



City of Kawartha Lakes
Proposed Special Benefiting Project

Lake Dalrymple Management Plan

4 Year Project

Purpose:

Lake Dalrymple provides significant economic and environmental contributions to the City of Kawartha Lakes. In order to keep this lake (the 5th largest in the municipality) healthy and resilient, a science-based lake management planning project is being proposed. The primary purpose of this project is to work collaboratively with lake stakeholders towards obtaining a better understanding of the pressures on a lake and to determine priority management activities.

The planning process involves science-based lake and watershed studies, in conjunction with strategic partnerships across all areas of interest to facilitate plan development and implementation. Comprehensive monitoring of water quality, water quantity, and land use parameters will be undertaken over multiple years for each lake. This allows us to develop baseline documentation – or ‘state of the lake’ – as the foundation for developing management recommendations.

Background and detail:

The proposed Dalrymple Lake Management Plan encompasses research on the lake, its surrounding drainage areas, and its tributaries. The plan will be led by Kawartha Conservation in close partnership with the City of Kawartha Lakes and will be based on experiences learned through previous Lake Planning projects within the municipality.

Plan development typically involves contributions from volunteers, lake associations, First Nations, and a wide range of agencies, colleges, and universities. Program oversight will consist of a local ‘Lake Action Committee’ made up of local stakeholders and project partners with insight provided from a Science and Technical Committee.

Through comprehensive monitoring of water quality, water quantity, and land use parameters over four years for each lake, our research will identify the underlying sources and causes of lake degradation, for example: high nutrient and contaminant levels impacting water quality, excessive growth of aquatic vegetation, E.coli concentrations at public beaches, and blue-green algae blooms.

Project objectives:

- Implement and maintain for the duration of the study comprehensive water quality and water quantity sampling networks to provide a scientific basis to identify current and potential threats/stressors, hotspots, evaluate trends and key management issues, and identify options for priority actions.
- Provide a current and baseline scientific basis to support and inform municipal land use planning and policy tools within the City of Kawartha Lakes.
- Design and implement management activities to maintain or achieve Provincial Water Quality Objectives for the lake and its tributaries, as well to reduce beach closures and create greater confidence in the lake health in general.
- Protect and improve water quality for all uses, including as a source of drinking water.
- Foster community participation in the project and understanding of the Kawartha Lakes, their natural and historic heritage, and human impacts.
- Develop and coordinate the necessary partnerships for effective collaboration on all aspects of the planning process and plan implementation.
- Promote a greater dialogue and understanding of issues, conflicting needs, visions and resource uses.
- Identify specific items for ongoing monitoring and advanced university research, for example: quantifying impacts to the nearshore zone, identifying specific sources of pollution, considering impacts of climate change, and invasive species.

Lake Dalrymple Budget	Year 1	Year 2	Year 3	Year 4
Expenditures				
Direct labor	\$ -	\$4,500	\$4,500	\$ -
In-house expertise	33,000	44,000	44,000	51,000
Supplies	2,000	2,500	2,500	2,000
Laboratory fees	6,500	9,000	9,000	2,500
Equipment	36,500	1,500	1,000	500
Travel & Equipment	4,000	6,000	6,000	1,000
Project Management Fee	8,200	6,750	6,700	5,700
TOTAL	\$90,200	\$74,250	\$73,700	\$62,700
4 Year Project Total Cost \$300,850				

Year 1 Deliverables (First year of project; Year 1 of 4)

- Create the Lake Action Committee – a group of local stakeholders (e.g., local businesses, road associations, community clubs, etc.) and project partners (e.g., governments, resource managers, etc.) that meet on an ongoing basis (4 per year) to help focus lake management issues and opportunities.
- Implement a comprehensive water quality, water quantity, and land use sampling program within the lake, its tributaries, and its drainage basin.
 - Water quality sampling at 8 sites (4 on tributaries, 1 precipitation gauge, 3 on the lake) to understand contamination levels and to calculate loading rates of key lake health parameters such as: phosphorus, nitrogen, ammonium, sediments, temperature, and dissolved oxygen.
 - Water quantity sampling at 5 sites (4 on major inflow and outflows, 1 precipitation gauge) to track water level patterns and to develop the water budget for the lake.
 - Land use assessment to characterize major land use types in the 155 km² drainage basin and along the 34 km shoreline (e.g., urban vs. rural development, passive vs. active agriculture, woodlands, wetlands, etc.) through Ecological Land Classification.
- Aquatic resources sampling, including an assessment of habitat conditions along 34 km of shoreline and at 20 sites on inflow tributaries, to understand key threats to aquatic ecosystem health (e.g., invasive species, habitat fragmentation, etc.)
- A communications initiative that involves the creation of a dedicated Lake Dalrymple Management Plan webpage, social media posts, a public open house, and project factsheets to foster active participation from the local community.
- A year-end report that summarizes important activities and information related to the Lake Dalrymple Management Plan for distribution to local communities and project partners.

Annual Deliverables (Mid years of project; Year 2/3 of 4):

- Continuation of Lake Action Committee to help focus priority management recommendations.
- Continuation of water quality and quantity monitoring to help capture “average” and “atypical” conditions.
- Continuation of communications initiatives to increase profile of project, capture local issues and opportunities, and to disseminate lake health and management recommendations information.
- A year-end report that summarizes important activities and information related to the Lake Dalrymple Management Plan for distribution to local communities and project partners.

Year 4 Deliverables (Last year of project; Year 4 of 4):

- Continuation and conclusion of water quality and quantity monitoring to help capture “average” and “atypical” conditions.
- Publication of the Lake Dalrymple Watershed Characterization Report, a technical background resource that summarizes multiple years of lake studies.
- Publication of the Lake Dalrymple Management Plan, a science-based and community focused resource that provides recommended actions to maintain a healthy lake and watershed.
- Continuation of Lake Action Committee to help focus priority management recommendations.
- Continuation of communications initiatives to increase profile of project, capture local issues and opportunities, and to disseminate lake health and management recommendations information.