DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

TRENT CONSERVATION COALITION
SOURCE PROTECTION REGION

2017 Annual Progress Report
Trent Source Protection Plan

"The first barrier to the contamination of drinking water involves protecting the sources of drinking water."
Justice Dennis O'Connor, Walkerton Inquiry 2002

Prepared by Trent Conservation Coalition

Crowe Valley Conservation
Ganaraska Conservation
Kawartha Conservation — Discover · Protect · Restore
Lower Trent Conservation
Otonabee Conservation

Published May 1, 2018

MESSAGE FROM THE CHAIR OF THE TRENT CONSERVATION COALITION

On behalf of the Trent Conservation Coalition, I am pleased to introduce the first Annual Progress Report on the implementation of the Trent Source Protection Plan. I am pleased with the progress made during the first three years of implementation. You will note the significant progress that is evident in this 2017 Annual Progress Report.

The safety and reliability of our drinking water supplies is vitally important for all the people within the region served by the Trent Conservation Coalition. Half of our total regional population is served by fifty-two municipal drinking water systems which include thirty-four groundwater systems and eighteen surface water systems with at least one additional groundwater system being planned for the immediate future in the region.

The safety and reliability of drinking water generally is one of the highest priorities of Canadians. Source Water Protection Plans are the first barrier in a multi barrier approach as recommended by Justice O'Connor in his report on the Walkerton Inquiry. The Trent Conservation Coalition formed the Source Protection Committee as an instrument to establish source protection planning for municipal water supply systems within the region. Under the *Clean Water Act* the Source Protection Committee must continue in its monitoring and in ensuring that implementation of the Source Protection Plan is being carried out in an effective, efficient and responsible manner. Toward this end the Source Protection Committee, together with source protection staff and the source protection authorities for the region, continue to work with key stakeholders and implementers for the implementation of the policies set out within the Source Protection Plans.

This first Annual Progress Report highlights key accomplishments that can be summarized as the embodiment of a process of iteration where feedback and information from those implementers will help to refine and redefine the process continually in the future. Together with our many partner agencies we are working to protect sources of municipal drinking water including working with Risk Management Officials who are now largely in place in implementing the source protection policies and addressing concerns which have been identified.

As we work toward a 2018 deadline to submit our Section 36 work plan, we continue with our information gathering which will be ongoing and will evolve as more threats are identified and policies are fine tuned. The process of iteration and monitoring of implementation progress and the receipt of information will continue in order that we can better ensure our intended outcome which is to provide safe and reliable sources of municipal drinking water within our region by reducing and managing the risk presented by activities in vulnerable areas.

Source water protection remains an essential frontline defence in the multi barrier approach. Continuing monitoring, vigilance and oversight will be a necessity for maintaining an adequate level of safety for our constituency. We will continue working with all our implementation agencies including municipalities and provincial authorities providing encouragement at all levels of government to continue building a process which is resilient, proactive and administratively optimal in order to implement our source protection plans. This community of interest will ensure the successful implementation and maximum protection to our constituents. This report provides further positive evidence of our efforts towards safeguarding our sources of municipal drinking water in the region and providing a deeper context for assessing initiatives in other regions throughout the Province. The goal of the *Clean Water Act* is the protection of all sources of drinking water within the Province of Ontario. I encourage you to read this Annual Progress Report on the implementation of the Trent Source Protection Plan which is the local expression of this worthy provincial initiative which is recognized internationally as a model for source protection.

Jim Hunt, Chair of the Trent Conservation Coalition Source Protection Committee.

TABLE OF CONTENTS

2017 ANNUAL PROGRESS REPORT – TRENT SOURCE PROTECTION PLAN

1. INTRODUCTION

The Trent Conservation Coalition's first Annual Progress Report for the Trent Source Protection Plan (SPP) provides an update of the status of the implementation for the first three years of implementation from the effective date of January 1st, 2015 to December 31st, 2017.

This report is produced by the Trent Conservation Coalition (TCC) for the residents and businesses within the watershed, the Trent Conservation Coalition Source Protection Committee (SPC), municipalities and other local stakeholders. A separate Annual Progress Report for the Ganaraska Source Protection Plan is also available.

The format of this report is based on broad categories identified by the Ministry of the Environment and Climate Change (MOECC) to facilitate reporting and tracking progress towards implementation of the Trent Source Protection Plan.

The protection of municipal drinking water sources is a shared responsibility and the efforts of everyone involved in the implementation of the Trent SPP are greatly appreciated.

1.1 CLEAN WATER ACT, 2006

In response to the Report of the Walkerton Inquiry (The Honourable Dennis R. O'Connor, 2002) and its recommendation for a multi-barrier approach to providing safe drinking water, the Ontario government passed the *Clean Water Act 2006* (the *Act*). The purpose of the *Act* is to protect sources of municipal drinking water through collaborative, watershed-based source protection plans that are locally developed and based on science.

1.2 SOURCE WATER PROTECTION PROGRAM

The *Clean Water Act* led to the creation of the Drinking Water Source Protection (DWSP) program, which established 19 source protection regions and 38 source protection areas in Ontario. The DWSP program protects current and future municipal residential drinking water sources from contamination and overuse by developing collaborative watershed-based source protection plans. A source protection plan is the first barrier in a multi-barrier approach.

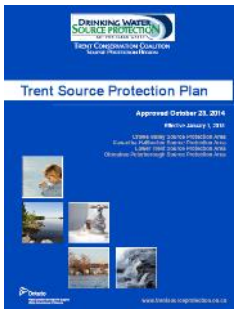
The Trent SPP includes mandatory and strategic policies to reduce the risk of municipal source water contamination and to ensure sufficient water quantity, and requires implementing bodies to report on the implementation progress of policies in the Plan. The TCC Source Protection Region (SPR) and Source Protection Authorities (SPA) staff worked closely with provincial ministries, municipalities, businesses, landowners and other stakeholders during the development of the Trent Source Protection Plan.

1.3 OUR WATERSHED: THE TRENT CONSERVATION COALITION SOURCE PROTECTION REGION

This Annual Progress Report outlines the progress made towards implementing the Trent Conservation Coalition's Trent Source Protection Plan.

The four Source Protection Authorities who contributed to this annual progress report include the:

- Kawartha-Haliburton Source Protection Authority;
- Otonabee-Peterborough Source Protection Authority;
- Crowe Valley Source Protection Authority;
- Lower Trent Source Protection Authority.



Trent Conservation Coalition Source Protection Region Quick Facts

- Population in the TCC: 400,000
- Area: TCC = 13,830 km^2
- Area: Trent Source Protection Plan = 12,900 km^2
- Number of drinking water systems in the TCC: 53 (includes one planned groundwater system)
- Number of drinking water systems in the Trent Source Protection Plan: 47 (includes one planned groundwater system)
- Number of surface water systems in the TCC: 18
- Number of surface water systems in the Trent Source Protection Plan: 15
- Number of groundwater systems in the TCC: 35 (includes one planned system)
- Number of groundwater systems in the Trent Source Protection Plan: 32 (includes one planned system)
- Population serviced by municipal residential drinking water systems in the Trent Source Protection Plan: more than 150,000
- Number of municipalities in the TCC with residential drinking water systems: 24 (22 lower tier, 5 upper tier)
- Number of municipalities in the TCC with at least part of a vulnerable area in their jurisdiction: 43 (38 lower tier, 5 upper tier)
- Number of policies in the Trent SPP: 138
- Number of Issue Contributing Areas in the Trent SPP: 1 (Stirling system)
- Effective date of the Trent SPP: January 1, 2015

To learn more about our watershed, please read our Assessment Report and Source Protection Plan available at http://trentsourceprotection.on.ca/resources/reports-legislation.

Otonabee-Peterborough Source Protection Area

The Otonabee-Peterborough Source Protection Area (O-P SPA) has an approximate population of 129,300 and includes portions of fifteen (15) municipalities and three (3) First Nations Reserves. It covers approximately 3,365 km^2 and is comprised of the Otonabee Region Watershed (1,915 km^2) and areas to the north (1,365 km^2) which include portions of Haliburton and Peterborough Counties.

Approximately 67% of the population, or 86,579 people, obtain drinking water from eleven (11) municipal residential drinking water systems in the O-P SPA. Three (3) municipal drinking water systems, Lakefield, Peterborough and Hastings, draw from surface water sources (the latter extends into the Municipality of Trent Hills in the Lower Trent Source Protection Area). Eight (8) residential drinking water systems draw on groundwater to serve approximately 4% of the population, or 4,929 people, in the communities of Alpine Village/Pirates Glen, Birch Point Estates, Buckhorn Lake Estates, Crystal Springs Subdivision, Keene Heights Subdivision, Millbrook, Norwood, and Pinewood.

There are two (2) populated First Nation Reserves in the O-P SPA, Curve Lake and Hiawatha, with a combined population of approximately 1,543 that is primarily served by private wells. Approximately 13%, or 137 people, obtain their drinking water from the Nishnawbeke Subdivision Water System which is owned and operated by the Curve Lake First Nation. A third Reserve, Islands of the Trent Waters, includes various unpopulated islands throughout the Kawartha Lakes area.

Kawartha-Haliburton Source Protection Area

The Kawartha-Haliburton Source Protection Area (K-H SPA) is comprised of watersheds that represent the jurisdiction of Kawartha Conservation, and an additional watershed area to the North primarily within Haliburton County.

The K-H SPA covers an area of 5,406 km^2 and is located within the southcentral region of Ontario, fringing on the Greater Toronto Area to the south and Algonquin Park to the north. There are 11 municipalities within or partially within the Source Protection Area. Approximately 45% of the population, or 35,050 people, obtain their drinking water from 22 municipal residential drinking water systems in the K-H SPA.

There are six existing municipal residential drinking water systems in the source protection area that obtain their water from surface water sources. These systems serve about 22,350 people in the communities of Bobcaygeon, Fenelon Falls, Kinmount, Lindsay, Norland and Southview Estates.

There are 16 existing municipal residential drinking water systems in the source protection area that obtain their water from groundwater sources. These systems serve about 15,700 people in the communities of Blackstock, Canadiana Shores, Greenbank, Janetville, Kings Bay, Lutterworth Pines,, Manorview, Mariposa Estates, Minden, Pleasant Point, Port Perry, Sonya, Victoria Glen, Victoria Place, Woodfield, and Woods of Manilla.

The Mississaugas of Scugog Island First Nation is located within the Source Protection Area, and all residents of the Mississaugas of Scugog Island First Nation are served by private wells.

Crowe Valley Source Protection Area

The Crowe Valley Source Protection Area covers an area of approximately 2,006 km^2 and includes the entire Crowe River watershed. There are 11 municipalities located within or partially within the Crowe Valley Source Protection Area. The total population of these municipalities is 41,441 (Statistics Canada, 2006), and about 10,490 of them are located within the source protection area boundary.

Drinking water systems in the Crowe Valley Source Protection Area include municipal and non-municipal systems of various sizes that draw raw water from both groundwater and surface water sources.

About 35% of the population in the Crowe Valley Source Protection Area (approximately 3,700 people) obtains their drinking water from four municipal residential drinking water systems.

There is one existing municipal residential surface water supply system in the source protection area that obtains water from a surface water source. This system serves about 1,300 people in the community of Marmora.

There are three existing municipal residential groundwater supply systems in the source protection area that obtain their water from groundwater sources. These systems serve about 2,400 people.

There are two municipal residential drinking water systems in the source protection area (Cardiff and Havelock) that are considered to be Groundwater Under the Direct Influence (GUDI) of surface water. The Cardiff well is considered GUDI because it is constructed in an overburden aquifer that is located within 90 m of a surface waterbody (Mink Creek) (Morrison Environmental Ltd., 2004). There are three wells in the Havelock system under the influence of surface water. In situ filtration removes particulate matter at two of these wells (Genivar Consultants, 2010).

Lower Trent Source Protection Area

The Lower Trent Source Protection Area includes the area under the jurisdiction of the Lower Trent Region Conservation Authority (2070 km^2) and the area outside of Conservation Authority jurisdiction between the Lower Trent, Otonabee, and Crowe Valley watersheds (45 km^2). The Lower Trent Source Protection Area is bordered on the south by Lake Ontario and the Bay of Quinte. Rice Lake forms the northwestern boundary of the region. Several tributary streams including Cold, Rawdon, Salt, Squires (Hoards), Percy, Burnley (Mill), Trout, and Mayhew Creeks empty into the Trent River. Shelter Valley, Barnum House, Lakeport/Colborne and Butler Creeks empty into Lake Ontario while DND and Meyers Creeks empty into the Bay of Quinte.

There are nine municipalities located within or partially within the Lower Trent Source Protection Area. The total population of these municipalities is 109,972 (Statistics Canada, 2006) and more than 78,000 of them are located within the source protection area boundary.

About 60% of the source protection area population (over 48,400 people) in the Lower Trent Source Protection Area obtains their drinking water from 10 municipal residential drinking water systems.

There are six existing municipal residential surface water supply systems in the source protection area that serve about 36,600 people in the communities of Bayside, Campbellford, Frankford, Hastings, Trenton and Warkworth.

There are four existing municipal residential groundwater supply systems in the source protection area that obtain their water from groundwater sources. These systems serve about 11,800 people in the communities of Brighton, Colborne, Grafton and Stirling.

The Stirling residential drinking water system draws water from a total of four wells that are considered to be Groundwater Under the Direct Influence (GUDI) of surface water

The Alderville First Nation, located south of Rice Lake, is the only First Nation in the Lower Trent Source Protection Area. The reserve has a population of approximately 575 and a population density of 50 people/km^2 with most residents of Alderville First Nation being serviced by private wells.

1.4 OUR WATERSHED: LOCATION OF MUNICIPAL WELLS AND INTAKES SUBJECT TO *THE CLEAN WATER ACT 2006*

2. A MESSAGE FROM YOUR SOURCE PROTECTION COMMITTEE

The scoring system below is used to assess the progress achieved from January 1st, 2015 to December 31st, 2017 related to implementing policies in the Trent Source Protection Plan.

Our progress score on achieving source protection plan objectives in this reporting period is as follows:

	P: Progressing well / on target: Most of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.
✓	**S: Satisfactory:** Some of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.
	L: Limited progress made: A few source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.

The rationale for the SPC to select the "progress score" is as follows:

The SPC arrived at this consensus based on a summary of information provided by SPAs through the Annual Progress Report templates and a draft Annual Progress Report presented on *March 29, 2018 at a TCC Source Protection Committee meeting*. The SPC reviewed the sections in the below report, including a review of the scoring proposed by each Source Protection Authority. The SPC then assessed the progress score by applying the criteria above. The committee settled on the progress score of "**Satisfactory**" because implementation of the Trent Source Protection Plan policies was not mostly complete across all four SPAs. Further to this, only some of the Trent Source Protection Plan policies have been implemented or are in the progress of being implemented within the compliance timelines identified in the Source Protection Plan.

2.1 METHOD OF EVALUATION

Implementation of SPPs is an important element of a multi-barrier approach to protecting municipal residential drinking water sources. To evaluate implementation effectiveness, a monitoring component is included for each policy. The MOECC has identified a reporting process that includes the preparation of an Annual Progress Report, the first of which is due in May 2018. In order to report implementation activities to the MOECC, the TCC SPC, SPA's and stakeholders, SPA's receive monitoring information from implementing bodies to create their SPA based annual reports. This information is then used to report on SPP implementation in the form of this Annual Progress Report.

There are three types of reports required by *Act* and the associated general regulation (Ontario Regulation 287/07):

1. Source Protection Plan Monitoring Policies
   - Required by Sections 22 and 45 of the Act and detailed in the plan;
   - Implementation bodies must report to the applicable source protection authority by February 1st on actions taken in the preceding calendar year;
   - Reports are provided to the source protection region for roll up.
2. RMO Reporting
   - Required by Section 81 of the Act and detailed in Section 65 of the regulation;

- RMOs must report to the applicable Source Protection Authority on Part IV policies by February 1st of each year. RMO's typically report to the SPA;
- Some RMO's report to municipal councils regarding implementation progress.

3. Annual Progress Report
   - Section 46 (1) of the Act and O. Reg 287/07 s.52(1) states an Annual Progress Report is to be submitted to the MOECC;
   - The first report for the Trent Source Protection Plan is due by May 2018.

The success and progress of the source protection program is evaluated through the Annual Progress Report. This report is a high-level evaluation tool developed by the MOECC for the assessment of implementation progress.

To obtain the required reporting information from non-provincial implementing bodies, SPA staff worked with non-provincial implementing bodies to populate reporting templates. The templates facilitated consistent reporting and included questions related to monitoring policies within the Source Protection Plans, and Annual Progress Report categories specified by the MOECC.

Risk Management Officials (RMOs) were also provided with a template for reporting.

Provincial ministries followed a similar approach with questions in their template including those related to both TCC monitoring policies and Annual Progress Report categories. Information pertaining to the TCC SPR was extracted from the provincial reporting tool, but due to the scale of reporting, a provincial report is available for the entire TCC Region (including the Ganaraska Source Protection Authority), and not available specifically for the Trent SPP.

3. AT A GLANCE: PROGRESS ON SOURCE PROTECTION PLAN IMPLEMENTATION

3.1 SOURCE PROTECTION PLAN POLICIES

Across the TCC, many of the policies (80%) that address significant drinking water threats are implemented, in progress or have been evaluated and determined to require no further action(s).

The percentage of policy progress across the Trent Source Protection Plan was determined through the following information:

Source Protection Area	**Percent Policies Implemented, In progress or evaluated as no further action required**	**Progress Score Assigned by SPA**
Otonabee-Peterborough	75%	P: Progressing well / on target
Kawartha-Haliburton	80%	P: Progressing well / on target
Crowe Valley	82%	P: Progressing well / on target
Lower Trent	82%	P: Progressing well / on target

Our overall progress score across the Trent Source Protection Plan on achieving source protection plan objectives in this reporting period is as follows:

✓	**P: Progressing well / on target:** Most of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.

3.2 MUNICIPAL PROGRESS – ADDRESSING RISKS ON THE GROUND

Municipalities and Approval Authorities under the *Planning Act* are the Implementing Bodies for 56 policies in the Trent Source Protection Plan. The jurisdictions of 43 municipalities lies within the TCC SPR, however of those, 27 municipalities (22 lower tier and 5 upper tier) contain vulnerable areas where SPP polices apply.

For the Trent Source Protection Plan, a summary of key information and progress scores is as follows:

Source Protection Area	Municipalities with SOP's in place	% Official Plan and Zoning By-Law Policies Implemented	% Emergency Management Policies Implemented	Progress Score assigned by SPA
Otonabee-Peterborough	100%	80%	85%	P: Progressing well / on target
Kawartha-Haliburton	100%	33%	67%	S: Satisfactory
Crowe Valley	100%	100%	100%	P: Progressing well / on target
Lower Trent	100%	33%	50%	S: Satisfactory

For the above table, it is important to note that although much work is in progress, 0% of municipalities report they have not started.

All local threat policies for waterfowl in Peterborough, and monitoring of the Stirling *Issue* are 100% implemented.

The majority of the municipalities (82%) have ensured amendments to the mandatory Sewage Connection and optional Transport Pathway By-Laws conform to the Trent Source Protection Plan policies.

Over half of the municipalities (55%) have implemented the Asset Management prioritization exercise for existing sewer mains and wastewater treatment plants. The remaining are either in progress, or in the case of Upper Tier municipalities, report the policy is not applicable since they have no responsibility for sewer mains or wastewater treatment plants.

50% of municipalities have implemented the Land Acquisition policy, with only one municipality not starting yet. Although no properties have been purchased, municipalities report they have evaluated the policy and have considered the policy in respect of existing municipal land acquisition policies. It was determined that the policy wording could be updated to help increase the policy implementation as there are additional ways for municipalities to acquire lands that may not be through outright purchases.

For Road Salt Vulnerable Area Planning, all municipalities are reporting progress whereas in 2016, 22% of municipalities had not started this work. 31% of municipalities report this work complete which is an increase of 8% over the past year. See Section 3.8, Summary of Challenges, for more details.

For Waste Disposal and implementation of the policy to prohibit future waste disposal sites addressed by Prescribed Instruments, 55% of municipalities report this work is complete or in progress, however four municipalities provided no information or no reporting on this category. Municipalities require ongoing support to implement this waste disposal policy to prohibit future waste disposal sites addressed by Prescribed Instruments.

Our overall progress score on achieving source protection plan objectives in this reporting period is as follows:

✓	**S: Satisfactory:** Some of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.

3.3 SEPTIC INSPECTIONS

While outside the scope of the *Clean Water Act*, The Ontario Building Code (OBC) requires that septic system threats be subject to a mandatory inspection program. Based on the location of individual septic systems, the responsibility to undertake these inspections may be that of the local Health Unit/department, municipality, or Conservation Authority depending on which body is empowered as the principal authority (municipalities).

Compliance Date Summary		Compliance dates for existing septic inspections (those constructed by the following date) are set by the s. 1.10.2.4 (2)(a)(i)(A) of O. Reg. 315/10: BUILDING CODE to be five years after the date of publishing of the Assessment Report on the Environmental Bill of Rights. The EBR Registry Number is 012-2699 and was posted November 3rd, 2014 therefore the compliance date for existing septic's is November 3rd, 2019.
Existing	5 years from notice on EBR (November 3, 2019)	
Future	When the plan takes effect (January 1, 2015)	

The progress of septic inspections for the Trent Source Protection Authorities is as follows:

SPA	Inspection Agency(ies)	# Inspections	# Requiring Maintenance	% Complete
Otonabee-Peterborough	Peterborough Public Health	139	16 (12%)	100%
Kawartha-Haliburton	Municipal Building Inspectors	407	58 (14%)	93%
Crowe Valley	Municipal Building Inspectors and Peterborough Public Health (Havelock)	47	12 (26%)	100%
Lower Trent	Municipal Building Officials and Septic Inspectors	123	0	80%

Overall, 93% percent of existing septic threats have been inspected in accordance with OBC, of which 12% required maintenance, and 88% functioning as required. The remaining inspections are expected to be completed in 2018 and early 2019. See Section 3.8, Summary of Challenges, for more details.

Source Protection Area	Standard Operating Procedures in place for future threats?
Otonabee-Peterborough	100%
Kawartha-Haliburton	100%
Crowe Valley	100%
Lower Trent	100%

100% of municipalities and/or health units have standard operating procedures to ensure OBC compliance and thus ensure that future septic systems do not become significant threats.

Our progress score on achieving source protection plan objectives in this reporting period is as follows:

✓	**P: Progressing well / on target:** Most of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.

3.4 RISK MANAGEMENT PLANS

Risk Management Officials (RMOs) are the Implementing Body for 39 policies in the Trent Source Protection Plan, and utilize the following tools which were established under Part IV of the *Act*, to manage threats: Prohibition (s.57); Risk Management Plans (s.58); and, Restricted Land Uses (s.59).

Compliance Date Summary		Existing threats have a 5 year compliance date. Future threat policies are effective when the plan takes effect. Although there are many RMP's yet to complete, RMO's have until January 1, 2020 to complete them.
Existing	5 years from plan taking effect (January 1, 2020)	
Future	When the plan takes effect (January 1, 2015)	

Source Protection Area	# RMP's Established	# Significant Threats Managed	# of Threats remaining to be managed	# Inspections
Otonabee-	8	11	36	15
Kawartha-Haliburton	21	63	66	2
Crowe Valley	8	8	16	6
Lower Trent	23	45	41	1

60 Risk Management Plans (RMPs) have been established. These 60 plans collectively manage a total of 127 significant drinking water threats. RMOs report an ongoing effort to refine the number of significant drinking water threats based on information gathered from site visits, direct contacts and other means.

The total number of inspections carried out by a Risk Management Official / Inspector was 24. The compliance rate with the Risk Management Plans established is 100%.

RMOs operating within the Trent SPP jurisdiction issued a total of 382 Section 59 notices for the first three years of implementation from the effective date (January 1st, 2015) to December 31st, 2017. The processes to screen development applications is reported to be working well and some municipalities continue to fine tune their screening processes to improve efficiencies.

The contact details for the RMOs can found on the TCC website RMO webpage: http://trentsourceprotection.on.ca/risk-management/contact-your-risk-management-official-inspector.

Our progress score on achieving source protection plan objectives in this reporting period is as follows:

✓	**P: Progressing well / on target:** Most of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.

3.5 PROVINCIAL PROGRESS: ADDRESSING RISKS ON THE GROUND

Four provincial ministries reported on progress of 27 policies in our Source Protection Plan.

Compliance Date Summary	
Existing	5 years from plan taking effect (January 1, 2020)
Future	When the plan takes effect (January 1, 2015)

The ministries listed below have implemented 67% of the TCC policies. 15% are implemented within some ministries but not others. The remaining 19% are reported to be in progress. 0% of policies are not started which is a significant improvement from the 2016 status where an average of 24% of policies were reported as not in progress.

The table below summarizes the progress achieved for policy implementation as reported by each ministry:

Implementing Body	**Policy Implementation Complete (%)**	**Policy Implementation In Progress (%)**	**Policy Implementation Not in Progress**
Ministry of Agriculture, Food, and Rural Affairs (OMAFRA)	40	60	0
Ministry of the Environment and Climate Change (MOECC)	77	23	0
Ministry of Natural Resources and Forestry (MNRF)	100	0	0
Ministry of Transportation (MTO)	100	0	0

For existing threats, Ontario ministries listed above are reviewing previously issued provincial approvals (i.e., prescribed instruments, such as environmental compliance approvals under the Environmental Protection Act) where they have been identified as a tool in the Trent SPP to address existing activities that pose a significant risk to sources of drinking water. The provincial approvals are being amended or revoked where necessary to conform with the Trent SPP policies. Our policies set out a timeline of 5 years to complete the review and make any necessary changes.

The decrease in OMAFRA policy implementation status is a result of better understanding of significant threat locations whereby additional threats were determined, and until all existing sites can be inspected, will be reported as in progress. However, due to both Information Technology and staff resource capacity limitations for the Operations Division, OMAFRA was not able to confirm the number of inspections in the TCC, but was able to report by district.

For future threats, Ministries reported that 100% are implemented, with standard operating procedures in place where applications are reviewed to ensure the proposed activities conform to our policies. It is important to note that since MOECC does not issue instruments under the Nutrient Management Act framework, the implementing body for agriculture and Non-Agricultural Source Material (NASM) policies may need to be updated. Additionally, OMAFRA does not issue or review Nutrient Management Plans and the Agriculture Policies text may need to be amended to support this requirement.

Our progress score on achieving source protection plan objectives in this reporting period is as follows:

✓	**P: Progressing well / on target:** Most of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.

3.6 AWARENESS AND CHANGES IN BEHAVIOUR – EDUCATION & OUTREACH

Ten (10) policies in the Trent Source Protection Plan utilize the education and outreach (E & O) tool to influence behavior and encourage the voluntary adoption of practices to better protect sources of municipal drinking water. It was reported that the majority of the municipalities (70%) have ensured Education and Outreach policies are implemented.

Road signage was identified as an effective E & O tool to raise awareness of the Drinking Water Source Protection Program (DWSPP) and the importance of protecting sources of municipal drinking water. Drinking Water Protection Zone signs have been installed in vulnerable areas across the Trent Conservation Source Protection Region.

- The Ontario Ministry of Transportation (MTO) has installed 16 Drinking Water Protection Zone signage along provincial highways in the TCC SPR;
- Municipalities continue to replace the Drinking Water Protection Zone signage in vulnerable areas as required by the Source Protection Plan with the same standardized version as used by MTO for consistent messaging;
- 204 signs have been installed by Municipalities on county and municipal roads.

A summary of other education and outreach activities across the Trent Source Protection Authorities includes:

<u>Otonabee-Peterborough Source Protection Authority:</u>

- Incorporation of DWSPP messaging into educational programs and activities including the Peterborough Children's Water Festival and the Be a Watershed Steward Program - Displays and information related to the DWSPP at local events including Discovery Days, and farmer's markets throughout the O-P SPA - Distribution of information to affected landowners and tenants in vulnerable areas - Updates to the DWSPP information on the Otonabee Conservation website - Updates to DWSPP communications products including factsheets and brochures	

<u>Kawartha-Haliburton Source Protection Authority:</u>

- Learning opportunities directed at special events such as water festivals - DWSP displays and information at local events - Door to door visits - Landowner contact via direct mail - Website updates e.g. factsheets - Advertisements in community guides	

Crowe Valley Source Protection Authority:

- Learning opportunities directed at special events such as water festivals - DWSP displays and information at local events - Landowner contact via direct mail - Website updates e.g. infographics and factsheets - Municipal newsletters - Advertisements in community guides	

Lower Trent Source Protection Authority:

- Learning opportunities directed at special events such as water festivals - DWSP displays and information at local events - Door to door visits - Landowner contact via direct mail - Website updates e.g. factsheets - Municipal newsletters - Advertisements in community guides - Advertorials (see picture to the right)	

Our progress score for each Source Protection Authority on achieving source protection plan objectives in this reporting period is as follows:

Source Protection Area	Progress Score (Signage and E&O)
Otonabee-Peterborough	P: Progressing well / on target
Kawartha-Haliburton	P: Progressing well / on target
Crowe Valley	P: Progressing well / on target
Lower Trent	P: Progressing well / on target

Our overall progress score on achieving source protection plan objectives in this reporting period is as follows:

✓	**P: Progressing well / on target:** Most of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.

3.7 SOURCE WATER QUALITY: MONITORING AND ACTIONS

Compliance Date Summary	
Existing / Future	When the plan takes effect (January 1, 2015)

A water quality issue, as identified by the Source Protection Committee, is where a contaminant is present at a level of concern or showing an upward trend, and threatens the municipal drinking water source. The issue contributing area (ICA) is an area of land or water where activities are contributing to the water quality issue. These activities are classified as significant threats to drinking water.

Issues were identified at both the Blackstock and Stirling municipal drinking water systems through historical groundwater chemistry analysis.

Blackstock Well #1

Blackstock well #1 (WM-1) was identified as having a nitrate issue. The decommissioning of the well removed this issue. The updates Source Protection Plan and maps can be found on the TCC webpage at: http://trentsourceprotection.on.ca/resources/reports-legislation.

Stirling Water System

Stirling wells were identified as having an E. coli issue in the raw untreated water. In response to the issue, the municipality engaged in the following activities:

- Reported annually by February 1st to the Lower Trent Source Protection Authority
- Monitored the identified issue through data as provided in the Stirling-Rawdon annual water report. The report also identified the municipality continues to track Total Coliform (TC) hits
- Undertook hydrological studies showing the wells are Groundwater Under the Direct Influence (GUDI) of surface water and there is in situ filtration. The municipality is waiting for new GUDI terms of reference which may change the designation of the wells
- Completed all septic inspections in the Stirling ICA
- Completed 15 RMPs managing 32 prescribed threats (on the basis of subcategories listed in the Table of Drinking Water Threats)
- Completed Education & Outreach activities including advertorials in local newspaper, attendance at local events, updated factsheets and door-to-door visits in the Issue Contributing Area
- Several major expenses were incurred to install, repair or replace required equipment.

3.8 SOURCE PROTECTION PLAN POLICIES: SUMMARY OF CHALLENGES

The following tables list challenges and delays which will require ongoing support and funding to address. MOECC provided a list of applicable update categories which include:

a) Policy effectiveness;
b) Implementation challenges;
c) Results of environmental monitoring programs;
d) Growth and infrastructure changes;
e) Council resolutions;
f) Technical rule changes; and
g) Other local considerations.

Otonabee-Peterborough Source Protection Authority - Policy Effectiveness:

Policy Category	# of Threats Addressed	# of Threats Remaining	Rationale for Delay	Potential Actions
Road Salt Application	0	3	RMP Implementation and enforcement challenges.	Proposed policy revisions being considered by SPC.
DNAPLs[1] & Organic Solvents	0	4	Lack of threshold (DNAPLs) and lack of efficient means of identifying chemical categories.	Awaiting provincial working group recommendations.
Fuel	4	17	Challenges contacting homeowners and enforcing others' legislation (TSSA).	Re-evaluating approach and risk management measures.

Crowe Valley Source Protection Authority - Policy Effectiveness:

Policy Category	# of Threats Addressed	# of Threats Remaining	Rationale for Delay	Potential Actions
Road Salt Application	0	1	Delays in addressing Road Salt application threats due to the time and effort demand of developing a Salt Management Plan, as required by the policy (R-1 (2)).	Awaiting direction from provincial working group both for revised delineation and salt management guidance.
Fuel Storage	13	9	Delay in establishing a fuel related RMP because of a recent property ownership transaction.	Re-evaluating approach and risk management measures.

[1] DNAPLs are Dense, Non-Aqueous Phase Liquids (pronounced dee-napple) are chemicals that are denser than water and do not dissolve readily in water, typically remaining as a separate phase liquid in surface or ground waters. More information can be found at http://www.trentsourceprotection.on.ca or SPA factsheets such as Lower Trent SPAs DNAPL Factsheet

Kawartha-Haliburton Source Protection Authority - Policy Effectiveness:

Policy Category	# of Threats Addressed	# of Threats Remaining	Rationale for Delay	Potential Actions
Septic Inspections	402	38	There is still some pushback from homeowners to have the assessment completed. They feel it is unwarranted as their system is running fine and too localized whereby just a handful of people are affected.	Follow up with resistant residents and make them aware of the possibility of stronger action being taken, increase public awareness through outreach campaigns.
Application of Road Salt	26	4	Road salt policies are very difficult to implement as in the K-H SPA the only areas within the vulnerable areas where salt application is a SDWT are municipal roads, which are already covered by the municipality's salt management plan. The municipality has also questioned the placement of the salt vulnerable area as they feel that it does not appropriately represent the areas where salt application could be a SDWT. Questions of liability were also raised, if salt application is limited and accidents occur due to ice accumulation. The 26 threats which were removed had been included in the Assessment Report numbers accidentally, but in reality the circumstances are not met in that system (Kinmount) to allow for road salt application to be considered a SDWT. Lastly, the percent impervious cover grid needs to be updated, particularly for Lindsay, as significant development on the east side of the Scugog River has occurred since the completion of the Assessment Report, which could result in areas receiving a higher percent impervious cover and therefore containing potential road salt application threats.	Awaiting direction from provincial working group. Also looking to using BMPs with municipality to ensure that salt does not pose a SDWT and it is managed appropriately. Complete GIS analysis of the newly developed area and update calculations of the percent impervious cover grid layer. Also look in to changing the placement of the grid layer around systems.

Lower Trent Source Protection Authority - Policy Effectiveness:

Policy Category	# of Threats Addressed	# of Threats Remaining	Rationale for Delay	Potential Actions
Application of Road Salt	0	14	Implementation of road salt policy is challenging all RMOs in the region. A RMP is required for all road salt application SDWTs, regardless of the size of the area to which it is applied, or the use of said area (i.e. includes residences, small-scale commercial parking lots for small businesses). This policy tool can readily, and with effect, be implemented where the activity occurs on roads and other public areas including trails. It becomes considerably more problematic for other areas that may include residential or small commercial lots where the common practice for the latter is to hire third party contractors that are working in an unregulated industry making it difficult to enter into or enforce a RMP.	Road salt application and Best Management Practices (BMP) were discussed within the Municipal working group regarding what is currently being implemented. Background resources are being collected to determine what risk management measures should be included in Risk Management Plans in large scale parking lots versus small Lots. RMO has reached out to other RMOs to see what strategies have been utilized within their Source Protection Areas.

Non-SPA Specific Delays – Implementation Challenges:

The following are delays due to policy effectiveness and challenges. Items in this list are not specific to any particular Trent Source protection Authority and are applicable to the Trent Source Protection Plan:

Policy Category	# of Threats Addressed	# of Threats Remaining	Rationale for Delay	Potential Actions
Livestock Grazing, Pasturing, and Outdoor confinement	17	54	Contact lists not up to date (farmers using cell phones not listed), lack of incentive programs (e.g. fencing). Prioritization of larger operations since notion of the requirement of an RMP for one animal is in some situations unreasonable.	Update threats inventory and contact lists, work to contact farmers over the late fall / winter, discuss and push for potential new / revitalized incentive programs (both local and provincial). Consider policy challenge and potential update to include a Nutrient Unit threshold for the requirement to manage via an RMP.
Storage and Handling of Agricultural Source Material	26	72	Contact lists not up to date (farmers using cell phones not listed), more straight forward RMPs (e.g. fuel storage) completed first, lack of local incentive programs (e.g. manure storage).	Update threats inventory and contact lists, work to contact farmers over the late fall / winter, push for potential new / revitalized incentive programs (both local and provincial), improve communication / link with Canada-Ontario Envrionmental Farm Plan (EFP).
Application, Handling and Storage of Pesticides	3	39	Contact lists not up to date (farmers using cell phones not listed), more straight forward RMPs (e.g. fuel storage) completed first.	Update threats inventory and contact lists, work to contact farmers over the late fall / winter, discuss and push for potential new incentive programs.
New or Modified Transport Pathways	n/a	n/a	Section 27 Transport Pathway Notifications not always circulated.	Ongoing communication with municipalities and development of guidance materials related to notification process and review.
Storage and Handling of DNAPLs and Organic Solvents	2	12	No quantity threshold for DNAPL policy makes it difficult to implement, more straight forward RMPs (e.g. fuel storage) completed first.	Add DNAPL quantity threshold through either a Section 34 or Section 36 amendment. Staff wish to also consider the land use of the activity (e.g., residential versus industrial).

Policy Category	# of Threats Addressed	# of Threats Remaining	Rationale for Delay	Potential Actions
Compliance Dates	N/A	N/A	Some Policies do not include compliance dates, and implementers could benefit from clearly listed dates.	Include a review of compliance dates as part of Section 36 work plan update.

Other Anticipated Non-SPA Specific Delays:

These following challenges and required updates were identified through Municipal Working Group meetings, working groups and SPA meetings and relate specifically to the Trent Source Protection Plan:

Update Category	Challenge / Update	Required Updates to Address Challenge
Growth and Infrastructure Changes	Four new municipal wells	Update Source Protection Plan via Section 36 Work Plan
Growth and Infrastructure Changes	Updated Groundwater studies and associated vulnerable areas delineations for the 3 wells within Durham Region (Greenbank, Blackstock and Port Perry)	Update Source Protection Plan via Section 36 Work Plan
Growth and Infrastructure Changes	Depending on growth projections, a Tier 3 water budget for Millbrook may be required	Update Source Protection Plan via Section 36 Work Plan
Council Resolutions	Tier 3 water budget to be included in the Section 36 work plan to determine if there are water quantity issues which require source water protection policies, and that the water budget be funded through the Ministry of the Environment and Climate Change	Update Source Protection Plan via Section 36 Work Plan
Technical Rule Changes	Consider updates to Technical Rules such as Fuel in IPZs (impacts Fenelon Falls and others), End of Life Vehicles (2 sites in vulnerable areas in TCC)	Update Source Protection Plan via Section 36 Work Plan
Technical Rule Changes	Addition of Pipeline Threat in Lower Trent Source Protection Authority	Update Source Protection Plan via Section 36 Work Plan
Technical Rule Changes	Update Significant Groundwater Recharge Area mapping to meet new technical rules	Update Source Protection Plan via Section 36 Work Plan

Update Category	Challenge / Update	Required Updates to Address Challenge
Other Local Considerations	Updates to IPZ-2 (and IPZ-3) vulnerable areas based on updated water course data or based on field investigations.	Update Source Protection Plan via Section 36 Work Plan
Other Local Considerations	Review Time of Travel for suitability to respond to emergencies. Also Consider policies or enhanced communication between agencies to Ensure Spills Action Centre calls municipality and water treatment plant for spills in any vulnerable area.	Update Source Protection Plan via Section 36 Work Plan
Other Local Considerations	Review input data used in vulnerability scoring and determine if better data is available to reassess the vulnerability scores.	Update Source Protection Plan via Section 36 Work Plan

3.9 SCIENCE BASED ASSESSMENT REPORT: WORK PLANS

Water Budget – Technical Rule #30.1

Since no watersheds were deemed as requiring Tier 3 water budget assessment, The Trent Assessment Report does not include a work plan for Tier 3 water budgets. However within the reporting period of this Annual Progress Report we received a resolution from Stirling-Rawdon requesting that a Tier 3 water budget be included in the *Clean Water Act 2006* work plan to determine if there are water quantity issues which require source water protection policies, and that the water budget be funded through the Ministry of the Environment and Climate Change. Information requested by SPPB regarding change in normal operating practice during the drought event by the operating authority was provided to SPPB on December 7, 2017. TCC is awaiting response from SPPB regarding this matter.

GUDI for WHPA-E or F – Technical Rule #50.1

There is no work plan currently listed in the approved Assessment Report, however staff are waiting for a response from MOECC as to the applicability of the Groundwater Under the Direct Influence (GUDI) of surface water designation to the Alpine system based on the potential removal of Technical Rule #49.3 which requires the presence of surface water to decrease the travel time to the well. Since the Alpine system is currently a GUDI under the Safe Drinking Water Act, it could become GUDI under the *Clean Water Act* should Technical Rule #49.3 be removed.

ICA – Technical Rule #116

The Trent Assessment report lists Microcystin in the Bay of Quinte as a potential issue and calls for the continued monitoring of Microcystin at the Bayside intake to determine if it is an issue. As required by the Assessment Report, TCC staff continue to monitor the water quality data. It has not become an issue during this reporting period.

4. WANT MORE DETAIL?

Find out more information about DWSP and what's happening in the TCC SPR at trentsourceprotection.on.ca including details on:

- The *Clean Water Act*
- The Trent Conservation Coalition Source Protection Region
- The four Source Protection Authorities that make up the Trent Source Protection Plan
- Publications and resources such as the source protection plans and assessment reports
- Am I affected? / policy mapping tool

Alternatively, for more information, please contact your local Source Protection Authority:

Otonabee CONSERVATION	Meredith Carter Manager, Watershed Management Program Otonabee Region Conservation Authority 705-745-5791 x223 mcarter@otonabeeconservation.com
	Terri Cox Risk Management Official and Inspector Otonabee-Peterborough Source Protection Authority (705)745-5791 x 219 tcox@otonabeeconservation.com
KAWARTHA CONSERVATION Discover · Protect · Restore	Jenna Stephens Risk Management Official /Source Protection Technician Kawartha-Haliburton Source Protection Authority (705) 328-2271 x 224 jstephens@kawarthaconservation.com
Crowe Valley Conservation	Andrew McIntyre Crowe Valley Source Protection Authority Risk Management Official / Source Water Protection Specialist (613) 472-3137 andrew.mcintyre@crowevalley.com
LOWER TRENT CONSERVATION	Anne Anderson Special Project Coordinator Lower Trent Source Protection Authority (613) 394-4829 x 219 anne.anderson@ltc.on.ca

5. MORE FROM THE WATERSHED

To learn more about the Trent Conservation Coalition Source Protection Region, visit our homepage at http://www.trentsourceprotection.on.ca.