

Chapter 1

Background

1.1 Introduction

The Upper Thames River watershed is situated in a highly developed part of southern Ontario and, as such, faces pressures from urban and rural land uses (see Figure 1). The water quality of the Thames and its tributaries is impacted by drainage practices, runoff, spills and bank alterations, among others. Much of the forest cover in the watershed has been cleared for agricultural fields or urban development. The forests have also been impacted by alien species and over-logging.



The North Thames River in St. Marys

Despite these pressures, the Thames remains one of the most biologically diverse rivers in Canada. The river is home to over 88 species of fish and many species-at-risk including the Eastern Spiny Softshell Turtle and the Queen Snake. The entire Thames River system (including tributaries) was recently designated a Canadian Heritage River based on its rich cultural heritage and diverse recreational opportunities.

There has been growing interest from municipalities and watershed residents in understanding the health of the watersheds in which they live, work and play. Public awareness of environmental conditions has been

heightened by several recent issues including intensification in the livestock industry, low water conditions, and the Walkerton contaminated water tragedy. This has resulted in an increased demand for environmental information and ‘state-of-the-resource’ reports that are meaningful to the public.

Over the decades, a great deal of data has been collected by conservation authorities and the provincial and federal governments, all of whom are in the business of monitoring and reporting on environmental conditions. While there has been relative success with respect to data collection and storage, there has been less success in sharing, analysis and reporting.

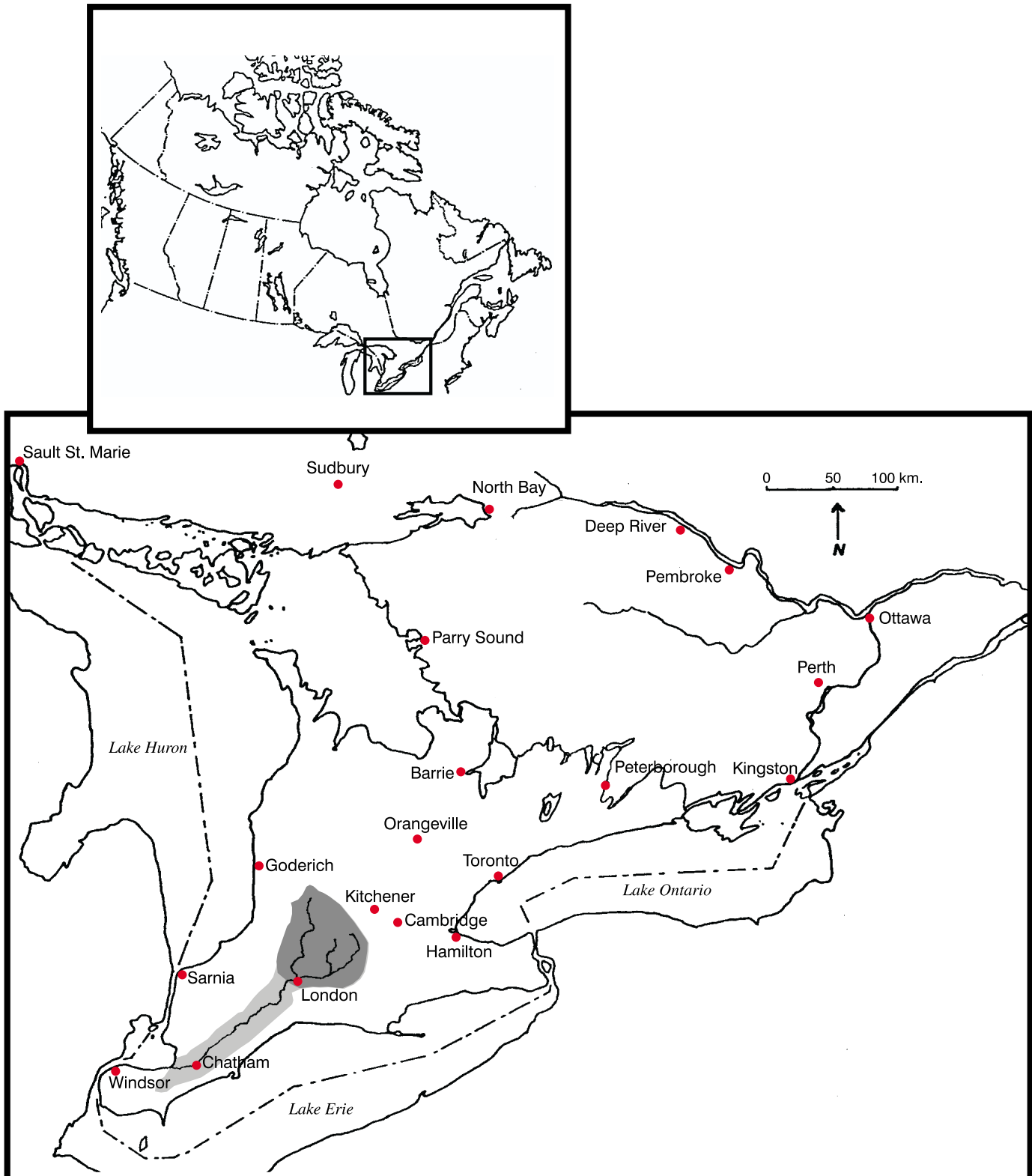
There is a need to integrate and simplify environmental information and make it widely available to the public. There is also a need to document current conditions as an established bench mark from which future changes can be tracked.

The report card format is one way of presenting information. Several government and non-governmental organizations have produced them over the last decade. For example, a non-profit group called Watershed Report Card Inc. based out of Port Elgin, Ontario has produced a kit for community groups to inventory their watershed, assess its health and determine an action plan (see www.watershedreportcard.org). Other groups such as health units, conservation authorities and other environmental agencies in the United States and Canada have also used the report card format.

Despite growing interest in using report cards, there are no recognized standards, especially regarding how grades are determined. In fact, many agencies or groups avoid grading and comparing watersheds or regions because they cannot reach consensus on which parameters or indicators should be used.

The UTRCA felt it was important to proceed with integrating available information to produce a grading system that would provide a best estimate of surface water quality and forest health conditions in the Upper Thames watershed. Targeting these two elements was considered the best way to meet the information needs of the UTRCA.

Figure 1. Map of the Upper Thames River Watershed in Southern Ontario



1.2 The Process

The following is a brief synopsis of the steps that were undertaken to complete the watershed report cards. More detailed descriptions of the methodology are included in Chapters 2 and 3.

Select Subwatershed Scale

The Upper Thames watershed was divided into 28 subwatersheds. These were deemed as appropriately sized land areas for assessing environmental information, monitoring environmental change, and targeting rehabilitation work. Subwatersheds are either major tributaries or sections of the main branches of the Thames River. Figure 2 illustrates the subwatershed boundaries.

Compile Resource Information

Available resource information was compiled from sources such as the Ministry of the Environment's Provincial Water Quality Monitoring Program, the UTRCA benthic study program, wetland records, and National Topographic Systems mapping. Much of this information is now available through Geographic Information Systems (GIS).

Select Indicators and Assign Grades

Indicators to measure forest and surface water quality were selected from an extensive list of parameters. The range of data was examined to assign a point system to each indicator. The point system assigned to specific data values was allotted with consideration to conditions in southwestern Ontario, existing standards or ideals and the statistical spread of the data. The indicators were each weighted and added together to provide an overall forest conditions or water quality score. The scores were then converted to letter grades from A to F.



The Thames River near Killworth

Develop Watershed Report Cards

A watershed report card format was developed to present the data and explain the grades. The report cards also provided an avenue to present additional watershed information in a concise and understandable way. A copy of each watershed report card is included in Appendix B.

Implement UTRCA Technical Team

A UTRCA team was created consisting of technical staff in the areas of hydrology, environmental planning and regulations, water quality, land management, soil conservation, environmental monitoring, forestry, fisheries, communications, and GIS. The team reviewed the data and grades for each subwatershed and contributed information to develop a sample list of actions that could be undertaken to improve conditions.

Conduct External Peer Review

A peer review session was held at the UTRCA to gather input from a range of environmental organizations and agencies, including the following:

- City of London, Planning Department
- Environmental Consultants
- Environmental Farm Plan Program
- Friends of Stoney Creek
- Maitland Valley Conservation Authority
- Ontario Federation of Anglers and Hunters
- Ontario Ministry of Agriculture, Food, and Rural Affairs
- Ontario Ministry of the Environment
- Ontario Ministry of Natural Resources
- Ontario Federation of Agriculture
- University of Western Ontario, Geography Department

Representatives provided valuable input to various aspects of the watershed report cards including: type of watershed information provided, how the grades were determined, design and format, future information needs, recommendations for local actions, ideas for distribution, etc.

Communication and Distribution

A presentation of this project was made to all municipalities within the Upper Thames River watershed.

The watershed report cards were finalized and a communication and distribution plan was developed.

Figure 2. Map of 28 Subwatersheds of the Upper Thames River Watershed

