



Environmental Services Department

MEMORANDUM

TO: Committee of the Whole
FROM: Erin Mahoney, Commissioner of Environmental Services
DATE: February 4, 2016
RE: **2015 Annual Report on Source Protection implementation as required under the *Clean Water Act, 2006***

This memo provides Council with a copy of the Annual Report (*Attachment 1*) that summarizes York Region's efforts to implement source water protection. The report was submitted to the Toronto and Region Source Protection Authority and the Lakes Simcoe and Couchiching/Black River Source Protection Authority on February 1, 2016 per *Clean Water Act, 2006* requirements. Copies of this report are provided for information to all members of Council. Those Council members participating as Conservation Authority Board members will also receive copies of this report at upcoming Source Protection Authority meetings.

The South Georgian Bay Lake Simcoe Source Protection Plan became effective on July 1, 2015 and the Credit Valley, Toronto, and Central Lake Ontario Source Protection Plan on December 31, 2015. The 2015 annual report summarizes the Region's proactive efforts to implement a number of requirements in the Source Protection Plans to address potential threats to Regional drinking water supplies.

Erin Mahoney, M. Eng.

DG

Attachment

Copy to: Dr. Karim Kurji, Medical Officer of Health, Community and Health Services, Public Health
Adelina Urbanski, Commissioner, Community and Health Services
Dino Basso, Commissioner, Corporate Services
Valerie Shuttleworth, Chief Planner, Planning and Economic Development, Corporate Services

#6389632



WATER IS SAFE

Source Water Implementation
— 2015 Annual Report —

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#wateris



Keeping our water safe

INTRODUCTION

This fourth annual report complies with s. 81 of the *Clean Water Act, 2006*, and outlines the activities undertaken by the Regional Municipality of York in 2015 to protect municipal drinking water sources. Source Protection is one component of the multi-barrier approach to ensure clean and safe drinking water. The multi-barrier approach used by York Region also includes operator training, water treatment, extensive monitoring and testing, as well as emergency preparedness.



Negotiating Risk Management Plans

In 2015, York Region continued its work with a number of businesses and farmers to verify threat activities at their sites. This included work in Bradford and Durham. York Region is completing Risk Management work on behalf of Bradford for their well located in York Region. A wellhead protection area in Stouffville extends into Durham and York Region is managing threats at farms located within that area. Ninety-eight per cent of eleven hundred and fifteen threats identified in the Assessment Reports have been verified (see Figure 1 for more information). Once threats were verified Region staff began developing Risk Management Plans. The process included evaluating existing business practices and potential gaps in drinking water protection.

Staff worked in conjunction with York Region's Sewer Use Bylaw enforcement team in Operations, Maintenance, and Monitoring to share information on industrial sewer users. Enforcement of the bylaw helps protect the Region's drinking water sources by protecting assets, such as sewer lines, and by providing information on chemical use and storage in industrial facilities.

All individuals engaged in the process to date had many of the appropriate measures in place to manage chemicals and, in the case of a farm, nutrients and pesticides. A template was used to make the process less onerous for the businesses and farmer. In 2014, four Risk Management Plans were completed. In 2015, Risk Management Plans were completed for one farm, twenty-seven businesses, the York Region Administrative Building and the Newmarket Health Centre. There are now a total of thirty-four Risk Management Plans in place (see Figure 2). Information related to the Source Protection Program is managed in the Regional data management system.



Risk Management Measures Implemented

New risk management measures have been established as part of Risk Management Plans to address small gaps that were identified. External risk management measure experts, such as International Safety, were used to recommend equipment for the sites. Risks were addressed through more substantial spill response equipment, a spill response plan and secondary containment for chemicals. For examples of risk management measures see Figure 3.



FIGURE 1 SUMMARY OF RISK MANAGEMENT EFFORTS

Local Municipality	Significant Threats Identified in Assessment Report (2010)				Significant Threats Identified Through Additional Verification (2011 - 2015)			Total Number of Properties Requiring a RMP	RMPs Completed To Date	RMPs Completed in 2015	Inspections of Sifts with RMPs in 2015	Section 59 Notices in 2015	RMPs Refused Set Up by Order, Risk Assessments and S.61 Notices Received	Enforcement Action Required (Orders Issued, S.64 Actions)
	Number of Properties (# Threats)	Removed After Threat Verification (# Threats)	Confirmed After Threat Verification (# Threats)	Remainder To Be Verified (# Threats)	Number of Properties	Removed After Threat Verification	Confirmed After Threat Verification							
Georgina	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Gwillimbury	14 (88)	6 (65)	7 (16)	1 (7)	18	16	1	1	0	0	0	0	0	0
Newmarket	216 (394)	182 (356)	34 (38)	0	101	76	5	20	16	16	4	3	0	0
King	48 (235)	32 (215)	12 (13)	4 (7)	33	20	4	9	4	4	2	0	0	0
Aurora	95 (114)	61 (80)	32 (32)	2 (2)	109	63	10	36	12	9	6	1	0	0
Whitchurch-Stouffville	29 (226)	13 (188)	14 (36)	2 (2)	15	5	1	9	2	1	0	0	0	0
Vaughan	2 (34)	1 (31)	1 (3)	0	1	0	0	1	0	0	0	0	0	0
Richmond Hill	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Markham	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bradford	0	0	0	0	16	9	7	0	0	0	0	0	0	0
Durham	11 (24)	9 (22)	2 (2)	0	1	0	1	0	0	0	0	0	0	0
TOTAL	415 (1,115)	304 (957)	102 (140)	9 (18)	294	189	29	76	34	30	12	4	0	0

FIGURE 2
INFORMATION ON RISK MANAGEMENT PLANS AGREED TO IN 2014 AND 2015

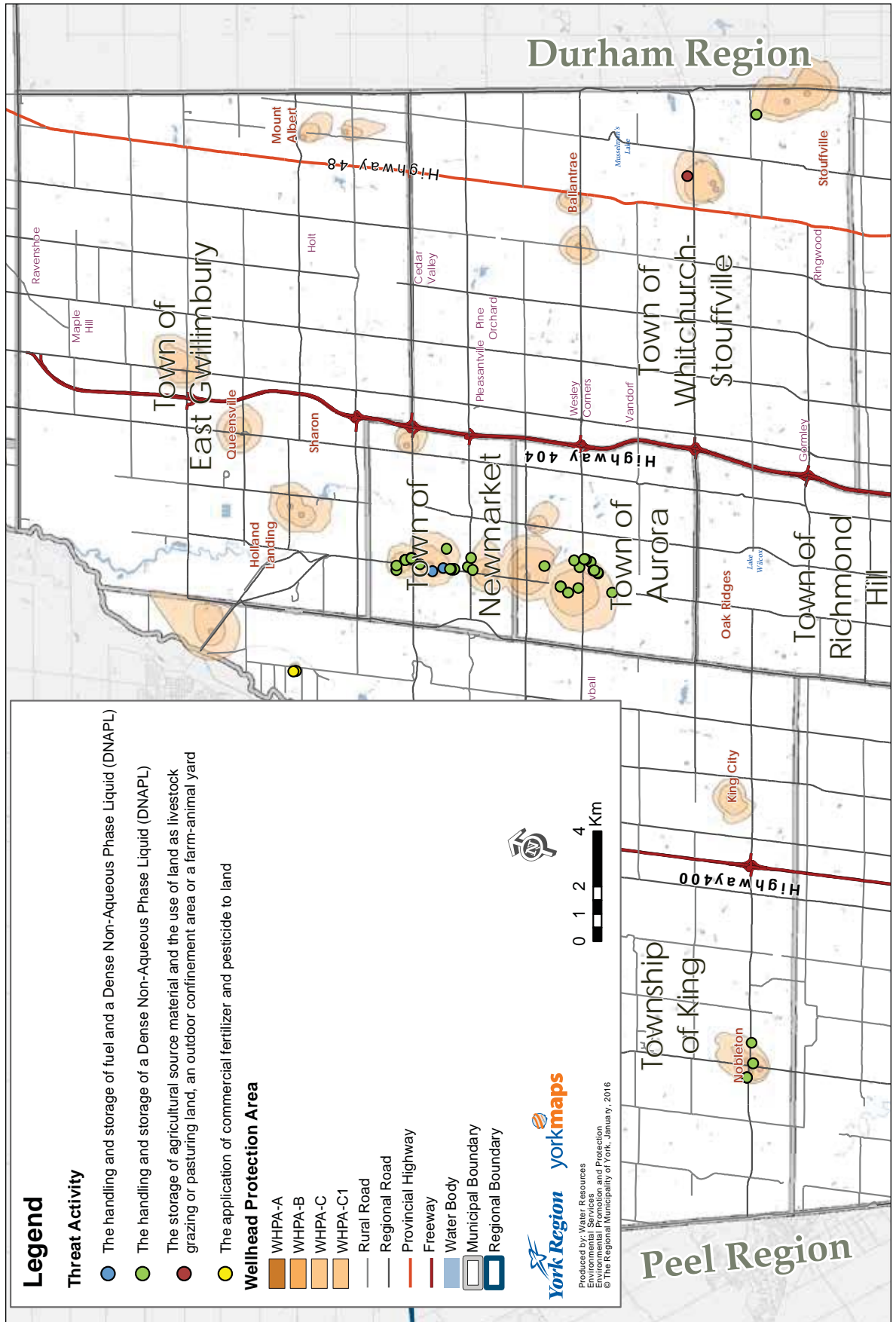


FIGURE 3 – EXAMPLES OF RISK MANAGEMENT MEASURES



Threat:
Underground
fuel storage

Mitigation:
Double walled
tank with alarm



Threat:
Chemical
storage

Mitigation:
Fireproof
cabinet with
secondary
containment



Threat:
Hazardous
chemical use

Mitigation:
Switch to an
environmentally
friendly alternative



Threat:
Fuel
storage

Mitigation:
Spill response
equipment



Threat:
Manure
spreading

Mitigation:
Establishment
of Nutrient
Management
Plan



Consultants Hired to Prepare Complex Risk Management Plans

Environmental consultants helped develop Risk Management Plans for a few of the more complex businesses within wellhead protection areas in the Region, such as pharmaceutical, printing, and manufacturing companies. A Risk Management Plan prepared by industrial experts will ensure that appropriate risk management measures are implemented to reduce the threat to our drinking water supply.



Incentives Provided To Businesses

In 2015, over \$13,000 was spent to implement risk management measures outlined in approved Risk Management Plans within York Region. The Council endorsed incentive program covered 98% of this amount, which expedited timelines for implementing risk management measures. Incentive programs have demonstrated success in encouraging businesses to make changes that protect water sources. For example, York Region staff are working with a local dry cleaner to switch to an environmentally friendly alternative by providing incentive funding for new equipment in 2016, see Figure 4. To bring attention to the program, a “Water Hero” video was developed, which highlights the ease and benefits of the process. Promotional decals were enthusiastically received by program participants, as they helped demonstrate their commitment to protecting municipal drinking water sources.



Inspections Completed at Businesses with Risk Management Plans

Follow-up inspections are conducted within two years to ensure risk management plans are being effectively implemented and equipment (e.g. secondary containment) is in place and functioning as required. Out of twelve inspections completed for the thirty-four Risk Management Plans, two sites had not fully implemented the required measures, and needed follow-up action. Corrective actions were subsequently undertaken without any formal enforcement in both cases, including:

- 1. Non-conformance with risk management plan:** Site contact was out of date due to employee turnover, and spill response equipment was not installed.
Corrective action: Contact updated and equipment installed.
- 2. Non-conformance with risk management plan:** Spill Response Plan and Spills Action Centre number not posted. **Corrective action:** Spill Response Plan and Spills Action Centre contact number located with spill response kit.

At two additional sites, inspections resulted in refinement to measures in place per Risk Management Plan requirements:

- 1. Concern:** Chemical containers were stacked atop one another on a secondary containment tray. **Resolution:** Additional trays ordered to ensure sufficient secondary containment.
- 2. Concern:** Spill response equipment on-site was not appropriately sized, and outdoor secondary containment pallet did not meet requirements for outdoor use. **Resolution:** Spill response kit and secondary containment pallet replaced with appropriate equipment.

FIGURE 4
DRY CLEANER CONVERTING TO ENVIRONMENTALLY FRIENDLY MACHINERY



USES PERC

(PERCHLOROETHYLENE)

A HAZARDOUS TOXIC CHEMICAL

VERY DIFFICULT & EXPENSIVE TO CLEAN UP IN GROUND WATER



HALOGEN FREE, NON-TOXIC, BIODEGRADABLE

ENERGY COST SAVINGS DUE TO LESS EFFORT IN DISTILLATION AND DRYING

HIGH PRODUCTIVITY DUE TO SHORT CYCLE TIMES



Protecting Lake Ontario Sources of Drinking Water

As a member of the Credit Valley, Toronto and Region, and Central Lake Ontario Source Protection Committee, York Region has worked to ensure policies in the Source Protection Plan protect the Region's main source of drinking water - Lake Ontario. Spill prevention, contingency and emergency response plans for sites with significant threats are required through various Source Protection Plan policies. Although the majority of Lake Ontario policies in the Source Protection Plan must be implemented by the Ministry of Environment and Climate Change, there are sewage policies that impact York Region. Regional staff are reviewing Environmental Compliance Approvals and operating procedures for sewer infrastructure near Lake Ontario to ensure appropriate measures are in place to prevent releases.



Incorporating Source Protection Plan Policies into the Regional Official Plan

In early 2014, Regional staff initiated a municipal comprehensive review to address updated Growth Plan forecasts to 2041. This is a primary component of the mandatory five year review and update of the York Region Official Plan, a requirement under the *Planning Act*.

This review included the evaluation of three draft growth scenarios based on a number of factors within the context of land use including potential impacts of new growth plan areas on the sustainability of municipal supply wells. This exercise concluded that there would be no significant impact on supply aquifers from the growth scenarios assessed.

A conformity exercise is also underway to integrate Source Protection Plan policies into the York Region Official Plan in order to comply with the *Clean Water Act, 2006*. Draft policies will be considered by Council in 2016.



Helping Local Municipalities Implement Source Protection Requirements

Collaboration with our local municipalities is instrumental in the implementation of source protection across the Region.

Provincial Implementation Funding

Four local municipalities in York Region (Georgina, East Gwillimbury, King, Whitchurch-Stouffville) received provincial funding for source protection implementation. York Region facilitated a working group for these municipalities and three others (Aurora, Vaughan and Markham) to collaborate and develop consistent approaches to implementation. Business processes for development application approvals, Official Plan and zoning bylaw amendments, and outreach material were refined to begin implementation. York Region assisted the Town of Georgina with their comprehensive Official Plan review in order to include source protection plan policies for vulnerable areas, including Intake Protection Zones for the Lake Simcoe municipal drinking water source.



Workshops Held

In the spring, York Region staff held the South Georgian Bay Lake Simcoe implementation workshop for planning, building and engineering staff from local municipalities in the Lake Simcoe watershed along with partners such as Bradford West Gwillimbury, and Lake Simcoe Region Conservation Authority. The event was well attended and included interactive breakout sessions to help prepare local municipalities for implementation on July 1, 2015.

With the approval of the Credit Valley, Toronto and Region, and Central Lake Ontario Source Protection Plan, workshops with local municipal staff from the Toronto and Region Conservation Authority were completed in the fall. Workshops were customized to the three implementation situations:

- 1) Credit Valley, Toronto and Region, and Central Lake Ontario Source Protection Plan implementation (Vaughan),
- 2) Credit Valley, Toronto and Region, and Central Lake Ontario and South Georgian Bay Lake Simcoe Source Protection Plan implementation (King and Whitchurch-Stouffville), and
- 3) Recharge maintenance and Highly Vulnerable Aquifer focused Credit Valley, Toronto and Region, and Central Lake Ontario Source Protection Plan implementation (Richmond Hill and Markham where there are no wellhead protection areas).

Over eighty municipal and conservation authority staff were engaged through the workshop series.



Septic Inspections

Local municipalities are developing plans to complete septic inspections by January 2017 as prescribed by the *Clean Water Act*. The northern six municipalities (Georgina, East Gwillimbury, King, Aurora, Newmarket, Whitchurch-Stouffville) have collaborated on a joint Chief Building Official Report to identify common septic program elements, which will be presented to the Chief Administrative Officers group in early 2016. Local municipalities are planning to start carrying out inspections in spring 2016.



Reviewing Planning Applications in Vulnerable Areas

York Region established key performance indicators in 2015 in order to track success of the Region's Source Protection Program and support the Region's 2015-19 Strategic Plan initiatives. One of the objectives is to ensure development reviews consider source protection vulnerable areas. Eighty-nine development applications within vulnerable areas were reviewed by York Region in 2015. Source Water Impact Assessment and Mitigation Plans established under the Official Plan mitigate source protection concerns beyond the requirement of the *Clean Water Act*. In 2015, four Source Water Impact Assessment and Mitigation Plans were approved.

One of the new requirements of the Source Protection Plan is for a section 59 notice for major developments near municipal wells. The notices are required before planning and building applications can be deemed complete. The South Georgian Bay Lake Simcoe Source Protection Plan effective date was July 1, 2015 and notices could only be issued after this date. As a result, only three notices were issued in 2015. For the southern portion of York Region, the Credit

Valley, Toronto and Region and Central Lake Ontario Source Protection Plan is not effective until December 31, 2015 so no notices were issued from this Plan area. In order to inform proponents of the new source protection requirements, forty-six pre-consultation meetings were performed by Region staff in 2015.



Education and Outreach

Local Municipalities

Engagement of municipal staff on source protection requirements was a focal point in 2015 with both source protection plans being approved. In the spring and fall of 2015, York Region worked with local municipal staff to help them implement the new section 59 notice process. This included developing outreach and educational materials and holding workshops for staff (refer to Figure 5 and Appendix 1). Staff developed a Source Protection Communication Plan for the South Georgian Bay Lake Simcoe workshop, each of the three Credit Valley, Toronto and Region, and Central Lake Ontario municipal implementation workshops, along with a communication plan to prepare for Source Protection Plan approval.

FIGURE 5 SOURCE PROTECTION EDUCATIONAL MATERIAL



Commercial Realtors

York Region staff reached out to commercial realtors with clients who buy, sell, rent or lease within vulnerable areas. Education sessions focused on how source protection impacts the realtor and their clients. To date, twenty-six realtors have been engaged, resulting in numerous inquiries related to properties within vulnerable areas.



Building Industry and Land Development Association (BILD)

The building industry is affected by Source Protection Plan policies through requirements for a section 59 notice as part of planning or building permit applications. York Region staff engaged the Building Industry and Land Development Association in 2015 with approximately twenty-five members in attendance at a presentation to explain the new source protection requirements.

General Outreach

York Region staff also perform source protection outreach through a number of related campaigns including Water Is, Water For Tomorrow and I Don't Flush (refer to Figures 6 and 7).

In 2015, the Water Is campaign highlighted the people behind the scenes of York Region's drinking water. It allowed residents to understand how their water is kept safe and clean, and to discover the hidden infrastructure that brings water from its source to their homes and back again.

The I Don't Flush campaign educates residents about what goes down the drain, and what doesn't. The 2015 campaign focused on pharmaceuticals. The second phase of the campaign, which focuses on flushable wipes and personal hygiene products, will be launched in February 2016.

Water for Tomorrow includes a broad range of water education programs that informs the public about water conservation, water protection and our urban water system. In 2015, Water for Tomorrow staff attended 71 events, held 24 Greener Home and Garden seminars, engaged almost 5,000 students in the York Children's Water festival and launched a new in-class Grade 5 water education program.



Conclusion

Plans for the Source Water Program in 2016 include on-going review of development proposals in vulnerable areas, establishment of 24 Risk Management Plans, completion of 24 inspections of Risk Management Measures established in Risk Management Plans, improvements to the Non-Potable Review process, and best practice education efforts for businesses within vulnerable areas that do not require a Risk Management Plan.

FIGURE 6
WATER IS CAMPAIGN



FIGURE 7
I DON'T FLUSH CAMPAIGN



**The Regional Municipality of York
Environmental Services Department**

Administrative Centre - 1st Floor

1-877-464-9675

york.ca

Accessible formats or communication
supports are available upon request.



Keeping our water safe

F.A.Q

Frequently Asked Questions

Where and when are Section 59 notices required in York Region?

After July 1, 2015 they are required within any Wellhead Protection Area C (WHPA-C) in the Lake Simcoe watershed.

What kinds of land uses need a Section 59 notice?

All new Industrial, Commercial, Institutional (ICI) sites, new farm structures, and new residential sites with underground or basement fuel oil storage for home heating.

What is a Section 59 notice?

It is a notice from York Region's Risk Management Office required under the *Clean Water Act* that will contain conditions, which could include a requirement for a Risk Management Plan or prohibitions of specific activities included in the development application.

Which rules do I follow (Source Protection Plan or Zoning ByLaw/Official Plan)?

After July 1, 2015 you must conform to the Source Protection Plan since the *Clean Water Act* supersedes Municipal Official Plans and Zoning Bylaws.

Do notices prevent new businesses from opening?

Source Protection Plans prohibit specific activities in the most vulnerable areas, not businesses. However, a new business that is highly dependent upon an activity that is prohibited may not be feasible in some parts of the Region (e.g. a new gas station would not be possible where the handling and storage of bulk fuel is prohibited). Please refer to the map of WHPA-C's included in this reference guide or York.ca/SPMap to see where Section 59 notices are required.

What is a Risk Management Plan and when is it required?

A Risk Management Plan documents the activities at a site that are potential threats to the quality and/or quantity of source water for a municipal well, and details measures that are in place and/or will be put in place to prevent the activity from posing a significant threat to drinking water. The Risk Management Office can explain when and if it is required for a development when you work with them as part of the Section 59 process.

Does development in York Region compromise water quality and quantity?

If development is not properly planned and managed it can affect the quality or quantity of our groundwater supplies. Development can impair groundwater in two ways: by inhibiting groundwater recharge when paving over land, and through the improper handling of chemicals, salt, pesticides, fertilizer, fuels, oils, solvents, and waste from animals or humans emanating from a new development. The 41 groundwater wells and two Lake Simcoe intakes in the Region are vulnerable areas and are carefully protected to mitigate these risks. Municipalities, through planning decisions, for example, make sure that industries which handle toxic chemicals are not located near municipal production wells or lake intakes.

How is our water protected?

York Region has contributed to the preparation of source protection plans that have been or will soon be approved by the Ministry of Environment and Climate Change. York Region falls into two source protection regions and therefore will have two source protection plans. The source protection plan for the northern portion of York Region will come into effect July 1, 2015. We anticipate the source protection plan for the southern portion of the Region will be approved and come into effect in 2016.

The plans build on the protective measures already required under the York Region Official Plan and Provincial regulations to generally manage existing activities, and prohibit some activities near production wells and lake intakes.

We work with businesses, farms, local municipalities, the provincial government, and residents to:

- Define wellhead protection areas for all municipal water supply wells;
- Monitor the quality and quantity of groundwater;
- Treat wastewater to make it safe for reintroduction into the environment;
- Review development applications to make sure that drinking water sources are protected; and
- Negotiate risk management plans with existing business owners and farmers to put measures in place to appropriately manage potential risks to drinking water



IS YOUR PROPOSED DEVELOPMENT IN A WELLHEAD PROTECTION AREA?

Keeping our water safe



Properties within wellhead protection areas will now have to comply with Source Protection Plan policies.

The South Georgian Bay Lake Simcoe Source Protection Plan is approved, which means changes to the development rules in York Region (within the Lake Simcoe watershed - which is generally the northern half of the Region) will be **effective July 1, 2015**. Source Protection Plans under the *Clean Water Act* have the objective to protect our drinking water sources from possible contamination. The *Clean Water Act* takes precedence over municipal zoning bylaws and official plans until they have been updated to reflect these changes.

To see if your proposed development is affected, talk to local municipality planning staff or zoning examiner or locate the property using the York Region viewer at york.ca/SPMap

If your property is within a wellhead protection area, contact the York Region Risk Management Office at 905-830-4444 extension 73000 or email sourcewaterprotection@york.ca

