

Preface

The “Conservation Authorities Act” was created by the Ontario Provincial Legislature in 1946 to ensure the conservation, restoration and responsible management of our water, land and natural habitat through programs that balance human, environmental and economic needs. A Conservation Authority is a local autonomous organization established under the “Conservation Authorities Act, R.S.O. 1980”.

There are three fundamental principles of the Conservation Authority system:

Local Initiative

- The community must make the first move to establish an Authority.
- People living close to problems recognize them and seek solutions.
- Plans can be suited to the local economic and social situations.

Cost Sharing

- The community must be willing to make financial contributions before the government will constitute an Authority.
- The Authority does not exceed the financial resources of its jurisdiction.

Watershed Jurisdiction

- Authorities are formed on the basis of a natural watershed or a group of watersheds.
- Allows for the management of resources and handling of problems such as flood control on a complete and rational basis since water flow does not respect political boundaries.

Under the “Conservation Authorities Act, R.S.O. 1980”:

“The objects of an Authority are to establish and undertake in the area over which it has a jurisdiction, a program designed to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals.”

While Conservation Authorities have broad responsibilities for the management of renewable natural resources, they have specific powers in the area of water and related land management. The powers of Conservation Authorities are detailed in Sections 21 and 28 of the “Conservation Authorities Act” and two of them are unique to Conservation Authorities:

To study and investigate the watershed and to determine a program whereby the natural resources of the watershed may be conserved, restored, developed and managed. (Section 21(a)).

To control the flow of surface waters in order to prevent floods or pollution or to reduce the adverse effects thereof. (Section 21 (j)).

The water and related land management aspect of Conservation Authorities is further emphasized in the *Mandate and Role of the Conservation Authorities of Ontario* which states that;

“A primary responsibility of Conservation Authorities shall be to develop a program of water and related land management to prevent loss of life and minimize property damage from flooding and erosion in the area over which they have jurisdiction consistent with social, economic and environmental considerations.”

No two Conservation Authorities are exactly alike because their local focus and inherent flexibility allow them to promote and develop conservation works consistent with the environment and development patterns of their region.

The Lakehead Region Conservation Authority (LRCA) is one of the 36 Conservation Authorities in Ontario. The Lakehead Region Conservation Authority is the most westerly Conservation Authority in the province and is one of five in the northern half of the province. The nearest Conservation Authority in the province is the Sault Ste. Marie Region Conservation Authority.

The Lakehead Region Conservation Authority was constituted on January 1, 1963 under the “Conservation Authorities Act” by Order-in-Council 254/63. The Lakehead Region Conservation Authority superseded the Neebing Valley Conservation Authority which had been constituted in 1954. The Neebing Authority was formed at the request of the City of Fort William because of flooding problems on the Neebing River. The “Conservation Authorities Act” was amended at the time to allow the formation of Authorities in territorial districts (i.e. District of Thunder Bay) and the counties found in southern Ontario.

As stated previously, Conservation Authorities are generally based on a natural watershed or a group of watersheds. The Lakehead Region Conservation Authority however, is an exception because its jurisdiction covers only the lower portions of virtually all of its sub-watersheds. The boundary of the Lakehead Region Conservation Authority corresponds to the boundaries of its member Municipalities, yet most of the watercourses have their sources and much of their watersheds beyond these Municipalities in areas classified as unorganized territory. The Lakehead Region Conservation Authority has attempted, on several occasions, to expand its jurisdiction into unorganized areas so that it could manage greater portions of its watersheds. These attempts (1969, 1974 and 1978) were unsuccessful because The “Conservation Authorities Act” contains no provision for the inclusion of unorganized territory in an Authority. Territories that are not covered by a Conservation Authority, in the province of Ontario, fall under the jurisdiction of the Ontario Ministry of Natural Resources.

The mandate of the Lakehead Region Conservation Authority is to ensure the conservation, restoration and responsible management of water, land and natural habitats through programs that balance human, environmental and economic needs. This mandate will be met by successfully achieving the following objectives:

- To ensure rivers, lakes and streams are safeguarded, managed and restored;
- To protect, manage and restore Ontario's woodlands, wetlands and natural habitats;
- To develop programs that protect life and property from natural hazards, such as flooding and erosion;
- To provide opportunities for the public to experience our natural environment.

The Lakehead Region Conservation Authority provides many services and is responsible for:

- Protecting life and property from flooding and erosion.
- Restoring and conserving aquatic and natural habitats.
- Providing advice and counsel to all levels of public and government on the responsible management of water.

In addition to these services the Lakehead Region Conservation Authority also operates the following Conservation Areas; Hurkett Cove, MacKenzie Point, Silver Harbour, Mission Island Marsh, Cascades, Hazelwood Lake, Little Trout Bay, and Cedar Falls. The Authority also carries out forest management practices under the Managed Forest Tax Incentive Program (MFTIP) for the Mill's Block, Wishart and William's Forests. The Neebing-McIntyre Floodway is owned, managed and maintained by the Lakehead Region Conservation Authority.

The History of Source Protection

The United Nations warns that if current trends of wasting and polluting freshwater continue, two out of every three people on earth will suffer moderate to severe water shortages in just over two decades from now. In recent years, outbreaks of waterborne diseases in Walkerton, Ontario and North Battleford, Saskatchewan, have revealed how easily water can become contaminated and how damaging the consequences can be. Protection of the source of drinking water works to ensure that a clean and safe environment is available for future generations. Protecting water at the source is an important way to ensure the health of humans, ecosystems and economies. Our actions today affect the quantity and quality of water available for future uses. Protecting sources of water is essential to ensuring human health.

In May 2000, water contaminated by E. coli bacteria made its way into the Municipal water system of the town of Walkerton. Within days, seven people had died and thousands of others had become ill from drinking the contaminated water. As a result, the provincial government convened an inquiry, which was led by Associate Chief Justice of Ontario Dennis O'Connor of the Ontario Court of Appeal. In 2002, Justice O'Connor released two reports. Part One of the "Walkerton Report", described the events that took place in the community and the series of human and system failures that led to the water becoming contaminated. The Report made a series of recommendations relating to the specifics of the Walkerton tragedy. Part Two of the "Walkerton Report", took a more general look at water safety across the province and the steps needed to prevent a similar event from occurring

elsewhere. The Report outlined 93 recommendations on everything from training procedures for those responsible for water treatment to source water protection.

In response to the “Walkerton Report”, in 2005 the Ontario government began developing legislation that requires the development of Source Water Protection Plans for all watersheds in the province. The development of this legislation, the “Clean Water Act, 2006”, was guided by the recommendations of the “Walkerton Report”, as well as several advisory panels of public and private sector experts. During the development of the legislation, Conservation Authorities were contracted throughout the province to carry out scientific studies and background work. With their history of watershed planning, Conservation Authorities became a valuable resource to the Ministry of Environment and have under Ontario Regulation 288/07, now appointed Source Protection Committees to assist in the development of a Source Protection Plan. The Source Protection Committee is represented by a variety of sectors including Municipal, Economic and Industry, and Public and Other Interests. The Source Protection Committee will oversee the process of gathering information about the watershed, assessing threats and assembling this information into a comprehensive Source Protection Plan. It is expected to take at least three to five years to develop the Source Protection Plan that will be submitted to the Minister of Environment for final approval. Once approved, recommendations in the Plan will then be implemented. With the “Clean Water Act, 2006” in place, the provincial government is continuing to develop Regulations and guidance documents that support the “Clean Water Act, 2006” and ensure the ongoing protection of the source of the province’s drinking water.

A “Source Protection Plan” outlines the steps that Municipalities, the province, landowners, industries, farmers and others need to take to keep water clean before it enters our streams, rivers and groundwater systems. The watershed-based plans will identify the threats to water quality and water supply, identify vulnerable areas and then propose steps to reduce the risks to drinking water. The public process of developing a Source Protection Plan will involve watershed residents, Municipalities, Conservation Authorities and other agencies.

The goal of Source Protection Planning is to contribute to the environmental, social and economic well being of the people of the province of Ontario. Source Water Protection is just one of many barriers used in a multi-barrier approach to ensuring safe drinking water, as recommended by the “Walkerton Report”.

The Watershed Characterization Report is the first step in the preparation of the Source Protection Plan. Watershed characterization is a component of the Assessment Report, which will be used to develop the strategies that will comprise the Source Protection Plan. The Watershed Characterization Report provides an assessment and summary of the watershed’s natural and anthropogenic (of human origin) characteristics. It was developed by compiling available background information for the area including natural characteristics, population distribution and land uses. Several tables, figures and maps have been provided to further illustrate much of this information. As in all watershed

management activities, source protection will use a broad scale, interdisciplinary approach to managing and protecting sources of drinking water. The development of the Watershed Characterization Report is providing the opportunity to realize and develop working relationships with key stakeholders and partners for their contribution to the development of the Assessment Report and the Source Protection Plan.

1.0 Introduction

What is Drinking Water Source Water Protection?

Protecting drinking water sources is the first step in a multi-barrier approach to ensuring safe drinking water. Source Protection is the process to accomplish the following;

- i. assess the current conditions of sources of drinking water and threats to their condition,
- ii. to undertake land-use planning to ensure appropriate land use decisions, so future development does not threaten drinking water sources,
- iii. take actions to prevent or minimize existing threats/impacts.

Drinking Water Source Protection requires a range of technical activities and studies to lay the groundwork for the development of Source Protection Plans.

Drinking Water Source Protection helps safeguard human health by ensuring that current and future sources of drinking water in Ontario's lakes, rivers and groundwater are protected from potential contamination and depletion. This includes recognizing or reinforcing existing management practices that help protect the quality and quantity of source water. The costs to clean-up a drinking water supply following a spill or other contamination are many times greater than the costs of prevention. Often the Municipality and province are required to cover the costs of making drinking water safe.

Safeguarding source water also has economic and environmental co-benefits, however, the provincial Drinking Water Source Protection framework focuses on protecting human health.

In 2003, the Minister of Environment appointed a Technical Expert's Committee (TEC) to provide advice to the government on a comprehensive set of recommendations relating to the "threats assessment framework" envisioned in the provincial government's proposed source protection legislation. The framework draws upon the notion that sources of drinking water can be protected if communities identify threats and assess and manage the various risks to drinking water sources in their watersheds.

The Ontario Ministry of Environment has enacted legislation for the protection of drinking water for the citizens of the province. This legislation offers the powers of protection for areas of source water to ensure a clean drinking water source for many generations. This legislation received Royal Assent in October 2006. The time period leading up to the "Clean Water Act" legislation provided an opportunity for stakeholders to work collaboratively on preliminary foundation work essential to ensure watershed assessment activities will contribute to meeting the anticipated requirements in the legislation.

In order to initiate specific activities aimed at protecting the sources of drinking water within a watershed, it is necessary to understand the physical, sociological and economic characteristics of the watershed. The purpose of the Watershed Characterization Report portion of the Assessment Report is to achieve a sufficient overview understanding of the

characteristics that can contribute to the threat, vulnerability and risk to source water. In most cases, it was not necessary to collect any new data to undertake the initial Watershed Characterization Report. Existing available information and data was compiled and analyzed with new information being added during the process as it was realized. During the compilation and development of the report the best available data for the Lakehead Source Protection Area was used. In addition to narratives, a series of mapping products are included in the Watershed Characterization Report.

1.1 Knowledge and Data Gaps

Data gaps often limit the ability to draw conclusions regarding the state of the Lakehead Source Protection Area or the more detailed investigations to assess vulnerability, threats and ultimately risk. Data gaps can range from the data not being available at all to data that is incomplete, inadequate or inaccurate for its designed purpose. For example, data that is not complete or accurate, out of date, too sparse, or poorly geo-referenced (spatial data), to such an extent that the data is unusable, or requires highly involved data improvement efforts, can be considered a data gap. There are two types of data gaps, tabular and spatial.

Knowledge gaps occur when there is a lack of referenced material or expertise to assess certain characteristics of a specific watershed. Any data and knowledge gaps identified for the Lakehead Source Protection Area Watershed Characterization Report will be recorded in Section 2.8.

Data and information management is a critical component of source protection and is required to meet objectives and mandates of both local planning organizations and the provincial government.

Due to some information being unavailable, incomplete, inadequate or inaccurate within the Lakehead Source Protection Area, data gaps been identified within the Watershed Characterization Report. As the process of Source Protection Planning continues, new sources of information or data may be realized. Technical studies as a result of Source Protection Planning may also bring forth new information. The Watershed Characterization Report is a “living document” which will be open to amendments and inclusions of future data or knowledge. New or improved data or information will be included in the Assessment Report when applicable or when not applicable directly to the Assessment Report, the data or information will be appended as an Annex to the Lakehead Source Protection Area Watershed Characterization Report.