the plan throughout the other months.

Throughout 2014 and 2015 newspaper articles announced renewed effort to report on the state of the lakes. LSC hosted presentations of Love-Your-Lake and the Shoreline Naturalization Program to engage public in awareness sessions in October of 2014 and at the AGM June 2015. In June 2015 a partnership with Watersheds Canada and Canadian Wildlife Federation to deliver the Love-Your-Lake program, was initiated to address gaps in data for shoreline assessment. The summary data were used to determine issues and recommendations concerning areas such as erosion, buffer zones and shore rehabilitation. There was an excellent response from property owners such that 11 properties benefited from the Natural Edge rehabilitation plans in October 2015.

Since June 2014 data have been compiled by Stewardship Committee members and our partners with respect to the History of Settlement, Physical and Natural Environment, Biological Features, Tourism/Services, Natural Resources, Residential Development and Climate Change. The History section has been published in book and CD formats with six printings of the book to meet the demand.

Thanks to the recruitment of a webmaster, the website www.malla.ca has been operational since July 2015 allowing LSC to post the draft Background Document and encourage community



Photo courtesy of Katie Ohlke

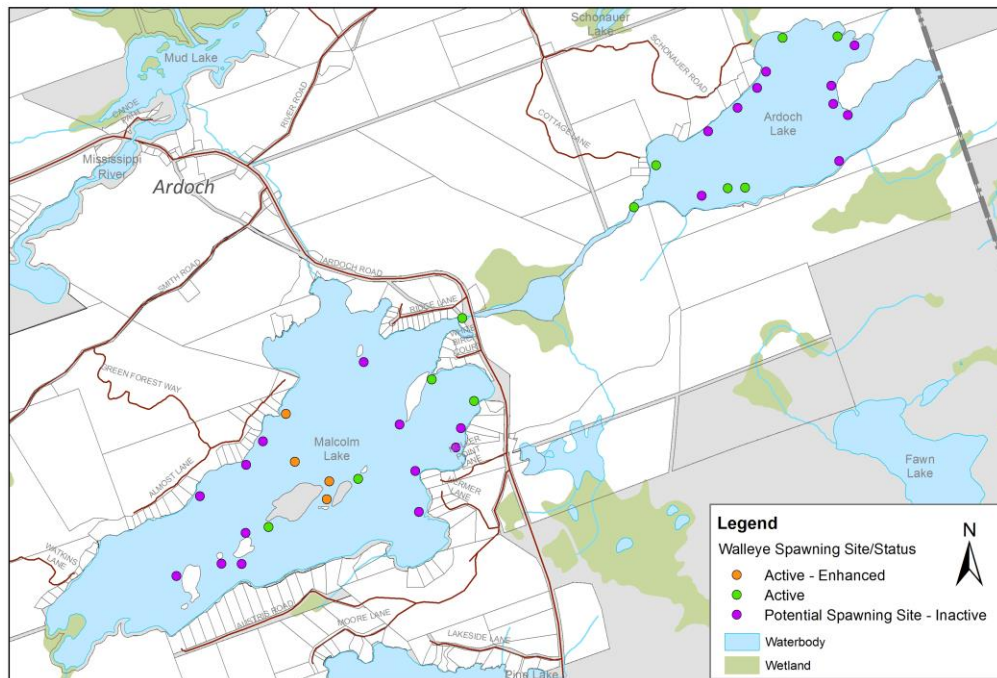
involvement: through the continued sharing of photos; stories about lake activities and memories; sightings of animal life particularly birds; assist with a loon watch initiative; record native plants on their property; report invasive species of animals and plants.

At the 2015 AGM a Lake Plan Summary Report was presented and endorsed. Three main priorities were identified: water quality, fish management, and residential development. Additional water testing samples were deemed important for monitoring purposes. The Committee is working with Lake Partners Program (Dorset) to implement additional monitoring through monthly testing (May-October). In 2016 six local businesses gave

funding support for additional water testing as required. A calendar sales fundraiser was also begun in October 2015 to cover Lake Plan costs.

After training in aquatic plant mapping both lakes were mapped in the fall of 2015. Malcolm Lake results were provided but a technology error would not allow Ardoch data to print.

Fisheries and fish habitat have continually been identified as a concern. Efforts by the MALLA Fishing Committee to implement their management plans were curtailed by MNR changes in policy. In August 2015 a partnership with MVCA was discussed. Representatives of the LSC attended the fall Lake Links Conference in Perth where Fish and Their Habitat was the key focus. A partnership with Watersheds Canada was confirmed; the partners were successful with the application to Oceans & Fisheries Canada for the development and management of walleye spawning beds on Ardoch Lake for 2017.



Malcolm & Ardoch Lakes - Walleye Spawning Habitat

This map is produced in part with data provided by the Ontario Geographic Data Exchange under Licence with the Ontario Ministry of Natural Resources and the Queen's Printer for Ontario, 2015

0 0.5 1 1.5 2
Kilometers
UTM NAD 83 Zone 18N

Mississippi Valley
Conservation Authority

Monitoring with respect to the condominium development on Ardoch Lake has been ongoing since 2013 with public meetings, township meetings and many planning meetings. Ardoch Lake landowners hired a consultant to represent their interests. This group endeavours to keep MALLA membership informed and politically active as needed.

LSC has made a commitment to keep the public informed. An updated version of the Background Document is posted on MALLA website, and was announced in the local newspaper. The Lake Plan Executive Summary is available on the website with revisions as needed, was announced to the public as well as MALLA members and received endorsement at the June 2016 AGM.

Following endorsement, The Lake Plan will be presented to North Frontenac Township for recognition as a planning tool. It will be presented to other agencies as their help and support are requested.

THE TOP THREE PRIORITIES

1. WATER QUALITY

Overall, the water clarity on both lakes remains good relatively unchanged since the 1970's.

The tables below present a summary of what the water quality data are showing us in terms of the trophic status ratings for each lake. As shown below, water quality data that measure Total Phosphorus (TP), Chlorophyll- a and water clarity (Secchi disc measurements) show that Ardoch Lake generally has oligotrophic status, meaning it has low nutrient levels, limiting the growth of aquatic vegetation and algae. Water quality data for Malcolm Lake show that it ranges between high oligotrophic to low mesotrophic, meaning that it has low to moderate nutrient levels, providing for some biological productivity in terms of the growth of aquatic vegetation and algae.

Summary of Trophic Status Ratings for each Water Quality Parameter

Trophic Status	Total Phosphorus (µg/L)	Chlorophyll- <i>a</i> (µg/L)	Clarity/Secchi Disc Depth (m)
Oligotrophic	< 10 µg/L	< 2 µg/L – low algal density	> 5 m
Mesotrophic	10 to 20 µg/L	2 to 4 µg/L – moderate algal density	3.0 to 4.9 m
Eutrophic	> 20 µg/L	> 4 µg/L – high algal density	< 2.9 m

Ardoch Lake -Summary of Water Quality Trophic Status Ratings

Total Phosphorus (µg/L)		Chlorophyll- <i>a</i> (µg/L)	Clarity/Secchi Disc Depth (m)
Spring (Euphotic Zone)	Annual Average (Euphotic Zone)		
Oligotrophic	High Oligotrophic/Low Mesotrophic	Oligotrophic	Oligotrophic

Malcolm Lake -Summary of Water Quality Trophic Status Ratings

Total Phosphorus (µg/L)		Chlorophyll- <i>a</i> (µg/L)	Clarity/Secchi Disc Depth (m)
Spring (Euphotic Zone)	Annual Average (Euphotic Zone)		
Oligotrophic	High Oligotrophic	High Oligotrophic/Low Mesotrophic	Mesotrophic*

* influenced by the shallowness of the lake

2. FISH MANAGEMENT

Ardoch and Malcolm Lakes support warm water fishing such as largemouth and smallmouth bass, walleye, Northern pike and yellow perch.

The fish community is managed by MNRF as a self-sustaining fishery (ie. No stocking is taking place.) Very little monitoring of the fish population has been done since early 1990's.

The easily accessible boat launch provides opportunity for numerous day trip anglers. There is very little regulatory enforcement presence on the lakes.

Several walleye spawning rehabilitation projects have been completed on Malcolm to support the walleye population. Active spawning has been observed on these beds, and given good early spring weather conditions they should enhance walleye reproduction over time. It would be beneficial to continue the reef building activity on other optimal shoreline sites in Malcolm Lake. Regular fall cleaning of the shoals is recommended by Watersheds Canada and MCVA; a request for approval by MNRF (Bancroft) is in process. Natural spawning reefs are limited but available on Ardoch Lake; funding from Department of Fisheries and Oceans for shoal enhancements has been approved for 2017. A permit application to MNRF has been submitted to complete the process.

3. LAND USE & DEVELOPMENT

Current population trends show eleven primary residences on Malcolm and zero on Ardoch Lake. As of May 2016 data indicate there are 105 shoreline properties on Malcolm and 21 properties on Ardoch Lake as a result of recent severances.

A planned condominium development on Ardoch Lake could have a major impact on both lakes. Property owners continue to demand an environmentally- conscious approach to any residential development and step-by-step involvement as decisions are made.

The North Frontenac Official Plan is being reviewed; the Council has the opportunity to address concerns with respect to minimum lot size, buffer zones and setbacks. MALLA recommends those compliant with best practices set out by the province and/or other planning jurisdictions. These are a minimum 91 metre lot frontage and minimum one hectare lot size with no back lot development. MALLA recommends that the Township use the full-time residential model with respect to lake capacity consideration. A more comprehensive definition of lake capacity includes multi-factors and is not primarily based on total phosphorous as previously defined in the Lakeshore Capacity Assessment Handbook by FOCA (2010). Further, we advise that the Township use an independent professional environmental consultant to ensure that all elements of water front development (such as fish and wildlife, water quality, shoreline erosion wetlands and aesthetics) are protected.

All affected parties, lake associations and adjacent landowners, should have opportunity for input into the process. Property owners should remain vigilant with respect to monitoring of the situation.

FUNDING:

Malcolm/Ardoch Lakes Landowners' Association (MALLA) through History book and CDs, two sets of calendar sales

Ministry of Natural Resources & Forestry (2012 and 2013) through the Fish and Wildlife Involvement Program

Mississippi Valley Conservation Authority (MCVA) printing support and water quality management

Local businesses for water testing (2016):

Manion's Sales & Service, Lonnie Watkins Tree Service, Joe Mumby Septic Tank Pumping, Storrington Septic Tank Pumping, F.L. Manion Ltd., Charles Tooley Construction.

Watersheds Canada: prizes at presentation meetings, subsidies for Natural Edge rehabilitation projects, grant writing and partnership for fish management

North Frontenac Township provided a toilet to the Malcolm Lake boat launch site and some maintenance support

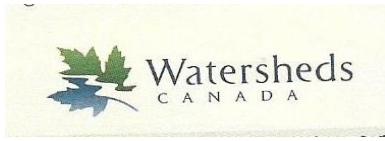
WORKING WITH OTHER AGENCIES

This Lake Plan document must be recognized by North Frontenac Township Council as a valid and important planning tool in its decision-making process. The MALLA Stewardship report is a community-driven, scientifically-based assessment of lake conditions for Malcolm and Ardoch Lakes. The plan sets out a series of recommendations and actions aimed at community members, township officials and environmental agencies. The LSC Stewardship Committee will need the co-operation of North Frontenac Township, Mississippi Valley Conservation Authority, Kingston Frontenac & Lennox & Addington Health Unit, Mississippi Rideau Septic System, Ministry of Natural Resources & Forestry and other agencies to implement the plan. Presentations to the Township and other relevant agencies will identify specifically which recommendations and actions need their support and involvement.



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NAEC
Graphic Arts
Class



THE MALLA ACTION PLAN

Objective	Recommendations
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1.0 Sense of Community

<p><i>To bring together the people of the lakes and build a common sense of ownership and responsibility for protecting the lakes, and surrounding environment beginning with implementing the Lake Stewardship Plan.</i></p>	<ul style="list-style-type: none"> • Community members continue to record family connections by writing memories or anecdotes of lake experiences and recording with photos (Include names, dates, and places) • Request that North Frontenac Council assist with preservation of lakes through appropriate planning policies and political actions • MALLA provide information to property owners and engage them in best management practices and long-term conservation options • MALLA regularly communicate with landowners to determine expectations, concerns, and identify any issues
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2.0 Water Quality and Water Levels

<p><i>To maintain and improve our current standard of good water quality and water level management.</i></p>	<ul style="list-style-type: none"> • Continue and enhance the water quality monitoring programs on the lakes as needed to provide an ongoing record of water quality parameters • Increase the lake community's level of knowledge and awareness of water quality issues • Reduce the negative impact of surface runoff • Work towards community awareness of water level management, to sustain natural ecosystems and to minimize risks from flooding or erosion.
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3.0 Fisheries and Fish Habitat

<p><i>To monitor fish and their habitats and take action to protect and ensure healthy populations and to provide a sustainable fishery for anglers.</i></p>	<ul style="list-style-type: none"> • Continue to pressure MNRF to protect fish habitats and increase enforcement presence • Continue to create new walleye spawning beds and regularly maintain existing ones
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4.0 Natural Environment

<p><i>To protect and enhance the ecosystems of our lakes to ensure a high quality environment for fish, wildlife, vegetation and people now and for the future.</i></p>	<ul style="list-style-type: none">• Educate landowners about the importance of healthy shoreline habitats and how to preserve and/or enhance their shorelines• Inventory and monitor key habitats• Protect shoreline and wetland habitats• Work towards achieving a balance of aquatic vegetation to support the ecological needs of the lake and allow for the continued human enjoyment of the lake• Request NF Township to ensure the maintenance of the MNRF recommended buffer (300 metres) around Ardoch Lake heron rookery when any permitted activities occur• Protect native species of plants• Monitor the status of key species• Establish and conduct an invasive species education campaign
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5.0 Social and Recreational

<p><i>To ensure the enjoyment of safe boating and other recreational activities on and around the lakes while respecting the desire for peace and tranquility.</i></p>	<ul style="list-style-type: none">• Work with Township Council to maintain and improve the boat launch at the Malcolm Lake site• Promote the safe operation of boats and report repeat offenders to OPP• Request that recreational carrying capacity be based upon the size of the lake• For safety and aesthetic concerns request that boat carrying capacity be considered as new development is added to the lakes• MALLA organize social activities for the membership giving opportunities for communication, education and building a sense of community
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6.0 Land Use and Development

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<p><i>To ensure that our development activities, landscaping practices and resource extractions are in keeping with the character of our social, physical and natural environment.</i></p>	<ul style="list-style-type: none">• That implementation of the Official Plan follows provincial guidelines for Water Quality Objectives, Wetland protection, Wildlife and Fisheries Management and considers Lake Plan recommendations• Request that areas of the Official Plan aim to protect our lakes by using a minimum lot size of one hectare, a minimum of 91 metre lot frontage, and land uses more than 150m from shore but which are physically or functionally related to the Waterfront Areas to follow waterfront requirements• Request that construction policies protect the integrity of the shoreline by minimizing the loss of native vegetation• Request that construction policies consider steepness of shoreline terrain in the determination of lot size, building envelopes, leaching bed locations, driveway locations, docking envelopes, and shoreline access points to minimize shoreline disturbance• Request from NF Township that the scale of development on lakes consider owners as year-round residents to better reflect future impact on phosphorous levels, and the aesthetic and recreational impact from factors such as boating and fishing• Maintain liaison with North Frontenac Township regarding potential development applications on Malcolm and Ardoch Lakes and any proposed changes in Official Plan policies or Zoning By-law provisions that pertain to lakefront and second tier (back lot) development• Monitor municipal land use decisions by requesting that MALLA be informed by the Township of all planning applications and decisions (severance, variance, rezoning, subdivision and other planning applications) for properties on and near Malcolm and Ardoch Lakes• Promote sustainable development by providing input to the NFT on municipal
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	<p>planning development decisions, through written comments and/or MALLA presence at municipal meetings</p> <ul style="list-style-type: none"> • In consultation with NFLAA a plan be developed for the determination of lake capacity for lakes within the jurisdiction • North Frontenac Township require Environmental Impact Studies to be conducted by independent qualified consultants at the expense of the applicant for large scale development
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7.0 Municipal Services

<p><i>To work with the township and other authorities to ensure the lake community receives an adequate level of attention to its needs for services and value for its tax contributions.</i></p>	<ul style="list-style-type: none"> • Work with the Township to ensure that the municipal taxation process reflects an equitable share of services • Work with Township Council and Health Unit to ensure maintenance of septic systems • A timeline be provided for voluntary septic inspection completion and proceed to mandatory process if targets are not met • Work with Township Council and emergency services to ensure there are facilities and resources to address lake users' needs
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The MALLA Action Plan sets out a specific list of actions to meet these recommendations. Based on priority and available resources, some of the actions are underway. Others are in the planning stages. Still others require volunteers to come forward to implement. Over the next year LSC will be recruiting volunteers, educating lake community members about their own role as stewards, monitoring the many areas already begun, and communicating about the Lake Plan implementation.



Photo courtesy of Brenda Martin