AGENDA

Mississippi-Rideau Source Protection Committee

Date: May 5, 2011
Time: 4 pm

Location: Merrickville Community Centre
106 Read Street, Merrickville

Welcome and Introductions			
1.0	a. Agenda Review b. Notice of Proxies c. Adoption of the Agenda (D) d. Declarations of Interest e. Approval of Minutes – April 7, 2011 (D) ► draft minutes attached as a separate document f. Status of Action Items – Staff Report Attached (D) …… g. Correspondence – None……	**Pg.** 1	*Chair Stavinga*
Source Protection Plan			
2.0	**Road Salt Presentations** (I) a. Staff from the Ontario Good Roads Association will explain how road salt is currently managed and efforts to promote best management practices b. A Committee member will provide information about why road salt is an environmental concern		*Frank Hull* *Patricia Larkin*
3.0	**Source Protection Plan Development –** Staff Report Attached (I) …… Staff will update members on policy development progress	3	*Sommer Casgrain-Robertson*
4.0	**Draft Policy Ideas –** Staff Reports Attached (D) Members will consider approving draft policy concepts for the following drinking water threats and directing staff to undertake preliminary consultation: a. Road Salt and Snow Storage …… b. Waste (hazardous, industrial, municipal, commercial, septage & tailings).	 6 16	*Sommer Casgrain-Robertson*
Other			
5.0	**Community Outreach** – Staff Report Attached (D) …… Members & staff report on past activities and upcoming events and opportunities	25	*Sommer Casgrain-Robertson*
6.0	**Other Business**		*Chair Stavinga*
7.0	**Member Inquiries**		*Chair Stavinga*
8.0	**Next Meeting** – June 2, 2011, 4pm Perth Civitan 6787 County Road 43, Perth		*Chair Stavinga*
9.0	**Adjournment**		*Chair Stavinga*

(I) = Information (D) = Decision

Delegations: If you wish to speak to an item on the Agenda please contact Sommer Casgrain-Robertson before the meeting (sommer.robertson@mrsourcewater.ca or 613-692-3571 / 1-800-267-3504 x 1147)

1.0 f) STATUS OF ACTION ITEMS

Date: April 21, 2011
To: Mississippi-Rideau Source Protection Committee
From: Sommer Casgrain-Robertson, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation:

That the Mississippi-Rideau Source Protection Committee receive the Status of Action Items staff report for information.

Staff & Chair Action Items:

	Issue	Action	Lead	Status
1	Questions for OMAFRA	OMAFRA staff will provide responses to some outstanding questions following their presentation on January 6, 2011	Sommer Casgrain-Robertson	**In Progress** OMAFRA staff is currently gathering responses. They will be sent to Sommer for distribution to members.
2	Vacant "City of Ottawa" seat on the MRSPC	Fill the vacancy on the MRSPC	City of Ottawa staff	**In Progress** City of Ottawa staff are in the process of filling this seat
3	Ottawa River Watershed Inter-Jurisdictional Committee	Encourage MOE to take the lead role in establishing an Ottawa River watershed inter-jurisdictional committee	Chair Stavinga & Brian Stratton	**Ongoing** Baird completed a proposal to revise Ottawa's IPZ-2s and delineate IPZ-1s and IPZ-2s for Gatineau's intakes. Chair Stavinga is drafting a letter to send this proposal to the MOE.
4	Uranium	MVC and local Health Units work together to raise public awareness about naturally occurring uranium in drinking water	Sommer Casgrain-Robertson	**In Progress** Jean-Guy Albert will continue to encourage Health Canada to release their "Uranium and Drinking Water" fact sheet they developed.
5	Compensation Models	Staff to collect other compensation models (e.g. Ottawa wetland policy, Alternate Land Use Services).	Sommer Casgrain-Robertson	**In Progress** Staff will build this in to the Source Protection Plan work plan.

MRSPC Member Action Items:

	Issue	Action	Lead	Status
1	Members were concerned that attendance might be low at public open houses and groups who should be involved in the process are not	Members were asked to provide Sommer with contact information for groups they feel should be involved in the process – they will be added to our mailing list.	All Members	**Ongoing**
2	OFEC Conference Calls & Training Sessions	Richard Fraser will provide the MRSPC with updates on OFEC conference calls & training sessions	Richard Fraser	**Ongoing**
3	Community Outreach opportunities	Members to notify Sommer of potential events and opportunities to engage the public about source protection	All members	**Ongoing**

3.0 Source Protection Plan Progress

Date: April 21, 2011
To: Mississippi-Rideau Source Protection Committee
From: Sommer Casgrain-Robertson, Co-Project Manager
Mississippi – Rideau Source Protection Region

Background

Across Ontario, Source Protection Committees (SPC) are working with municipalities, farmers, property owners, businesses, industries, First Nations, environmental groups, Provincial Ministries and the general public. Together they are developing policies to prevent the contamination and overuse of lakes, rivers and aquifers that supply drinking water.

2006 to 2010

Source Protection Committees completed **Assessment Reports** that:

- Mapped local sources of drinking water (primarily municipal drinking water);
- Determined how vulnerable these sources are to contamination; and
- Identified types of land use activities that could pose a contamination risk

2011 to 2012

Source Protection Committees must now develop **Source Protection Plans:**

- Plans must contain policies that protect local sources of drinking water (primarily municipal drinking water)
- Policies will be implemented in areas where drinking water sources are vulnerable
- Policies will address those land use activities that pose a contamination risk

Where Will Policies Apply?

Land use activities can only be considered drinking water threats if they are taking place in a vulnerable area. There are four types of vulnerable areas:

- Wellhead Protection Areas
  - vulnerable area around a municipal well
- Intake Protection Zones
  - vulnerable area upstream of a municipal surface water intake
- Highly Vulnerable Aquifers
  - Areas where groundwater is vulnerable to surface contaminants
- Significant Groundwater Recharge Areas
  - Areas where high amounts of groundwater infiltration takes place

Land use activities can only be considered a significant drinking water threat if they are taking place close to a municipal well or surface water intake within a

- Wellhead Protection Areas; and
- Intake Protection Zones

Only 3% of the Mississippi-Rideau region is vulnerable enough to produce significant threats. Maps of these areas are in Assessment Reports, they are available from staff or on our website at www.mrsourcewater.ca

Source Protection Plans:

- Must contain policies to address significant drinking water threats; and
- May contain policies to address moderate and low drinking water threats.

What is Considered a Threat?

The province has determined that under certain circumstances the following land use activities can be considered drinking water threats if occurring in certain vulnerable areas:

- Waste disposal sites (including the application of untreated septage to land)
- Sewage storage, treatment, transmission or disposal
- Agricultural source material (e.g. manure) storage, management or application
- Non-agricultural source material (e.g. biosolids) storage, handling or application
- Farm animal pasturing, grazing, outdoor confinement areas or farm yards
- Fertilizer storage, handling or application
- Pesticide storage, handling or application
- Fuel storage or handling
- Dense Non-aqueous Phase Liquids (DNAPLSs) storage or handling
- Organic solvents storage or handling
- Road salt storage, handling or application
- Snow storage
- Airplane de-icing

To be a threat most of these activities must involve a minimum amount of material, be occurring on a minimum size area and/or involve a certain type of chemical. These threat criteria or "circumstances" are listed in provincial tables accessible on the "Assessment Report" page of our website (www.mrsourcewater.ca)

What are the Policy Tools?

While most source protection policies will manage land use activities that could contaminate drinking water, prohibition can be used as a tool of last resort to address significant drinking water threats. All policies will undergo thorough public consultation at various draft stages.

Policies to address drinking water threats can use one or more of the following tools. Some tools can only be used to address significant drinking water threats.

Policy Tools	Address Significant Threats	Address Moderate & Low Threats
Education & Outreach	√	√
Incentives	√	√
Other*	√	√
Land Use Planning	√ Must conform	√ Have regard for
Prescribed Instruments	√ Must conform	√ Have regard for
Risk Management Plans	√	**X**
Prohibition (under *Clean Water Act*)	√	**X**

* "Other" policy tools include:
  - Specify Actions (that would help implement the Plan or achieve it's objectives)
  - Stewardship Programs
  - Best Management Practices
  - Pilot Programs
  - Research

How Will Policies Be Developed?

In the Mississippi-Rideau region, source protection plans will be developed in five stages:

1. Draft Policy Ideas:
    - Municipal staff, SPC members, sector experts and staff will develop policy ideas
    - These ideas will be considered by the SPC when developing Draft Policy Concepts
2. Draft Policy Concepts
    - Staff will seek input from people/bodies who would be affected by the policy concepts and who have been tasked with implementing the policy concepts
    - This input will be considered by the SPC when developing Draft Policies
3. Draft Policies
    - Staff will seek formal comments from people/bodies who have been tasked with implementing the policies
    - These comments will be considered by the SPC when finalizing Draft Policies
4. Draft Source Protection Plans
    - Draft Policies will be compiled into Draft Source Protection Plans
    - Plans will be posted for a 35 day public comment period
    - At least two public meetings will be held to solicit comments
    - All comments will be considered by the SPC when developing Proposed Policies
5. Proposed Source Protection Plans
    - Proposed Policies will be compiled into Proposed Source Protection Plans
    - Plans will be posted for a 30 day comment period
    - All comments will be submitted to the MOE for their consideration when reviewing Proposed Source Protection Plans for possible approval

Proposed Source Protection Plans must be submitted to the Minister of the Environment by August, 2012 so the following is a general schedule for policy development:

		2011												2012							
	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	**M**	A	M	**J**	J	A
Policy Ideas																					
Policy Concepts																					
Draft Policies																					
Draft Plans																					
Proposed Plans																					

Policy Development Progress

In the coming months, as policies are developed for each drinking water threat, tables will be developed to track:

- Policy Development Progress
- Use of Different Policy Tools
- Policy Implementers
- Municipal Responsibilities
- Policies for Significant, Moderate and Low Drinking Water Threats

4.0a Draft Policy Ideas: Road Salt and Snow Storage

Date: April 21, 2011
To: Mississippi-Rideau Source Protection Committee
From: Sommer Casgrain-Robertson, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation 1:

That the Mississippi-Rideau Source Protection Committee approve the Draft Policy Ideas for Road Salt and Snow Storage and direct staff to undertake early engagement with potentially affected persons and bodies.

Background

Drinking Water Threats

Certain land use activities involving chemicals or pathogens (e.g. bacteria) are considered a significant drinking water threat if they take place close to a municipal well or upstream of a municipal water treatment plant intake. This is because a leak, spill or runoff could soak into the ground and contaminate groundwater or runoff property and contaminate a lake or river. If this happened near a municipal well or intake, municipal drinking water could become contaminated. Source Protection Committees must write policies to address these activities.

The province has determined that under certain circumstances the following land use activities are considered drinking water threats. To be a threat most of the activities below must involve a minimum amount of material, be occurring on a minimum size area and/or involve a certain type of chemical. All these threat "circumstances" are listed in a provincial table accessible from the "Assessment Report" page of our website (www.mrsourcewater.ca).

The provincial drinking water threat categories are:

- Waste disposal sites (including the application of untreated septage to land)
- Sewage storage, treatment, transmission or disposal
- Agricultural source material (e.g. manure) storage, management or application
- Non-agricultural source material (e.g. biosolids) storage, handling or application
- Farm animal pasturing, grazing, outdoor confinement areas or farm yards
- Fertilizer storage, handling or application
- Pesticide storage, handling or application
- Fuel storage or handling
- Dense Non-aqueous Phase Liquids (DNAPLs) storage or handling
- Organic solvents storage or handling
- **Road salt storage, handling or application**
- **Snow storage**
- Airplane de-icing

Road Salt and Snow Storage

This staff report discusses the application, handling and storage of road salt and the storage of snow. It provides:

- Background information about this significant drinking water threat; and
- Draft policy ideas for how it could be addressed in a Source Protection Plan.

The Threat

As noted above (in bold), two of the provincial threat categories are road salt and snow storage, specifically:

- The application, handling and storage of road salt; and
- The storage of snow

The snow storage threat includes:

- Snow that is pushed into large piles along roads or in parking lots (referred to as snow banks in the draft policy ideas); and
- Snow that is transported to a central storage site from other locations (referred to as snow dumps in the draft policy ideas)

Where are they a Significant Threat?

The application, handling and storage of road salt and the storage of snow are significant drinking water threats:

- In the following locations
  - Wellhead Protection Areas (WHPA)
  - Intake Protection Zones (IPZ)
- Under the following circumstances

Road Salt Application:

Locations		Circumstances
WHPA	vulnerability score of 10	Road salt applied in an area where the percentage of total impervious surface area* is 80% or more
IPZ	vulnerability score of 10	Road salt applied in an area where the percentage of total impervious surface area* is greater than 8%
	vulnerability score of 9	Road salt applied in an area where the percentage of total impervious surface area* is greater than 80%

* Impervious surfaces are primarily constructed surfaces such as roads and parking lots that are covered by impenetrable materials such as asphalt, concrete and stone. These materials are a barrier to groundwater infiltration and generate more runoff during melt and storm events.

Road Salt Handling and Storage:

Locations		Circumstances
WHPA	vulnerability score of 10	Road salt stored in a manner that may result in its exposure to precipitation or runoff from precipitation or snow melt. The quantity stored is more than 5,000 tonnes.
IPZ	vulnerability score of 10	Road salt stored in a manner that may result in its exposure to precipitation or runoff from precipitation or snow melt. The quantity stored is more than 500 tonnes.
	vulnerability score of 9	Road salt stored in a manner that may result in its exposure to precipitation or runoff from precipitation or snow melt. The quantity stored is more than 5,000 tonnes.

Snow Storage

Locations		Circumstances
WHPA	vulnerability score of 10	Snow stored below grade on an area ≥ 0.01 hectares Snow stored at or above grade on an area ≥ 1 hectare
IPZ	vulnerability score of 10	Snow stored at or above grade on an area ≥ 0.01 hectares
	vulnerability score of 9	Snow stored at or above grade on an area ≥ 1 hectare

Maps showing the location of WHPAs and IPZs and their vulnerability scores are available from staff or on the "Assessment Report" pages of our website (www.mrsourcewater.ca). In the Mississippi-Rideau region vulnerability scores of 9 and 10 are only found in:

WHPA	100 m	2 year	5 year	25 year
Almonte	whole area	partial area		
Carp	whole area	partial area		
Kemptville	whole area	partial area		
Merrickville	whole area	partial area		
Munster	whole area	partial area		
Richmond	whole area	partial area		
Westport	whole area	partial area		

IPZ	IPZ-1	IPZ-2	IPZ-3
Carleton Place	whole area	whole area	
Perth	whole area	whole area	
Smiths Falls	whole area	whole area	
Ottawa – Britannia & Lemieux Island	whole area		

Are There Existing Significant Threats?

In the Mississippi-Rideau region there are existing significant threats for:

- Road salt application and snow storage.

WHPAs and IPZs	Existing Significant Threats		
	Road Salt Application	Snow Storage	Road Salt Handling and Storage
Almonte	No	No	No
Carp			
Merrickville			
Munster			
Richmond			
Westport			
Ottawa – Britannia & Lemieux			
Kemptville	**Yes**		
Carleton Place		**Yes**	
Perth			
Smiths Falls			

Could There Be Future Significant Threats?

There could be future significant threats for:

- Road salt application, handling and storage and snow storage.

WHPAs and IPZs	Future Significant Threats		
	Road Salt Application	Snow Storage	Road Salt Handling and Storage
Almonte	Not Possible	**Possible**	**Possible**
Carp			
Merrickville			
Munster			
Richmond			
Westport			
Ottawa – Britannia & Lemieux			
Kemptville	**Possible**		
Carleton Place			
Perth			
Smiths Falls			

Moderate and Low Drinking Water Threats

Draft policy ideas have also been proposed to address the application of road salt in Highly Vulnerable Aquifer (HVA) areas. These are areas where there is less than 1.5 metres of soil, usually over fractured bedrock, making local groundwater susceptible to surface contaminants. Approximately 90% of the Mississippi-Rideau region is considered HVA.

Existing Regulations

There is no federal or provincial legislation that directly regulates the use of road salt or the storage of snow. Rather these activities are guided by best management practices developed by government and industry, primarily:

- *Synthesis of Best Practices: Road Salt Management* (Transportation Association of Canada, 2003) which includes a section on snow storage and disposal;
- *Code of Practice for the Environmental Management of Road Salts* (Environment Canada, 2004) written for the public sector; and
- *Best Management Practices for Salt Use on Private Roads, Parking Lots and Sidewalks* (Environment Canada, 2004) written for private business and property owners

Salt Management Plans (sometimes called Salt Reduction Plans) are the widely recognized tool used by the public sector to establish and implement best management practices. Salt management plans include:

- Best management practices for road salt application, handling and storage;
- Measures to address snow storage and disposal;
- Training and communication program;
- Equipment evaluation and enhancement;
- Response procedures for uncontrolled releases of road salts;
- Monitoring of actions to measure the plan's effectiveness;
- Record keeping; and
- Procedure for yearly review of the plan and implementation of corrective actions to address deficiencies.

Salt education programs are used to promote the implementation of best management practices by private businesses and property owners. One of the first comprehensive salt

education programs in Canada targeted at the private sector is the Region of Waterloo's *Smart About Salt* program. This successful program can serve as a model for others and training and certification is now available through the Smart About Salt Council.

Policy Options

There are many policy tools that can be used to address drinking water threats. Some are existing tools (education and outreach, incentives, prescribed instruments, and land use planning). Others were newly created under the *Clean Water Act* (Risk Management Plans, prohibition and others). Some tools are limited to addressing significant drinking water threats:

Policy Tool	Address Significant Threats	Address Moderate & Low Threats
Education & Outreach	√	√
Incentive Programs	√	√
Prescribed Instruments	√ conform	√ have regard for
Land Use Planning	√ conform	√ have regard for
Risk Management Plans	√	**X**
Prohibition	√	**X**

The following chart shows what policy tools are available to address road salt (application, handling and storage) and snow storage where they are or would be a significant threat.

Policy Tool	Address road salt (application, handling and storage) and snow (storage)
Education and Outreach	**Yes**
Incentives	**Yes**
Prescribed instruments	**No prescribed instruments exist**
Land Use Planning	**Yes**
Risk Management Plans	**Yes**
Prohibition (under the Clean Water Act)	**Yes**
Other: • Specify Actions to be taken by a person or body to achieve Source Protection Plan objectives • Establish stewardship programs • Promote best management practices • Establish pilot programs • Govern research	**Yes**

Draft Policy Ideas

Draft policy ideas have been developed to address the application, handling and storage of road salt and the storage of snow. These ideas were developed by staff in conjunction with:

- Sector experts; and
- Our municipal working group
    - Meeting #4 (March 24, 2011)

The draft policy ideas are outlined in the attached table.

Rationale

Each Source Protection Committee has to write an Explanatory Document to accompany their Source Protection Plan. This document must provide a rationale for each source protection policy. It will therefore be important to document at each stage of policy development, why Committees approve certain draft ideas, concepts and policies.

The Mississippi-Rideau Source Protection Committee developed a qualitative evaluation framework to help them evaluate different policy options and ultimately decide which ones to use. The framework has four categories: Effectiveness, Practicality, Cost and Acceptance. At each stage of our policy development process (draft policy ideas, draft policy concepts, draft policies and proposed policies) this evaluation framework will be used by the Committee to make decisions. This will form the content of their Explanatory Document.

Below, staff used the four main categories of the framework to do an initial evaluation of the draft policy ideas being proposed for road salt use and snow storage:

Effectiveness

- Prohibiting future salt storages and snow dumps in areas where they would be a significant drinking water threat will effectively address the threat posed by these activities.
- Salt Management Plans for the public sector and Salt Education Programs for the private sector are tools that are recognized as being effective in achieving improved environmental protection without compromising road safety.
- The best management practices typically included in salt management plans are proven and science based. They are also comprehensive addressing all aspects of winter road maintenance (road salt delivery, handling and storage, weather forecasting, pavement temperature monitoring, equipment upgrading, calibration and washing, training, record keeping, communications, etc.)
- The Environment Canada Code of Practice for the Environmental Management of Road Salts, which includes the preparation and implementation of a salt management plan, currently applies to organizations that use more than 500 tonnes of road salt per year. As a result, Lanark County and the County of Leeds and Grenville already have salt management plans in place for the roads they maintain. Some of these roads traverse areas where the application of road salt is a significant threat.
- The Environment Canada Code of Practice for the Environmental Management of Road Salts also applies to organizations that have “vulnerable areas” in their territory. Therefore, it seems appropriate that municipalities that maintain roads in vulnerable source water protection areas where road salt would be a significant threat should have salt management plans in place.
- In addition, Environment Canada recommends that all organizations consider implementing best management practices that are relevant to their local conditions in order to protect the environment from the negative impacts of road salt. Therefore it seems reasonable to encourage the public sector to develop Salt Management Plans in the broad Highly Vulnerable Aquifer area and to implement a Road Salt education program for the private sector across our region.
- Requiring regular testing for chlorides at municipal wells will provide data essential to monitoring and addressing the impact of road salts on groundwater.

Practicality

- Snow stored in an area as small as 0.01 hectares (ten metres by ten metres) is considered to be a significant threat in the intake protection zones with a vulnerability score of ten. This low threshold means that large snow banks adjacent to roads and piles in parking lots are a significant threat. Since removing them is not practical, salt management plans and salt education programs can identify and require best management practices to address these small snow storages.
- Testing for chlorides can be done in combination with other sampling. Consultation with municipal water plant staff indicates that this will not be onerous or expensive.
- The policy ideas propose a practical approach of using one tool tailored to the public sector (salt management plan) and another tool that is more suited to private contractors and property owners (salt education program).
- The policy ideas make use of proven science based best management practices.
- The policy ideas do not create any regulatory overlap or duplication since road salt use and snow storage is not directly regulated by any existing legislation.
- The Environment Canada code of practice has a built-in monitoring component that is required (annual review) so monitoring of the effectiveness of the Source Protection Plan policy would be achieved by simply asking the municipality to share this information with the Source Protection Authority.

Cost / Impact

- Municipalities will incur an initial cost to develop salt management plans and may also wish to invest in new technologies (e.g. pre-wetting equipment). There are case studies that demonstrate a cost saving from reduced road salt use that offsets initial investments resulting in a net financial benefit for the municipality.
- Salt use is increasing province-wide because of more roads and climate change (more frequent snow and freezing rain events) which may make cost benefits less evident (salt management plans result in reduced salt use per weather event but more weather events and more kilometers of roads to maintain are requiring more salt application overall).
- There will be a cost to the municipalities to increase the frequency of testing for chlorides (minimum of one test per year, approximately $25 per test).
- Costs for creating salt management plans and education programs could be minimized by taking advantage of available materials, templates and training modules created by groups such as the Smart About Salt Council and the Ontario Good Roads Association.

Acceptance

- It is widely recognized that the use of road salt results in adverse and cumulative environmental impacts. In 2001, Environment Canada released a report that concluded road salts are entering the environment in a quantity or concentration or under conditions that have or may have an immediate or long-term harmful effect on the environment or its biological diversity, and that constitute or may constitute a danger to the environment on which life depends. In addition, over the past 25 years there has been an approximate three-fold increase in the application of road salt in Canada with the prime users being Ontario, Quebec and the Atlantic provinces. Many regions are implementing salt management plans and salt education programs to address this emerging environmental issue.
- Public and agency awareness has been raised as a result of work by environmental groups like Riversides and advocacy groups like Ontario Good Roads Association. So source protection policies that address road salt use where it is a moderate or low threat are timely and appropriate.
- The concerns typically raised with reducing road salt use are safety and liability. Salt management plans and salt education programs work by ensuring the methods used do

not compromise safety and include components such as thorough record keeping which has been shown to help successfully defend against slip and fall claims.

- Municipal working group participants were in favour of the policy ideas, however, there have been concerns raised by municipalities regarding staff time and other costs associated with developing the salt management plans. Templates and other guidance exist that simplify the development of salt management plans. Training services to implement them are also available through the Ontario Good Roads Association whose mandate it is to "represent the infrastructure interests of municipalities through advocacy, consultation, training and other services".
- Draft policy concepts will be provided to any potentially affected people and bodies for review. Their input and comments will be provided to the SPC prior to considering a draft policy for the draft Source Protection Plan.

Additional Information

Attached:

- Draft Policy Ideas for the Application, Handling and Storage of Road Salt
- Draft Policy Ideas for the Storage of Snow

4.0a Draft Policy Ideas for the Application, Handling and Storage of Road Salt

Education and Outreach ideas:

- Purpose: Inform individuals about the importance of protecting vulnerable areas and the need to be good stewards in these areas (promote the use of best management practices pertaining to all the drinking water threats – including salt)
- Implementer: The most effective agency to act as the implementer will be determined when the Source Protection Plan comes into effect. That implementer will develop and deliver an effective and efficient public education and outreach program.
- Scope: The program will be delivered within as many vulnerable areas as resources allow.
- Monitoring: The implementer will provide an annual report to the Source Protection Authority on the activities of the program and their outcome or results.

Situation	Description	Policy Tool and Concept	Implementer	Monitoring Policy	Legal Effect	Compliance Date
#1 Existing Significant Threat **Road Salt Storage**	Existing road salt storage identified as a significant threat: WHPA scored 10: >5,000 tonnes IPZ scored 10: >500 tonnes IPZ scored 9: 5,000 tonnes Stored in a manner that may result in exposure to precipitation or runoff	There are no existing significant threats so no policy is required.	n/a	n/a	n/a	n/a
#2 Future Significant Threat **Road Salt Storage**	Future road salt storage that would be a significant threat: WHPA scored 10: >5,000 tonnes IPZ scored 10: >500 tonnes IPZ scored 9: 5,000 tonnes Stored in a manner that may result in exposure to precipitation or runoff	**Land Use Planning:** Prohibit through amendment to Official Plans / Zoning By-laws	Municipality	Municipality to notify the Source Protection Authority when amendments are completed.	Must conform	Municipalities are encouraged to amend their Official Plans and Zoning By-laws as quickly as possible, but no later than their regular 5 year review (Planning Act decisions must conform immediately upon Source Protection Plans taking effect).
#3 Existing and Future Significant Threat **Road Salt Application**	Existing and future road salt application that is or would be a significant threat: WHPA scored 10: >80% total impervious surface area (Kemptville) IPZ scored 10: >8% total impervious surface area (Carleton Place, Perth and Smiths Falls) IPZ scored 9: >80% total impervious surface area (no locations)	**Specify Action:** **Road Salt Management Plan (public sector)** Upper and lower tier municipalities with roads and parking lots in the vulnerable areas where road salt application is or would be a significant threat must prepare and implement a Road Salt Management Plan for these areas in accordance with Environment Canada's Code of Practice for the Environmental Management of Road Salts.	Municipality	Municipality to provide the Source Protection Authority with a copy of the annual review report referred to in the Environment Canada Code of Practice.	Must comply	*To be determined*
		Education and Outreach: **Road Salt Education Program (private sector)** Implement a Smart About Salt Program (or equivalent) targeted at private contractors and facility managers applying road salt where it is or would be a significant threat.	*To be determined*	Implementer to provide an annual report to the Source Protection Authority on the implementation, participation and suggestions to improve the effectiveness of the Road Salt Education Program.	*Must comply or strategic action depending on implementer*	*To be determined*
#4 Existing and Future Moderate and Low Threats **Road Salt Application**	Existing and future road salt application that is or would be a low threat:: Highly Vulnerable Aquifer (HVA)	**Specify Action:** **Road Salt Management Plan (public sector)** Upper and Lower Tier municipalities with roads and parking lots within the highly vulnerable aquifer areas where road salt application is or would be a moderate or low threat are encouraged to prepare and implement a Road Salt Management Plan in accordance with Environment Canada's Code of Practice for the Environmental Management of Road Salts for these areas.	Municipality	Municipality requested to provide the Source Protection Authority with a copy of the annual review report referred to in the Environment Canada Code of Practice.	Strategic action	*To be determined*
		Education and Outreach: **Road Salt Education Program (public sector)** Implement a Smart About Salt Program (or equivalent) targeted at private contractors and facility managers applying road salt where it is or would be a moderate or low drinking water threat (i.e., throughout the highly vulnerable aquifer areas).	To be determined	Implementer to provide an annual report to the Source Protection Authority on the implementation, participation and suggestions to improve the effectiveness of the Road Salt Education Program.	*Must comply or strategic action depending on implementer*	*To be determined*
#5 **Water Quality Monitoring**	General requirement for increased monitoring of chlorides at municipal wells	**Prescribed Instrument:** ***Safe Drinking Water Act* Licenses** • Licenses should be amended to require annual sampling for chloride for groundwater systems.	MOE Safe Drinking Water Branch	MOE Safe Drinking Water Branch to notify the Source Protection Authority when all licenses have been amended.	Must conform (significant) Have regard for (moderate and low)	Within 6 months of Source Protection Plan taking effect

4.0a Draft Policy Ideas for the Storage of Snow

Situation	Description	Policy Tool and Concept	Implementer	Monitoring Policy	Legal Effect	Compliance Date
#1 Existing Significant Threat **Snow Dumps (hauled snow)**	Existing storage of hauled snow identified as a significant threat: WHPA scored 10: stored below grade in an area > 0.01 ha or stored at or above grade in an area > 1 ha IPZ scored 10: stored at or above grade in an area > 0.01 ha IPZ scored 9: stored at or above grade in an area > 1 ha	There are no existing significant threats so no policy is required.	n/a	n/a	n/a	n/a
#2 Future Significant Threat **Snow Dumps (hauled snow)**	Future storage of hauled snow that would be a significant threat: WHPA scored 10: stored below grade in an area > 0.01 ha or stored at or above grade in an area > 1 ha IPZ scored 10: stored at or above grade in an area > 0.01 ha IPZ scored 9: stored at or above grade in an area > 1 ha	**Land Use Planning:** Prohibit through amendment to Official Plans / Zoning By-laws	Municipality	Municipality to notify the Source Protection Authority when amendments are completed.	Must conform	Municipalities are encouraged to amend their Official Plans and Zoning By-laws as quickly as possible, but no later than their regular 5 year review (Planning Act decisions must conform immediately upon Source Protection Plans taking effect).
#3 Existing and Future Significant Threat **Snow Banks**	Existing and future storage of snow on the property where it originates (snow piles in parking lots, snow banks along roads): WHPA scored 10: stored below grade in an area > 0.01 ha or stored at or above grade in an area > 1 ha IPZ scored 10: stored at or above grade in an area > 0.01 ha IPZ scored 9: stored at or above grade in an area > 1 ha	**Specify Action:** Include the following in **Road Salt Management Plans (public sector):** • Awareness of the location of the vulnerable areas where snow storage is or would be a significant drinking water threat • Best Management Practices for snow removal and storage to reduce the contaminant content of snow piles within these areas	Municipality	Municipality to provide the Source Protection Authority with a copy of the annual review report referred to in the Environment Canada Code of Practice. The annual review must include an assessment of the measures implemented to address the snow storage threat.	Must comply	*To be determined*
		Education and Outreach: Include the following in **Road Salt Education Programs (private sector):** • Awareness of the location of the vulnerable areas where snow storage is or would be a significant drinking water threat • Best Management Practices for snow removal and storage to reduce the contaminant content of snow piles within the vulnerable areas.	*To be determined*	Implementer to provide an annual report to the Source Protection Authority on the implementation, participation and suggestions to improve the effectiveness of the Road Salt Education Program including the measures implemented to address the snow storage threat.	*Must comply or strategic action depending on implementer*	*To be determined*

4.0b Draft Policy Ideas: Waste Disposal Sites

Date: April 21, 2011
To: Mississippi-Rideau Source Protection Committee
From: Sommer Casgrain-Robertson, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation 1:

That the Mississippi-Rideau Source Protection Committee approve the Draft Policy Ideas for Waste Disposal Sites and direct staff to undertake early engagement with potentially affected persons and bodies.

Background

Drinking Water Threats

Certain land use activities involving chemicals or pathogens (e.g. bacteria) are considered a significant drinking water threat if they take place close to a municipal well or upstream of a municipal water treatment plant intake. This is because a leak, spill or runoff could soak into the ground and contaminate groundwater or runoff property and contaminate a lake or river. If this happened near a municipal well or intake, municipal drinking water could become contaminated. Source Protection Committees must write policies to address these activities.

The province has determined that under certain circumstances the following land use activities are considered drinking water threats. To be a threat most of the activities below must involve a minimum amount of material, be occurring on a minimum size area and/or involve a certain type of chemical. All these threat "circumstances" are listed in a provincial table accessible from the "Assessment Report" page of our website (www.mrsourcewater.ca).

The provincial drinking water threat categories are:

- **Waste disposal sites (including the application of untreated septage to land)**
- Sewage storage, treatment, transmission or disposal
- Agricultural source material (e.g. manure) storage, management or application
- Non-agricultural source material (e.g. biosolids) storage, handling or application
- Farm animal pasturing, grazing, outdoor confinement areas or farm yards
- Fertilizer storage, handling or application
- Pesticide storage, handling or application
- Fuel storage or handling
- Dense Non-aqueous Phase Liquids (DNAPLs) storage or handling
- Organic solvents storage or handling
- Road salt storage, handling or application
- Snow storage
- Airplane de-icing

Waste Disposal Sites

This staff report discusses the establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the *Environmental Protection Act.* It provides:

- Background information about this significant drinking water threat; and
- Draft policy ideas for how it could be addressed in a Source Protection Plan.

The Threat

As noted above (in bold), one of the provincial threat categories is waste disposal sites, specifically:

- The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the *Environmental Protection Act.*

This staff report proposes draft policy ideas for nine of the ten waste disposal site threat subcategories. They are:

- Application of untreated septage to land
- Storage, treatment and discharge of tailings from mines
- Waste disposal site – landfarming of petroleum refining waste
- Waste disposal site – liquid industrial waste injection into a well
- Waste disposal site – landfilling (hazardous waste)
- Waste disposal site – landfilling (municipal waste)
- Waste disposal site – landfilling (solid non hazardous industrial or commercial waste)
- Waste disposal site – storage of hazardous waste at disposal sites
- Waste disposal site – storage of wastes described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste

A future staff report will propose draft policy ideas for the remaining waste disposal site threat subcategory:

- Waste Disposal Site – PCB waste storage

Activities that are not part of the waste disposal threat are:

- Waste storage on private property (dumpsters, salvage yards)
- Household hazardous waste temporary collection sites (such as municipal buildings used during household hazardous waste drop-off days)
- Waste transfer sites (where waste is temporarily stored)
- Composting facilities

Where is it a Significant Threat?

Waste disposal sites are a significant drinking water threat:

- In the following locations
  - Wellhead Protection Areas (WHPA)
  - Intake Protection Zones (IPZ)
- Under the following circumstances

Threat Subcategory	Locations	Circumstances
Application of untreated septage to land	WHPA vulnerability score of 10	Land application of hauled sewage in any quantity.
	IPZ vulnerability score of 10, 9, 8.1 or 8	

Threat Subcategory	Locations	Circumstances
Storage, treatment and discharge of tailings from mines	WHPA vulnerability score of 10	Depends on the type of storage (e.g., pit or impoundment structure at the surface) as well as National Pollution Release Inventory (NPRI) reporting requirements.
	IPZ vulnerability score of 10 or 9	
Landfarming of petroleum refining waste	WHPA vulnerability score of 10	Depends on the size of the land disposal area in hectares.
	IPZ vulnerability score of 10 or 9	
Liquid industrial waste injection into a well	WHPA vulnerability score of 10 or 8	Depends on the combined rate of discharge of the wells in cubic metres per year.
Landfilling (hazardous waste)	WHPA vulnerability score of 10	Depends on the size of the fill area in hectares.
	IPZ vulnerability score of 10 or 9	
Landfilling (municipal waste)	WHPA vulnerability score of 10 or 8	Depends on the size of the fill area in hectares.
	IPZ vulnerability score of 10 or 9	
Landfilling (solid non hazardous industrial or commercial waste)	WHPA vulnerability score of 10 or 8	Depends on the size of the fill area in hectares.
	IPZ vulnerability score of 10 or 9	
Storage of hazardous waste at disposal sites	WHPA vulnerability score of 10	Depends on the location of the storage (at or above grade, below or partially below grade)
	IPZ vulnerability score of 10 or 9	
Storage of wastes described in clauses… of the definition of hazardous waste	WHPA vulnerability score of 10	Depends on the location of the storage (at or above grade, below or partially below grade)
	IPZ vulnerability score of 10	

Maps showing the location of WHPAs and IPZs and their vulnerability scores are available on the "Assessment Report" pages of our website (www.mrsourcewater.ca). In the Mississippi-Rideau region vulnerability scores of 8 to 10 are only found in:

Drinking Water System	WHPA			
	100 m	2 year	5 year	25 year
Almonte	whole area	partial area	partial area	
Carp	whole area	whole area	partial area	
Kemptville	whole area	whole area*	partial area	
Merrickville	whole area	whole area*	partial area	
Munster	whole area	whole area	partial area	
Richmond	whole area	partial area	partial area	
Westport	whole area	whole area	partial area	

* If the municipal well casings are successfully deepened through the Ontario Drinking Water Stewardship Program, scores of 10 and 8 will only be found in the 100m area

Drinking Water System	IPZ		
	IPZ-1	IPZ-2	IPZ-3
Carleton Place	whole area	whole area	partial area
Perth	whole area	whole area	partial area
Smiths Falls	whole area	whole area	partial area
Ottawa – Britannia & Lemieux Island	whole area	whole area	

Are There Existing Significant Threats?

In the Mississippi-Rideau region there are no existing waste disposal sites that are considered significant drinking water threats.

Could There Be Future Significant Threats?

There are some areas where future waste disposal sites could be established creating new significant threats.

WHPAs and IPZs	Vulnerability Score	Future Significant Threats
WHPAs	10	Not possible due to lack of space, incompatible existing land uses and/or prohibitive zoning
	8	**Possible**
IPZs	10	Not possible due to lack of space, incompatible existing land uses and/or prohibitive zoning
	9	**Possible**
	8.1	**Possible**
	8	**Possible**

Moderate and Low Drinking Water Threats

Draft policy ideas have also been proposed to address waste disposal sites in Highly Vulnerable Aquifer (HVA) areas. These are areas where there is less than 1.5 metres of soil, usually over fractured bedrock, making local groundwater susceptible to surface contaminants. Approximately 90% of the Mississippi-Rideau region is considered HVA.

Existing Regulations

Waste disposal sites in Ontario are regulated under:

- Ontario's *Environmental Protection Act, 1990* (Part V – Waste Management)
    - All sites require a Waste Certificate of Approval (often referred to as a "C of A")

Many landfill proposals, particularly larger sites, may also require approval under:

- Ontario's *Environmental Assessment Act, 1990*
    - Site would require an Environmental Assessment (often referred to as an "EA")

Depending on the type of waste disposal site, other regulations may also apply:

- *Ontario Water Resources Act, 1990*
    - Sewage Works Certificates of Approval (for a landfill discharging to a sewer)
    - Permit to Take Water (if water is used in waste handling, e.g. mine tailings pond)
- Federal *Fisheries Act, 1985*
    - Metal Mining Effluent Regulations (for waste associated with mining)

New waste disposal sites must also comply with municipal

- Official Plans; and
- Zoning by-laws

Waste Disposal Sites **Draft Policy Ideas**

Policy Options

There are many policy tools that can be used to address drinking water threats. Some are existing tools (education and outreach, incentives, prescribed instruments and land use planning). Others were newly created under the *Clean Water Act* (Risk Management Plans, prohibition and others). Some tools are limited to addressing significant drinking water threats:

Policy Tool	Address Significant Threats	Address Moderate & Low Threats
Education & Outreach	√	√
Incentive Programs	√	√
Prescribed Instruments	√ conform	√ have regard for
Land Use Planning	√ conform	√ have regard for
Risk Management Plans	√	**X**
Prohibition	√	**X**

The following chart shows what policy tools are available to address waste disposal sites where they are or would be a significant threat.

Policy Tool	Address Waste Disposal Sites
Education and Outreach	**Yes**
Incentives	**Yes**
Prescribed instruments	**Yes** (Waste Certificates of Approval)
Land Use Planning	**Yes**
Risk Management Plans	*Clean Water Act* does not allow this tool to be used for waste threats
Prohibition (under the Clean Water Act)	*Clean Water Act* does not allow this tool to be used for waste threats
Other: • "Specify Actions" to be taken by a person or body to achieve the Source Protection Plan objectives • Establish stewardship programs • Specify and promote best management practices • Establish pilot programs • Govern research	**Yes**

Draft Policy Ideas

Draft policy ideas have been developed to address waste disposal sites. These ideas were developed by staff in conjunction with:

- Our municipal working group
    - Meeting #4 (March 24, 2011)

Information was also provided by:

- Local MOE staff (Environmental Assessment and Approvals Branch)

The draft policy ideas are outlined in the attached table. Since there are no existing "significant threat" waste disposal sites in the Mississippi-Rideau region, no policies for existing sites are required.

Rationale

Each Source Protection Committee has to write an Explanatory Document to accompany their Source Protection Plan. This document must provide a rationale for each source protection policy. It will therefore be important to document at each stage of policy development, why Committees approve certain draft ideas, concepts and policies.

The Mississippi-Rideau Source Protection Committee developed a qualitative evaluation framework to help them evaluate different policy options and ultimately decide which ones to use. The framework has four categories: Effectiveness, Practicality, Cost / Impact and Acceptance. At each stage of our policy development process (draft policy ideas, draft policy concepts, draft policies and proposed policies) this evaluation framework will be used by the Committee to make decisions. This will form the content of the Explanatory Document.

Below, staff used the four main categories of the framework to do an initial evaluation of the draft policy ideas being proposed for waste disposal sites:

Effectiveness

- MOE guidelines acknowledge that leachate could contaminate groundwater beneath a waste disposal site, therefore prohibiting new waste disposal sites where they would be a significant drinking water threat seems reasonable to ensure leachate cannot contaminate a municipal drinking water source.
- MOE guidance acknowledges prohibition is an effective and efficient source protection tool that may be appropriate for ensuring certain hazardous activities get located in less vulnerable areas.
- Waste disposal sites cannot be prohibited using Section 57 of the *Clean Water Act* because it can be done through Prescribed Instruments. If prohibited, MOE would not be allowed to issue Waste Certificates of Approval in areas where waste disposal sites would be a significant threat. Municipal Official Plans and Zoning By-laws would also be amended to prohibit the activity to ensure regulatory consistency.
- Draft policy ideas also address waste disposal sites in highly vulnerable aquifer (HVA) areas because these areas have weak natural attenuation due to the presence of fractured bedrock. The MOE is encouraged to consider the potential impact on groundwater when reviewing applications for new waste disposal sites in HVA areas. Waste disposal sites should be located outside of HVA areas where possible, and where not possible appropriate risk mitigation measures should be required to minimize the potential of leachate entering local groundwater sources.

Practicality

- Prohibiting through Prescribed Instruments (Certificates of Approval) and creating complementary Land Use Planning policies (Official Plans and Zoning) makes use of existing tools and processes which prevents regulatory duplication.
- Land Use Planning policies in the Source Protection Plan have legal effect as soon as the Plan is approved by the province, therefore municipalities do not need to rush to amend their Official Plans and Zoning By-laws in order for the requirements or restrictions to take effect. Source Protection Plans will likely require multiple amendments to local Official Plans and Zoning By-laws so municipalities can do all the amendments at once when it is convenient.
- Monitoring would consist of the Ministry of the Environment copying Source Protection Authorities on
- municipality notifying the Source Protection Authority when their Official Plan and Zoning amendments are completed.

Cost / Impact

- Areas where waste disposal sites are considered a significant threat and would therefore be prohibited are not well suited for this type of activity anyway. Currently there are no waste disposal sites in these areas and it is unlikely any would be established in future. Most of these areas lack space (many are residential or close to settlement areas), many are adjacent to sensitive environmental features (like rivers), and many have zoning that would not allow a waste disposal site. This means property owners would not be impacted by the prohibition.
- The cost implications of the draft policy ideas are administrative in nature:
    - Some municipalities will need to amend their Official Plan and Zoning by-laws
    - MOE will have to alter their guidance materials and information used by staff who review Waste Certificate of Approval applications.

Acceptance

- Municipal staff from each municipality with areas where the prohibition would take effect supported this approach. They all supported prohibiting waste disposal sites where they would be considered a significant threat. They felt it was important to establish these types of hazardous activities elsewhere in the watershed provided that rural wells and other sensitive features were protected (e.g. large setbacks).
- Draft policy concepts will be provided to potentially affected people or bodies for review and their input and comments provided to the SPC prior to considering a draft policy for the draft Source Protection Plan.

Additional Information

- MOE Bulletin: Source Protection Planning Bulletin – Overview of Prescribed Instruments
- MOE Bulletin: Source Protection Planning Bulletin – Certificates of Approval

Attached:

- Draft Policy Ideas for Waste Disposal Sites: Future Significant Drinking Water Threats

4.0b Draft Policy Ideas for Waste Disposal Sites

Situation	Description	Policy Tool and Concept	Implementer	Monitoring Policy	Legal Effect	Compliance Date
#1 Existing Significant Threat	Existing waste disposal site that is a significant threat	There are no existing significant threats so no policy is required.	n/a	n/a	n/a	n/a
#2 Future Significant Threat	Future waste disposal site that would be a significant threat	**Prescribed Instrument:** Waste Certificates of Approval The Ontario Ministry of the Environment's Environmental Assessment and Approvals Branch shall not issue a Certificate of Approval under Section 39 of the *Environmental Protection Act* for a new waste disposal site where it would be a significant drinking water threat.	MOE Environmental Assessment and Approvals Branch	MOE Environmental Assessment and Approvals Branch shall notify the Source Protection Authority when guidance for Environmental Officers, permit applications and related documents have been amended.	Must conform	Immediately upon Source Protection Plan taking effect
		Land Use Planning Municipalities shall ensure their Official Plans and Zoning By-laws prohibit the establishment of a waste disposal site within the meaning of Part V of the *Environmental Protection Act* where it would be a significant drinking water threat.	Municipality	Municipality shall notify the Source Protection Authority when their Official Plan and Zoning By-laws prohibit waste disposal sites where they would be a significant threat.	Must conform	Planning Act decisions must conform immediately upon Source Protection Plan taking effect. Consult with municipalities regarding dates to amend Official Plans and Zoning By-laws
#3 Future Moderate or Low Threat	Future waste disposal site that would be a moderate or low threat throughout the highly vulnerable aquifer (HVA)	**Prescribed Instrument:** Waste Certificates of Approval The Ontario Ministry of the Environment's Environmental Assessment and Approvals Branch should consider the potential impact on drinking water sources of new waste disposal sites within the HVA during their review of proposals pursuant to Section 39 of the Environmental Protection Act.	MOE Environmental Assessment and Approvals Branch	MOE Environmental Assessment and Approvals Branch requested to notify the Source Protection Authority annually of any applications received related to waste disposal sites in the HVA and a summary of the decisions rendered.	Must have regard	Immediately upon Source Protection Plan taking effect

5.0 Community Outreach

Date: April 21, 2011
To: Mississippi-Rideau Source Protection Committee
From: Sommer Casgrain-Robertson, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation:

That the Mississippi-Rideau Source Protection Committee receive the Community Outreach staff report for information.

Background

Staff and MRSPC members participate in many different community outreach activities to raise awareness and understanding of the source protection planning process. These activities include information booths at events, presentations at meetings and articles in newsletters and local papers. It is important that staff and members keep each other informed about the activities they are involved in so that we can coordinate our participation and prepare appropriate materials in advance. This includes coordinating with our neighbouring regions for outreach covering Eastern Ontario.

Past Activities

Members & staff are asked to give a verbal update on any other activities that took place in the past month related to source protection.

1. *City of Ottawa Info Exchange Meeting*
    - April 18, Ottawa (Sommer provided an update)
2. *Project Managers Meeting*
    - April 19, Toronto (Brian and Sommer attended)
3. *Mississippi Valley Source Protection Authority*
    - April 20, Almonte (Sommer attended)
4. *Eastern Regions Meeting*
    - April 26, Brockville (Sommer and Brian attended)
5. *Rideau Valley Source Protection Authority*
    - April 28, Manotick (Sommer and Janet attending)
6. *One-on-One Meetings with Municipal Staff*
    - Mississippi Mills

Upcoming Activities

Members & staff are asked to give a verbal update about any other activities they know about in the coming months related to source protection.

1. *Ontario Road Salt Management Group*
    - June 9, Ottawa (Sommer presenting)
2. *Glens Community Association – Annual General Meeting*
    - June 13, Ottawa (Sommer presenting)
3. *Municipal Working Group Meeting*
    - June 16, Perth (staff and some members attending)

4. *Special Source Protection Committee Meeting – Assessment Report Revisions*
    - June 20, 1 pm, Manotick
    - This meeting is tentatively scheduled and will be held if last minute Assessment Report revisions are required to address MOE comments
5. *Eastern Regions Meetings*
    - May 30, Brockville (Sommer and Brian attending)
    - June 27, Brockville (Sommer and Brian attending)