

**Grand River Source Protection Area**

**APPROVED ASSESSMENT REPORT**

*Prepared by:*  
*Lake Erie Region Source Protection Committee*

*Under the Clean Water Act, 2006*  
*(Ontario Regulation 287/07)*

**February 9, 2022**

This project has received funding support from the Government of Ontario.



## SECTION 34 DOCUMENT AMENDMENTS

The following two tables provide a high-level summary of amendments made to the Grand River Assessment Report, under Ontario Regulation 287/07, Section 34.

Amendments were made using the 2017 Director’s Technical Rules and Tables of Drinking Water Threats. Sections of the Assessment Report that were not updated as part of this Section 34 amendment may refer to the 2009 versions of the Director’s Technical Rules and Tables of Drinking Water Threats.

SECTION NUMBER	DESCRIPTION OF DRINKING WATER SYSTEM AMENDMENT
<b>Section 1</b> Introduction	Executive Summary: Updated to reflect changes in content referenced in the body of the assessment report
<b>Section 5</b> Dufferin County	Addition of Well PW5 to Grand Valley Drinking Water System in the Town of Grand Valley. A WHPA, vulnerability scoring and threats assessment was completed for new well PW5.
<b>Section 26</b> Conclusions	Updates to reflect changes to municipal systems within the assessment report
<b>Section 27</b> References	Updated to reflect changes in content referenced in the body of the assessment report

Assessment Report Section	New or Amended Map IDs
<b>Section 2</b> Watershed Characterization	Map 2-17
<b>Section 5</b> Dufferin County	Maps 5-1 and 5-10 to 5-19
<b>Section 18</b> Tier 2 Water Budget Results	Map 18-2

## SECTION 51 DOCUMENT AMENDMENTS

Amendments to this document, made under Ontario Regulation 287/07, Section 51 following approval on November 25, 2015, are summarized below:

<b>DATE AMENDMENT POSTED</b>	<b>DESCRIPTION OF AMENDMENT</b>
February 21, 2017	Identification of threats tables and associated text updated to reflect implementation of new provincial threats tool ( <a href="http://www.swpip.ca">www.swpip.ca</a> )
	Improved colouring for Dunnville Intake Protection Zone Vulnerability maps (Maps 17-3, 17-9, 17-10, 17-11)
	Replaced Dunnville Emergency Intake IPZ-3 Percent Impervious Surfaces Map (3 of 3). (Map 17-23).
	Improved colouring for Waterloo North WHPA-E Inset 2 (Map 9-24)

## **EXECUTIVE SUMMARY**

The Grand River Source Protection Area Assessment Report was submitted to the Ministry of the Environment on April 30, 2012, and received approval on August 16, 2012. Since that time, the Assessment Report has been revised, updated and approved a number of times to incorporate new information made available over the years. Further revisions and new additions have since been made since the Assessment Report was last approved. These revisions are included in the fifth draft Updated Assessment Report which was posted for a 30-day public consultation period from June 21 to July 20, 2021. Comments received during the public consultation period are summarized in **Appendix A**.

The Assessment Report summarizes the technical studies undertaken in the Grand River Source Protection Area (watershed) to delineate areas around municipal drinking water sources that are most vulnerable to contamination and overuse. Within these vulnerable areas, historical, existing and possible future land use activities were identified that could pose a threat to municipal water sources. Technical studies include a characterization of the human and physical geography of the watershed, a water budget and water quantity stress assessment, an assessment of groundwater and surface water vulnerability, a land use activity inventory, and an evaluation of existing water quality and quantity issues.

The Assessment Report provides an introduction to the Source Protection Planning process, and the roles and responsibilities of the Lake Erie Region Source Protection Committee, municipalities and conservation authorities. Section 2 of the Assessment Report provides a summary of the human and physical geography of the Grand River watershed area, section 3 summarizes water quality threat assessment methodology. Sections 4 through 16 summarize the studies undertaken for the municipal residential drinking water systems in the Counties of Grey, Dufferin, Wellington, Perth, Oxford, Brant, Haldimand and the Cities of Brantford, Guelph, Hamilton, the Regional Municipalities of Waterloo and Halton, and Six Nations of the Grand River. These sections include the delineation of vulnerable areas (groundwater Wellhead Protection Areas and surface water Intake Protection Zones) and summaries of the threats assessment and issues evaluation in each vulnerable area. Section 17 and 18 summarize the Tier 3 water budget framework and methods and Tier 2 water budget results, respectively. Sections 19 through 23 summarize the Tier 3 studies undertaken for Region of Waterloo, Whitemans Creek, Orangeville, Centre Wellington and Halton Hills.

Sections 24 and 25 provide information on how climate change in the area may affect the results of the Assessment Report and how Great Lakes agreements were considered as part of the work undertaken. Section 26 summarizes the findings in the Assessment Report and provides an outline of the next steps in developing a source protection plan for the Grand River Source Protection Area.

The Grand River watershed area contains 50 municipal drinking water systems and one system that services a First Nations reserve.

One system is located in the County of Grey in the Grand River watershed. The community of Dundalk in the Township of Southgate has a groundwater system that serves approximately 1,700 people (2017).

Three systems are located in the County of Dufferin in the Grand River watershed in the communities of Waldemar, Grand Valley and Marsville, all of which are groundwater systems. Combined, the systems serve 2,027 people (Waldemar 342, 2009; Grand Valley 2100, 2017; Marsville 85, 2017), the majority of which are in Grand Valley. The Town of Shelburne, located in the South Georgian Bay Lake Simcoe Source Protection Region has installed two drinking water supply wells in the Township of Melancthon within the Grand River watershed. This well supplies water to the Town of Shelburne.

Wellington County has six municipal residential drinking water systems in the communities of Arthur, Drayton, Moorefield, Elora/Fergus, Rockwood and Hamilton Drive (North of Guelph). All of these systems rely on groundwater sources. In total, approximately 27,588 rely on municipal water supplies in Wellington County.

The City of Guelph Waterworks comprises of 21 groundwater wells, the Glen Collector, which collects shallow groundwater from the overburden, and an intake on the Eramosa River to help recharge the Glen Collector system. At a population of approximately 135,000 (2017), Guelph is one of the largest cities in Canada to almost exclusively depend on groundwater for its potable water supply.

The Region of Waterloo operates a total of 24 municipal drinking water systems that serve a total population of approximately 556,600 (2017). The Integrated Urban System (IUS) – an interconnected network of wells, a surface water intake on the Grand River in Kitchener, reservoirs, and pumping stations – supplies water to approximately 517,030 people living in the communities of Cambridge, Kitchener, Waterloo, Elmira, New Hamburg and St. Jacobs (2017). This interconnected system is made of seven municipal drinking water systems. Fifteen (15) smaller water supply systems provide water to settlement areas in the townships. As well, the Region of Waterloo has two wellfields that are not currently active. In all, groundwater is extracted from 132 wells throughout the Region and one surface water intake. Together these sources are capable of supplying approximately 279,000 cubic metres of water a day.

Perth County has one system in the Grand River watershed; Milverton is a groundwater system that serves 1,750 people. Oxford has three groundwater systems that serve the communities of Bright, Drumbo and Plattsville for a total population of approximately 3,480 (2017). The City of Hamilton operates one groundwater system in the Grand River watershed. This system is known as the Lynden Communal Well System FDL01 and serves 380 people (2017).

The County of Brant has four municipal residential systems in the Grand River watershed area that draw from groundwater sources. These systems are the Airport, Mount Pleasant, St. George, and Paris (including the Bethel Road site) Well Supply systems. In total, these systems serve 18,683 residents (2017).

The City of Brantford has one large municipal residential drinking water system, known as the Holmedale Water Treatment Plant, which draws surface water from the Grand River. The system serves the 99,000 residents of the City of Brantford and draws an average annual of 31,446 m<sup>3</sup>/day (2017).

The Six Nations of the Grand River owns and operates the Ohsweken water system, which consists of one water treatment plant and one water distribution system. The plant has a design capacity of 1,040 m<sup>3</sup>/day and serves a population of approximately 2,000. The intake for this system draws water from the Grand River at Ohsweken just upstream of the Chiefswood Road crossing.

One municipal residential drinking water system is located in the portion of Haldimand County that falls in the Grand River watershed area. The Dunnville water system draws water from Lake Erie and serves 5,729 residents. The Dunnville water system has an emergency in-take located in the Grand River.

The findings of the Tier 2 Water Budget and Risk Assessment studies (AquaResource, 2009b) indicate that ten municipal water systems require additional Tier 3 Water Quantity Risk Assessments: Elora/Fergus in the Township of Wellington Centre; Rockwood and Hamilton Drive in the Township of Guelph/Eramosa; the City of Guelph system including the Eramosa intake; Elmira, West Montrose,

Conestogo Plains, and the Integrated Urban System in the Regional Municipality of Waterloo; and Bright in the County of Oxford. The subwatersheds within which these water supplies were assessed as having either the potential for moderate or significant stress under current or future conditions.

Within the Grand River watershed, Tier 3 studies have been completed for municipal drinking water systems within the City of Guelph, Guelph/Eramosa Township (GGET), the Region of Waterloo, the Bethel Wellfield in the County of Brant, the Bright Wellfield in Oxford County, and the Township of Centre Wellington. Further information on the Region of Waterloo Tier 3 study, the Whitemans Creek Tier 3 study and the Centre Wellington Tier 3 study is found in Chapters 19,20 and 22, respectively. The results of the GGET Tier 3 study will be incorporated into the assessment report through future updates.

The vulnerable areas in the Waterloo Tier 3 Assessment are represented by four WHPA-Qs. The consumptive water users and potential reductions to groundwater recharge within the WHPA-Qs were not classified as Significant or Moderate water quantity threats, therefore no water quantity threats were identified within the WHPA-Qs.

A Tier 3 Assessment was completed for the Centre Wellington (Fergus and Elora) drinking water system. A WHPA-Q was delineated surrounding the Centre Wellington municipal wells and around other water takers in the portions of neighbouring townships of Woolwich, East Garafraxa, Mapleton, Guelph/Eramosa, Wellington North and Towns of Grand Valley and Erin. The Centre Wellington WHPA-Q is assigned a significant risk level, therefore water quantity threats were identified in the WHPA-Q.

Tier 3 Assessments were completed for the Town of Halton Hills and the Town of Orangeville. Although the Town of Halton Hills and the Town of Orangeville do not have wells located within the Grand River Watershed, the Wellhead Protection Areas for Quantity extends into the Grand River Source Protection Area.

Threats relating to excavation activities below the water table that breach the confining layer protecting an aquifer for drinking water source are not currently identified as activities that may be a threat to drinking water. The Lake Erie Region Source Protection Committee has urged the Minister of the Environment and the Director of the Source Protection Programs Branch to add excavation that breaches the aquitard protecting a municipal drinking water supply aquifer to the list of activities that are prescribed drinking water threats. The letters sent to the Ministry as well as Ministry's response are attached in **Appendix C**.

The results of the technical studies have been used to develop policies to protect sources of municipal drinking water. These policies have been developed by municipalities, conservation authorities, property and business owners, farmers, industry, health officials, community groups and others working together to develop a fair, practical and implementable Source Protection Plan. Public input and consultation has played a significant role throughout the process.

***Note: In June 2014, the Ministry of the Environment changed its name to the Ministry of the Environment and Climate Change, and in June 2018, to the Ministry of the Environment, Conservation and Parks. In June 2014, the Ministry of Natural Resources changed its name to the Ministry of Natural Resources and Forestry, and in June 2021, was re-organized into the Ministry of Northern Development, Mines, Natural Resources and Forestry. The new and former names of these Ministries are used within this document.***

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## 1.0 INTRODUCTION

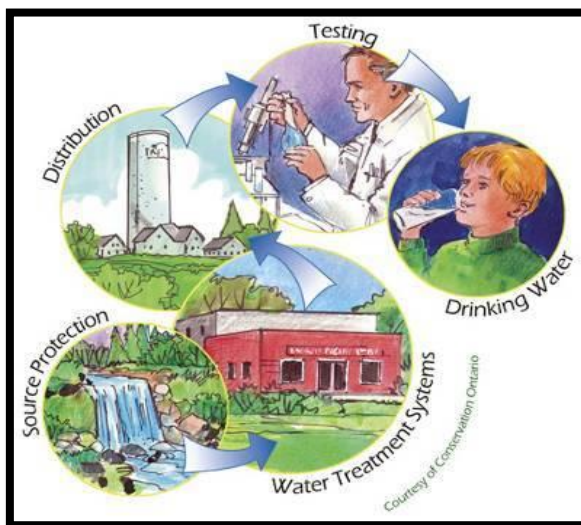
Following the public inquiry into the Walkerton drinking water crisis in May 2000, Justice Dennis O'Connor released a report in 2002 containing 121 recommendations for the protection of drinking water in Ontario. Since the release of the recommendations, the Government of Ontario has introduced legislation to safeguard drinking water from the source to the tap, including the *Clean Water Act* in 2006. The Act provides a framework for the development and implementation of local, watershed-based source protection plans, and is intended to implement the drinking water source protection recommendations made by Justice Dennis O'Connor in Part II of the Walkerton Inquiry Report. The Act came into effect in July 2007, along with the first five associated regulations.

The intent of the *Clean Water Act, 2006* is to ensure that communities are able to protect their municipal drinking water supplies now and in the future from overuse and contamination. It sets out a risk-based process on a watershed basis to identify vulnerable areas and associated drinking water threats and issues. It requires the development of policies and programs to reduce or eliminate the risk posed by significant threats to sources of municipal drinking water through science-based source protection plans.

Source Protection Committees are working in partnership with municipalities, Conservation Authorities, water users, property owners, the Ontario Ministry of the Environment, Conservation and Parks (MECP), Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNR), and other stakeholders to facilitate the update of local, science based source protection plans.

The *Clean Water Act, 2006* and Drinking Water Source Protection are one component of a multi-barrier approach to protecting drinking water supplies in Ontario. The five steps in the multi-barrier approach include:

- **Source water protection**
- Adequate treatment
- Secure distribution system
- Monitoring and warning systems
- Well thought-out responses to adverse conditions



After the Walkerton Inquiry, the Government of Ontario enacted the *Safe Drinking Water Act, 2002* which provides new requirements and rules for the treatment, distribution and testing of municipal drinking water supplies. Together, the *Clean Water Act, 2006* and *Safe Drinking Water Act, 2002* along with their associated regulations, provide the legislative and regulatory framework to implement the multi-barrier approach to municipal drinking water protection in Ontario.

The protection of municipal drinking water supplies through the *Clean Water Act, 2006* is one piece of a much broader environmental protection framework in Ontario. Water resources in Ontario are protected directly and indirectly through the federal and provincial governments, municipalities, conservation authorities and public health units. These agencies are responsible for protecting and improving water quality, water quantity and aquatic habitats, providing land use planning and development rules to ensure that water resources are not negatively affected, providing flood management and responses to low water availability, and many others. For more information on how water resources are protected in Ontario, please visit [www.ontario.ca/page/ministry-environment-conservation-parks](http://www.ontario.ca/page/ministry-environment-conservation-parks) or call 1-800-565-4923.

## **1.1 Source Protection Planning Process**

The key objectives of this process are the completion of science-based Assessment Reports that identify the risks to municipal drinking water sources, and locally-developed Source Protection Plans that put policies in place to reduce the risks to protect current and future sources of drinking water.

Since 2005, municipalities and conservation authorities have been undertaking studies to delineate areas around municipal drinking water sources that are most vulnerable to contamination and overuse. Within these vulnerable areas, technical studies have identified historical, existing and possible future land use activities that are or could pose a threat to municipal water sources. This Assessment Report is a compilation of the findings of the technical studies undertaken in the Grand River Source Protection Area (watershed area).

The draft Grand River Draft Assessment Report was the first version of the report made available for public consultation in 2010. Several rounds of consultation and revisions followed until it was approved by the Ministry of the Environment in 2012. Since that time, the Assessment Report has been revised, updated and approved a number of times to incorporate new information made available over the years. Further revisions and new additions have since been made since the Assessment Report was last approved. These revisions are included in the fifth draft Updated Assessment Report which was posted for a 30-day public consultation period from June 21 to July 20, 2021. Comments received during the public consultation period are summarized in **Appendix A**.

The Source Protection Plan is a document that contains policies to protect sources of drinking water against threats identified in the Assessment Report. The Plan sets out:

- how the risks posed by drinking water threats will be reduced or eliminated;
- policy, threat and issues monitoring programs;
- who is responsible for taking action;
- timelines for implementing the policies and programs; and
- how progress will be measured.

The task of plan development and update involved municipalities, conservation authorities, property and business owners, farmers, industry, health officials, community groups and others working together to develop a fair, practical and implementable Source Protection Plan. Public input and consultation played a significant role throughout the process.

Following Source Protection Plan approval, annual progress reports on implementation are required. Implementation of the Source Protection Plan is led by municipalities and provincial agencies. In some cases, conservation authorities, public health units, or other organizations may be involved in implementing policies in the Source Protection Plans. The implementers use a range of voluntary and regulatory programs and tools, including outreach and education; incentive programs; land use

planning (zoning by-laws, and Official Plans); new or amended provincial instruments; Risk Management Plans; and prohibition. Actions to reduce the risk posed by activities found to be significant threats are mandatory, since the *Clean Water Act, 2006* requires that all identified significant threats cease to be significant.

## 1.2 Source Protection Authorities and Regions

The province has organized the Source Protection Program using watershed boundaries, rather than municipal or other jurisdictions. The watershed boundary is the most appropriate scale for water management, since both groundwater and surface water flow across political boundaries. For Source Protection planning purposes, the watershed is referred to as a Source Protection Area under the *Clean Water Act, 2006*. The Grand River watershed is called the Grand River Source Protection Area. Similarly, Conservation Authorities are referred to as Source Protection Authorities under the *Clean Water Act, 2006* and are responsible for facilitating and supporting the development and update of source protection plans.

For the purposes of source protection, the Grand River Source Protection Authority is partnered with the Catfish Creek Source Protection Authority, Kettle Creek Source Protection Authority and Long Point Region Source Protection Authority to create the Lake Erie Source Protection Region. The Lake Erie Source Protection Region is one of 19 Regions established across the province. The Grand River Source Protection Authority acts as the lead Source Protection Authority in the Lake Erie Region.

## 1.3 Source Protection Committee

In the Grand River Source Protection Area, the Source Protection Planning process is being led by a multi-stakeholder steering committee called the Lake Erie Region Source Protection Committee. The Committee was formed in November 2007, and met monthly until the Proposed Grand River Source Protection Plan was submitted to the Ministry of the Environment in January 2013. Since then the Committee has continued to meet on a quarterly basis. The Committee is responsible for directing the development and update of the Assessment Reports and Source Protection Plans for each of the four Source Protection Areas in the Lake Erie Region. The list of current and past members is summarized in **Table 1-1**.

<b>Name</b>	<b>Seat Held</b>	<b>Appointment</b>	<b>Joined</b>	<b>Resigned</b>
Wendy Wright-Cascaden	Chair	Minister of the Environment and Climate Change	Nov, 2016	-
Wendy Wright-Cascaden	Acting Chair	Lake Erie Region Source Protection Committee	Sep, 2015	Nov, 2016
Craig Ashbaugh	Chair	Minister of the Environment	Nov, 2007	Jul, 2015
Cassandra Banting	Municipal	Perth, Oxford	May, 2019	May 2021
Weylin Bomberry	First Nations	Six Nations of the Grand River	Oct, 2019	Oct, 2020
Peter Busatto	Municipal	City of Guelph	Nov, 2012	Sep, 2013
Brad Carberry	Agriculture	Agricultural Community	Aug, 2017	Jun, 2021
Marguerite Ceschi-Smith	Public Interest	Grand River Source Protection Authority	Nov, 2007	Sep, 2014
Howard Cornwell	Municipal	Perth, Oxford	Nov, 2007	Apr, 2019
Alan Dale	Public Interest	Grand River Source Protection Authority	Jan, 2012	-
Linda Dickson	Public Interest	Grand River Source Protection Authority	Aug, 2019	-
Amy Domaratzki	Public Interest	Grand River Source Protection Authority	Aug, 2021	-
Paul Emerson	Municipal	Brant, Brantford, Hamilton	Sep, 2018	-

<b>Name</b>	<b>Seat Held</b>	<b>Appointment</b>	<b>Joined</b>	<b>Resigned</b>
Paul General	First Nations	Six Nations of the Grand River	Nov, 2007	Apr, 2019
Mark Goldberg	Public Interest	Grand River Source Protection Authority	Nov, 2007	Nov, 2011
Roy Haggart	Municipal	Brant, Brantford, Hamilton	Nov, 2007	Aug 2018
John Harrison	Public Interest	Grand River Source Protection Authority	Nov, 2007	Jun, 2012
Andrew Henry	Public Interest	Elgin Area Primary Water Board	Nov, 2007	-
Carl Hill	First Nations	Six Nations of the Grand River	Feb, 2012	Mar, 2012
Darryl Hill	First Nations	Six Nations of the Grand River	Apr, 2012	Nov, 2015
Carl Hill	First Nations	Six Nations of the Grand River	May, 2016	Oct, 2019
Eric Hodgins	Municipal	Grand River Source Protection Authority	May, 2016	-
Ken Hunsberger	Agriculture	Agricultural Community	Nov, 2007	-
Cathie Jamieson	First Nations	Mississaugas of the Credit	Sep, 2018	-
Matthew Jauernig	Municipal	Perth, Oxford	Aug, 2021	-
Robert E. Johnson	First Nations	Six Nations of the Grand River	Mar, 2011	Apr, 2011
Casey Jonathan	First Nations	Mississaugas of the New Credit	Feb, 2016	Dec, 2017
Jim Kirchin	Public Interest	Grand River Source Protection Authority	Feb, 2015	-
Ralph Krueger	Business and Industry	Grand River Source Protection Authority	Nov, 2007	-
Clynt King	First Nations	Mississaugas of the New Credit	Mar, 2011	Dec, 2015
Bryan LaForme	First Nations	Mississaugas of the New Credit	Nov, 2007	Mar, 2011
Janet Laird	Municipal	City of Guelph	Nov, 2007	Nov, 2012
Ian MacDonald	Business and Industry	Grand River Source Protection Authority	Nov, 2007	-
Chris Martin	First Nations	Six Nations of the Grand River	Nov, 2007	Nov, 2010
George Montour	First Nations	Six Nations of the Grand River	Apr, 2011	Jan, 2012
Dale Murray	Municipal	Grey, Dufferin, Halton, Wellington	Nov, 2007	Jul, 2016
Thomas Nevills	Public Interest	Grand River Source Protection Authority	May, 2017	May 2021
Jim Oliver	Municipal	Haldimand, Norfolk	Nov, 2007	Jun, 2018
David Parker	Agriculture	Agricultural Community	Nov, 2007	Mar, 2016
Lloyd Perrin	Municipal	Elgin, Middlesex, London	Nov, 2007	-
Geoff Rae	Public Interest	Nanticoke Grand Valley Water Supply	Nov, 2007	Jul, 2010
Peter Rider	Municipal	Guelph	Oct, 2013	-
Phil Wilson	Public Interest	Nanticoke Grand Valley Water Supply	Nov, 2007	-
Thomas Schmidt	Municipal	Waterloo Region	Nov, 2007	Mar, 2016
George Schneider	Aggregate Industry	Ontario Stone, Sand & Gravel Assoc.	Oct, 2011	-
Richard Seibel	Aggregate Industry	Ontario Stone, Sand & Gravel Assoc.	Nov, 2007	Aug, 2011
John Sepulis	Municipal	Grey, Dufferin, Halton, Wellington	Nov, 2017	-
Bill Strauss	Public Interest	Grand River Source Protection Authority	Jul, 2012	-
Ryan Taylor	Municipal	Haldimand, Norfolk	Mar, 2019	-
Bill Ungar	Business and Industry	Grand River Source Protection Authority	Nov, 2007	-
Mark Wales	Agriculture	Agricultural Community	Nov, 2007	Jan, 2020
Brian Whitwell	Agriculture	Agricultural Community	May, 2020	-
Don Woolcott	Public Interest	Grand River Source Protection Authority	Nov, 2007	Apr, 2019
Wendy Wright-Cascaden	Public Interest	Grand River Source Protection Authority	Nov, 2007	Sep, 2015

**Message from the Committee**

*The overall objective of the Lake Erie Region Source Protection Committee, in partnership with local communities and the Ontario government, is to direct the development of source protection plans that protect the quality and quantity of present and future sources of municipal drinking water in the Lake Erie Source Protection Region. We will work with others to gather technical and traditional (local and aboriginal) knowledge on which well-informed, consensus-based decisions can be made in an open and consultative manner. In developing the Source Protection Plan, the Lake Erie Region Source Protection Committee intends to propose policies that are environmentally protective, effective, economical, and fair to local communities.*

*The committee will strive to develop policies that are practical and implementable, and that focus limited resources on areas that net the greatest benefit, while recognizing that the plan must address significant threats so that they cease to be significant. Where possible, the committee will strive to develop policies and programs that also provide a benefit to broader protection of water quality and quantity. The process to assess drinking water threats and issues will be based on the best available science, and where there is uncertainty, we will strive to follow the precautionary approach.*

In December 2008, the Committee submitted to the Minister of the Environment their Terms of Reference for the Grand River Source Protection Area Assessment Report and Source Protection Plan. The Terms of Reference sets out the work plan for completing both the Assessment Report and Source Protection Plan, and received Ministerial approval on July 13, 2009. A copy of the Grand River Source Protection Area Terms of Reference can be found at: [www.sourcewater.ca](http://www.sourcewater.ca).

**1.4 Financial Assistance**

Section 97 of the *Clean Water Act, 2006* establishes the Ontario Drinking Water Stewardship Program. The purpose of the program is to provide financial assistance to those whose activities and properties may be affected by the implementation of the Source Protection Plan. The program also provides for outreach and education programs to raise awareness of the importance and opportunities for individuals to take actions to protect sources of drinking water. Ontario Regulation 287/07 (General) further clarifies the details of the Ontario Drinking Water Stewardship Program.

The program received funding from 2008 until 2014. By way of committee resolutions and letters to the Ministry, the Lake Erie Source Protection Committee requested that the Province of Ontario continue to support funding of the Ontario Drinking Water Stewardship Program beyond 2014. The Joint Advisory Committee (JAC) continues to encourage the Province to re-establish and rejuvenate the stewardship program to support local source protection plan implementation. The committee believes ongoing funding is needed to provide financial assistance to property owners affected by new policies and risk reduction strategies as a result of the approved Source Protection Plan.

**1.5 Framework of the Assessment Report**

The Grand River Source Protection Area Assessment Report was completed in compliance with Ontario Regulation 287/07 (General) under the *Clean Water Act, 2006* which sets out the minimum requirements for Assessment Reports. In addition, the technical work summarized in this Assessment Report was completed in conformance with the *Technical Rules: Assessment Report* under O. Reg. 287/07. The technical work was undertaken by municipalities and the Grand River Conservation Authority. Funding to complete the technical studies for the Assessment Report was provided by the Province of Ontario.

Within the Grand River Source Protection Area (SPA), there are 39 upper and lower tier municipalities and two First Nations communities. At present, there are 46 municipal residential drinking water

systems, including two integrated groundwater/inland river systems and one inland river system. In addition, one Lake Erie intake located outside of the source protection area (Nanticoke) and one pipeline system from Lake Ontario also supply water to residents in the Grand River SPA.

The *Clean Water Act, 2006* focuses on the protection of municipal drinking water supplies; however, the Act allows for other water systems to be considered, including clusters of private wells, communal systems, and other non-municipal supplies. Only municipalities within which the supplies are located or the Minister of the Environment, Conservation and Parks, have the power to add additional non-municipal systems. To date, no municipalities in the Grand River Source Protection Area have designated non-municipal drinking water supplies under the *Clean Water Act, 2006*. The Minister of the Environment included the Ohsweken Water Treatment Plant: a non-municipal system that serves a major residential development on the reserve of the Six Nations of the Grand River.

The technical studies summarized in this Assessment Report start with information at the watershed scale, and then move to the municipal drinking water system scale. The document is organized into the following sections: Watershed Characterization, Water Quality Threat Assessment Methodology, Water Quality Risk Assessment (including groundwater vulnerability, Water Budget Framework, Tier 2 Water Budget, Tier 3 Water Budgets, and sections dedicated to each municipality's Wellhead Protection Areas and Intake Protection Zones); State of Climate Change Research; Great Lakes Considerations; and Conclusions.

The descriptions of the technical work provided in the Assessment Report are summaries of more detailed technical reports. In order to find more detail on any of the components of the Assessment Report, the reader is encouraged to view the technical studies and background reports available online in full at [www.sourcewater.ca](http://www.sourcewater.ca).

## 1.6 Continuous Improvement

The findings of this Assessment Report are based on the best available information. It is recognized that new information that informs the findings of this Assessment Report will become available in the future. Beyond the completion of this Assessment Report, municipalities and conservation authorities will continue to refine and improve the findings, and attempt to address the data gaps documented in the Report. As new or improved information becomes available, the relevant components of the Assessment Report will be amended as required. Opportunities for input and review of updated Assessment Reports will be made available to those affected by the proposed changes.

## 1.7 Public Consultation

Throughout the development and update of the Grand River Assessment Report there have been multiple periods of public consultation. During each consultation period members of the public, municipalities and other interested bodies were invited to review the Assessment Report documents. These documents were made available via the [www.sourcewater.ca](http://www.sourcewater.ca) website and hard copies were also available at the conservation authority and municipal administrative offices. A series of public meetings were also held during public consultation periods. **Table 1-2** below provides details regarding each of the public consultation periods held regarding the Grand River Assessment Report.

Document / Notice	Notification Date:	Consultation Period:	Public Meeting Date(s)	Meeting Location
			September 8, 2010	Grand Valley Community Centre

<b>Document / Notice</b>	<b>Notification Date:</b>	<b>Consultation Period:</b>	<b>Public Meeting Date(s)</b>	<b>Meeting Location</b>
Draft Assessment Report	July 16, 2010	July 16, 2010 – Sept 24, 2010	September 9, 2010	Waterloo Region Emergency Services Training and Research Complex
			September 13, 2010	Grand River Conservation Authority
			September 14, 2010	Italian Canadian Club, Guelph
			September 15, 2010	Tranquility Hall, Brantford
Proposed Assessment Report	Nov 9, 2010	Nov 5, 2010 – Dec 6, 2010	N/A *	N/A *
Draft Amended Assessment Report	Apr 18, 2011	Apr 15, 2011– May 21, 2011	N/A *	N/A *
Updated Assessment Report:	March 16, 2015	March 16, 2015 - April 24, 2015	March 31, 2015	Amaranth Recreation Hall
			March 31, 2015	Fergus SportsPlex
			April 8, 2015	T.J Costini Community Centre, Brantford
			April 9, 2015	City Hall, Guelph
			April 9, 2015	Waterloo Region Emergency Services Training and Research Complex
			April 15, 2015	Grand River Conservation Authority
			April 15, 2015	Dunnville Optimist Hall
April 16, 2015	County of Brant SportsPlex			
Draft Updated Assessment Report (Grey, Hamilton, Brant, S.34)	Feb 12, 2019	February 12 – March 18, 2019	February 21, 2019	Brant Sports Complex, Paris
Draft Updated Assessment Report (“bundled” S.34)	April 8, 2019	April 8 – May 21, 2019	April 15, 2019	Plattsville Lions Hall, Plattsville
Draft Updated Assessment Report (“Wellington/Brant” S.34)	January 13, 2020	January 13 – February 26, 2020	February 5, 6 and 12, 2019	Brant Sports Complex, Paris Elora Hall, Elora Marden Community Centre, Guelph
Draft Updated Assessment Report (“Wellington/Region of Waterloo” S.34)	January 25, 2021	January 25 – March 8, 2021	February 17 and 18, 2021	Online platform
Draft Updated Assessment Report (“Grand Valley” S.34)	June 21, 2021	June 21 – July 20, 2021	N/A	Online platform

\* no public meeting required – comments received were appended to the submission package

During each period of public consultation members of the public, municipalities or other interested bodies were able to submit comments to the Source Protection Committee. The Committee in turn, considered these comments following each period of public consultation.



The draft Updated Assessment Report was posted for a 30-day public consultation period between June 21 and July 20, 2021. The public was invited to review the Assessment Report on [www.sourcewater.ca](http://www.sourcewater.ca).

All comments received during this comment period were forwarded to the Ontario Ministry of the Environment, Conservation and Parks with the submission of the Grand River Assessment Report.