

## 2016 Implementation Summary Report Trent and Ganaraska Source Protection Plans



**“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



## MESSAGE FROM THE CHAIR OF THE TRENT CONSERVATION COALITION



On behalf of the Trent Conservation Coalition, I am pleased to introduce the second annual report on the implementation of the Trent and Ganaraska Source Protection Plans. I am pleased with the progress made in the second year of implementation. You will note the significant progress that is evident in this 2016 summary 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 new annual 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 water supply 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 for reporting progress and outlining potential changes we continue with our information gathering which process 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 water supply 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. 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 second 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 summary report on the implementation of source protection plans for the Trent Conservation Coalition 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.*

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# 2016 TCC IMPLEMENTATION SUMMARY

## 1. INTRODUCTION

The Trent Conservation Coalition's 2016 Implementation Summary Report provides an update on the status of the implementation of the Trent and Ganaraska Source Protection Plans (SPPs). This is the second implementation summary on the progress of the source water protection program in the Trent Conservation Coalition Source Protection Region (TCC SPR).

This report is produced by the TCC SPR, for the residents and businesses of the TCC SPR, the TCC Source Protection Committee (SPC), Source Protection Authorities (SPAs), municipalities, and other local stakeholders.

The format of the 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 and Ganaraska Source Protection Plans.

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

### 1.1 CLEAN WATER ACT

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

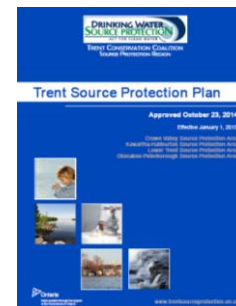
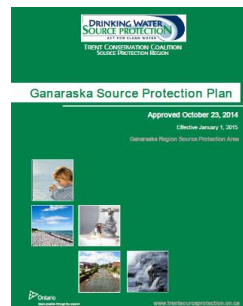
The *Clean Water Act* led to the creation of the Drinking Water Source Protection (DWSP) program which established 19 source protection regions and 38 source protection areas in Ontario. The DWSP program protects current and future municipal residential drinking water sources from contamination and overuse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

The Trent and Ganaraska SPPs include mandatory and strategic policies to reduce the risk of municipal source water contamination, and require implementing bodies to report on the implementation progress of policies in the plan. The TCC SPR and SPA staff worked closely with provincial ministries, municipalities, businesses, landowners and other stakeholders during the development of the Trent and Ganaraska SPPs.

## 1.3 OUR WATERSHED: THE TRENT CONSERVATION COALITION SOURCE PROTECTION REGION

The TCC SPR consists of 5 SPAs and has two approved source protection plans.

Source Protection Plan	Source Protection Area
Ganaraska	Ganaraska Region
Trent	Kawartha-Haliburton
	Otonabee-Peterborough
	Crowe Valley
	Lower Trent



Trent and Ganaraska SPP policies collectively apply in all or part of 43 municipalities. There are approximately 210,000 residents serviced by 53 municipal residential drinking water systems.

For a map of the TCC SPR, refer to section 1.4.

### Trent Conservation Coalition Source Protection Region Quick Facts

- Population: 400,000
- Area: Trent SPP = 12,900 km<sup>2</sup>
- Area: Ganaraska SPP = 930 km<sup>2</sup>
- Area: TCC SPR = 13,830 km<sup>2</sup>
- Number of drinking water systems: 53 (includes one planned groundwater system)
- Number of surface water systems: 18
- Number of groundwater systems: 35 (includes one planned system)
- Population serviced by municipal residential drinking water systems: more than 210,000
- Number of municipalities with residential drinking water systems: 27 (22 lower tier, 5 upper tier)
- Number of municipalities with at least part of a vulnerable area in their jurisdiction: 43 (38 lower tier, 5 upper tier)
- Number of policies: 275 (137 Ganaraska SPP, 138 Trent SPP)
- Number of Issue Contributing Areas: 1 (Trent – Stirling system)
- Effective date of the Trent and Ganaraska SPPs: January 1, 2015

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

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

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

The scoring system assesses the progress achieved in 2016 related to implementing policies in the Trent and Ganaraska SPPs.

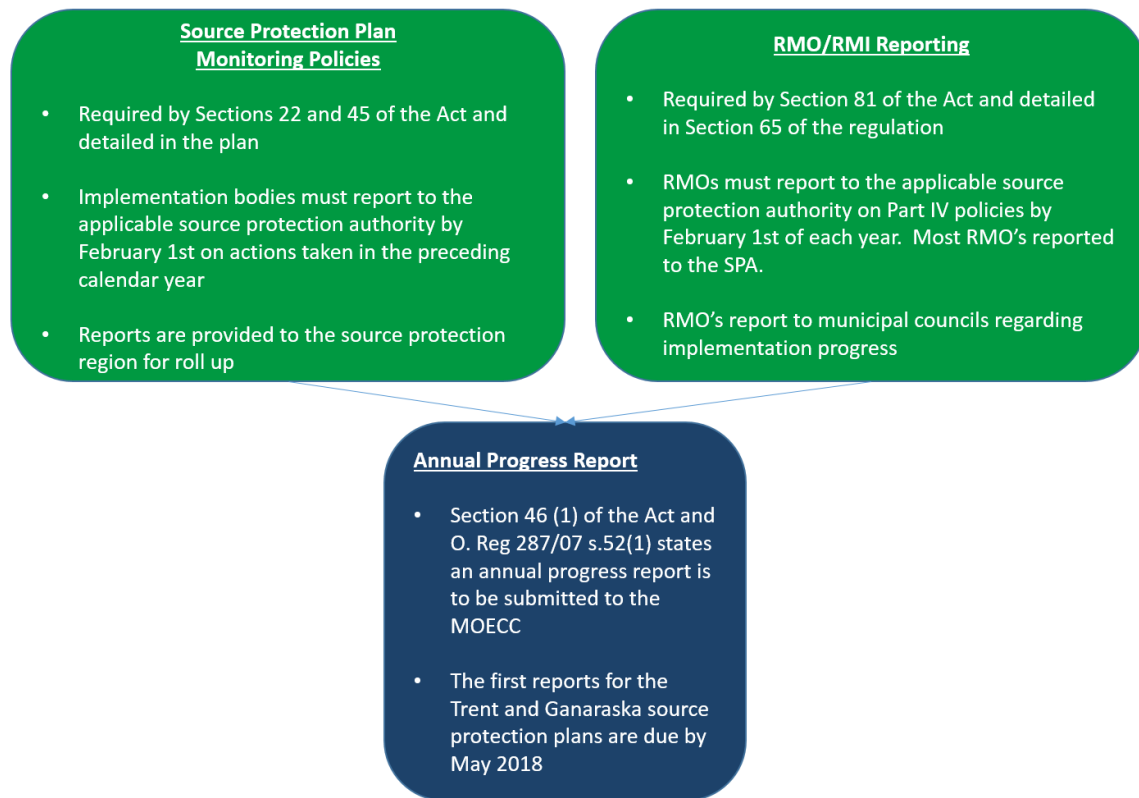
The SPC arrived at this consensus based on a summary of information provided by SPAs through the implementation progress templates and presented on [October 30, 2017 at a TCC Source Protection Committee meeting](#).

The committee assessed implementation progress by applying the criteria that some source protection plan policies have been implemented. This was accomplished through a review of the sections below and in particular Table 3.7. The review made it evident that the Progressing well / on target criteria was not applicable since “Most” of the source protection plan policies have been implemented. Nor was there limited progress as more than “A few” source protection plan policies have been implemented. The committee settled on the progress score of “Satisfactory” since the review made it clear that “Some” of the source protection plan policies have been implemented.

### 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 receives monitoring information from implementing bodies to create an SPA based annual report. This information is then used to report on SPP implementation in the form of this annual implementation summary report.

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



The success and progress of the source protection program is evaluated through an 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 from implementing bodies (e.g. 43 municipalities) 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 however 84% of the reports covered only legislated Section 65 (*Clean Water Act 2006*) information (see Section 3.3 below for more details). Staff must work to close this significant reporting gap for the May 2018 annual progress report by requiring the information rather than requesting the information as optional.

Provincial ministries followed a similar approach and 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 13 provincial scale reporting forms, which was provided under Ministry district jurisdictions rather than SPR or SPA boundaries.



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

On October 30, 2017, the TCC SPC by consensus agreed that overall the Trent and Ganaraska Source Protection Plans are **Satisfactory**. The SPC arrived at this consensus through a review of a roll up of the available annual reports provided by implementing bodies. As per section 2 of this report, a satisfactory grade is achieved when “some of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan”.

A high level review of policy implementation showed that some of the legally binding policies (64%) that address significant drinking water threats have been or are in the process of being implemented in accordance with the timelines set out in the source protection plan. The remaining 36% are either in progress or not started.

Thus it was very apparent to the TCC SPC that only some (64%) of the SPP policies have been implemented and/or are progressing according to the timelines in the source protection plan.

The following sections will further describe the Implementation status for the major policy groups within the Trent and Ganaraska SPPs.

#### 3.1 MUNICIPAL PROGRESS – ADDRESSING RISKS ON THE GROUND

Municipalities and Approval Authorities under the *Planning Act* are the Implementing Body for a 56 and 57 (113 total) policies in the Trent and Ganaraska SPPs, respectively.

<i>Compliance Date Summary</i>
5 years Official Plan + 3 years Zoning By-Law

The jurisdictions of 43 municipalities in the TCC SPR include vulnerable areas, however of those, 27 municipalities (22 lower tier and 5 upper tier) contain vulnerable areas where SPP policies apply.

All affected municipalities established standard operating procedures to ensure day-to-day planning decisions conform to the SPPs. Some fine tuning of the process is required to ensure all relevant applications are flagged and transport pathway notifications occur to ensure that planning advice is provided to manage or provide options to manage potential transport pathways.

Municipalities are also ensuring amendments to Official Plans and Zoning By-Laws conform to the SPPs. Two upper tier municipality 5 lower tier municipalities are still in the process of updating official plans and Zoning By-Laws however this work is still well within the 5 year compliance timeline which reflect the statutory requirement set out in [Section 26 \(1.1\) of the Planning Act 1990](#).

Updates to Emergency Management Plans are complete or in progress in each of the TCC municipalities.

#### 3.2 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 empowered by the principal authority (municipalities).

<i>Compliance Date Summary</i>		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 <a href="#">O. Reg. 315/10: BUILDING CODE</a> to be five years after the date of publishing of the Assessment Report on the Environmental Bill of Rights. The EBR Registry Number is <a href="#">012-2699</a> and was posted November 3, 2014 therefore the compliance date for existing septic's is November 3, 2019.
Existing	5 years from notice on EBR (November 3, 2019)	
Future	When the plan takes effect (January 1, 2015)	

Seventy two (72) percent of Existing Threats have been inspected in accordance with OBC, of which 87% passed inspection and are functioning as designed or carrying out the required pump-outs. The remaining inspections are expected to be completed in 2017. Compliance dates for existing threats 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, November 3, 2014.

Future septic systems that are Threats will be subject to standard operating procedures to ensure OBC compliance.

### 3.3 RISK MANAGEMENT PLANS

Risk Management Officials (RMOs) are the Implementing Body for 39 policies in each of the Trent and Ganaraska SPPs, 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).

<i>Compliance Date Summary</i>		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)	

The total number of Risk Management Plans (RMPs) established in the Trent Conservation Coalition was 27. These 27 plans collectively manage a total of 48<sup>1</sup> significant drinking water threats. RMO's 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 is was 13. The compliance rate with the risk management plans established is: 100%<sup>2</sup>.

RMO's issued a total of 189 Section 59 notices in 2016. 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 15 RMO's in the TCC SPR can found on the TCC website RMO webpage (<http://trentsourceprotection.on.ca/risk-management/contact-your-risk-management-official-inspector>).

<sup>1</sup> Number of threats managed is based on 84% response rate of optional reportables.

<sup>2</sup> Compliance Rate is based on 84% response rate of optional reportables.

### 3.4 PROVINCIAL PROGRESS: ADDRESSING RISKS ON THE GROUND

Four provincial ministries are the Implementing Body for 30 policies in each of the Trent and Ganaraska SPPs.

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

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

<b>Implementing Body</b>	<b>Policy Implementation Complete (%)</b>	<b>Policy Implementation In Progress (%)</b>	<b>Policy Implementation Not in Progress (%)</b>
Ministry of Agriculture, Food, and Rural Affairs (OMAFRA)	80	0	20
Ministry of the Environment and Climate Change (MOECC)	58	18	24
Ministry of Natural Resources and Forestry (MNRF)	50	0	50
Ministry of Transportation (MTO)	75	25	0

For existing threats, OMAFRA and MOECC reviewed 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 and Ganaraska Source Protection Plans to address existing activities that pose a significant risk to sources of drinking water. The provincial approvals were amended or revoked where necessary to conform to plan policies. The Trent and Ganaraska Source Protection Plans establish a compliance date of 5 years for OMAFRA and MOECC to complete the reviews and make any necessary changes.

For future threats, OMAFRA and MOECC reported that standard operating procedures were in place ensuring applications are reviewed to ensure the proposed activities conform to TCC SPP policies.

### 3.5 AWARENESS AND CHANGES IN BEHAVIOUR – EDUCATION & OUTREACH

Ten (10) policies in each of the Trent and Ganaraska SPP’s recognize the importance of using the education and outreach tool to change behavior to better protect sources of municipal drinking water.

Compliance Date Summary	
Existing / Future	5 years from when plan takes effect (January 1, 2020)

Signage was identified an effective tool for raising awareness of the DWSP program and the importance of protecting sources of municipal drinking water. To date, **220** Drinking Water Protection Zone signs have been installed in the Trent Conservation Coalition Region

- 16 signs were installed by the Ministry of Transportation along provincial highways in 2016
- 204 signs have been installed by Municipalities on county and municipal roads
- Several municipalities have replaced existing signage with the provincially designed DWSP signs

Other education and outreach activities included:

- Learning opportunities directed at special events such as water festivals (see picture to the right)
- 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)



### 3.6 SOURCE WATER QUALITY: MONITORING AND ACTIONS

<i>Compliance Date Summary</i>	
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 in 2016:

- Reported annually by February 1<sup>st</sup> to the Lower Trent Source Protection Authority
- Monitored the identified issue through data provided in the Stirling-Rawdon annual water report and improved the ability to track Total Coliform (TC) hits. The monitoring showed production well RW1 increased in maximum total coliform from 8-43 counts / 100mL raw water sample. A possible reason for the increase in total coliform is the municipalities improved ability to sample and track Total Coliform counts.
- Undertook hydrological studies showing the wells are Groundwater Under the Direct Influence of surface water (GUDI) 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 8 RMP's managing 23 threats
- Completed Education & Outreach activities including advertorials in local newspaper, attendance at local events, updated factsheet and door-to-door visits in the Issue Contributing Area
- Several major expenses were incurred to install, repair or replace required equipment.

### 3.7 SOURCE PROTECTION PLAN POLICIES: CHALLENGES

Implementation challenges of certain SPP policies has been identified by various implementing bodies. The following table identifies some of the challenges and includes brief descriptions, the reasons for reported delays, and includes potential future actions to overcome the delays and ensure successful implementation of the applicable policies.

Since the following list and rationale is based on the results from 84% of Municipalities reporting optional information such as the number of threats remaining, ongoing efforts to refine the number of significant drinking water threats

continues and is based on information gathered from direct contact, site visits and refinement of available information.

<b>Prescribed Threat</b>	<b>Number Addressed in 2016<sup>3</sup></b>	<b>Number Remaining</b>	<b>Rationale for Delay</b>	<b>Potential Future Actions</b>
Septic Inspections	504	264	Property entry / permission to enter property for inspection purposes difficult to obtain, seasonal residents, large workload	Work with municipal councils and increase public awareness through outreach campaigns
Application of Road Salt	0	50	Lack of guidance, complex subject area , more straight forward RMP's (e.g. fuel storage) completed first	Potentially Co-Host a local Smart about Salt training session with Quinte Conservation, monitor the Road Salt Working Group and Best Practices document, gather information from municipalities on application rates
Storage and Handling of DNAPLs <sup>4</sup> and Organic Solvents	2	12	No quantity threshold for DNAPL policy makes it difficult to implement, more straight forward RMP's (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).
Storage and Handling of Agricultural Source Material	26	72	Contact lists not up to date (farmers using cell phones not listed), more straight forward RMP's (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 Environmental Farm Plan (EFP)

<sup>3</sup> Threats addressed means the activity either cease to be due to being managed (e.g. by a RMP or a septic inspection) or it was confirmed to not exist that is was not existing, not being undertaken, or outside the vulnerable area. The number of Threats was an optional reportable and resulted in an 84% response rate.

<sup>4</sup> 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](#)

Prescribed Threat	Number Addressed in 2016 <sup>5</sup>	Number Remaining	Rationale for Delay	Potential Future 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)	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)
Application, Handling and Storage of Pesticides	3	39	Contact lists not up to date (farmers using cell phones not listed), more straight forward RMP's (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
Handling and Storage of Fuel	14	147	Seasonal cottage owners often not present on property, contact lists not up to date	Work with municipal councils and increase public awareness through outreach campaigns
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

#### 4. WANT MORE DETAIL?

Find out more information about DWSP and what's happening in the TCC SPR at [trentsourceprotection.on.ca](http://trentsourceprotection.on.ca) including details on:

- The *Clean Water Act*
- The Trent Conservation Coalition Source Protection Region
- The five The Trent Conservation Coalition Source Protection Areas
- Publications and resources e.g. the source protection plans and assessment reports
- Am I affected? / policy mapping tool

#### 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>.

<sup>5</sup> Threats addressed means the activity either cease to be due to being managed (e.g. by a RMP or a septic inspection) or it was confirmed to not exist, not being undertaken, or outside the vulnerable area. The number of Threats was an optional reportable and resulted in an 84% response rate.