AGENDA

Mississippi-Rideau Source Protection Committee

Date: August 4, 2011
Time: 4 pm
Location: Almonte and District Community Centre
182 Bridge Street, Almonte

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 – July 7, 2011 (D) ► draft minutes attached as a separate document f. Status of Action Items – Staff Report Attached (D) …… g. Correspondence – Staff Report Attached (D) ……	**Pg.** 1 4	*Chair Stavinga*
Source Protection Plan			
2.0	**Source Protection Plan Development –** Staff Report Attached (D) …… Staff will update members on policy development progress	7	*Brian Stratton*
3.0	**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 early engagement: a. Dense Non-aqueous Phase Liquids and Organic Solvents …….. b. PCB Waste Disposal Sites ……..	 15 24	*Allison Gibbons* *Brian Stratton*
Other			
4.0	**Community Outreach** – Staff Report Attached (D) …… Members & staff report on past activities and upcoming events and opportunities	32	*Chair Stavinga*
5.0	**Other Business**		*Chair Stavinga*
6.0	**Member Inquiries**		*Chair Stavinga*
7.0	**Next Meeting** – September 1, 2011 4pm Rosedale Hall (657 Rosedale Road South, Montague)		*Chair Stavinga*
8.0	**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: July 25, 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	Salvage Yards	A member asked why private salvage yards are not identified as a waste disposal site in the provincial threats list	Mary Wooding - MOE	**Complete** Derelict motor vehicle sites are not identified as a waste disposal site in the provincial threats list because they are not subject to Part V of the EPA. However, other prescribed threat activities may be associated with the operation (e.g. storage and handling of DNAPLs or fuels). Derelict motor vehicle sites are subject to Section 14 of the EPA which prohibits the discharge of contaminants to the environment that causes or is likely to cause an adverse effect. MOE District offices can deal with derelict motor vehicle sites under this provision of the EPA if it is deemed appropriate to do so.
2	Mine Tailings	A member indicated that mine tailings ponds were exempt from requiring a Waste Certificate of Approval	Mary Wooding	**In Progress** MOE will confirm whether or not mine tailing ponds require a Waste Certificate of Approval – this will affect what policy tools can be used to manage or prohibit them.

	Issue	Action	Lead	Status
3	O. Reg 903	A member suggested O. Reg 903 be added as applicable law under Ontario's Building Code	Patricia Larkin	**In Progress** Staff and members are working on a draft motion to be considered by the Committee at a future meeting
4	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
5	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 has provided this proposal to the MOE for their preliminary review and input.
6	Uranium	MVC and local Health Units work together to raise public awareness about naturally occurring uranium in drinking water	Sommer Casgrain-Robertson	**In Progress** Health Canada released a "Uranium and Drinking Water" fact sheet. It is available on their website at http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/uranium-eng.php
6	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**

1.0 g) CORRESPONDENCE

Date: July 25, 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 Correspondence for information.

Attached Correspondence:

	Correspondence From:	Regarding:	Response:
1	Tay Valley Township July 12, 2011	Request for the Provincial Government to provide funding to small businesses to help them comply with new regulations for small drinking water systems.	Provided to the SPC for consideration at their August 4, 2011 meeting.

Tay Valley Township

July 12, 2011

The Honourable Dalton McGuinty
Premier of Ontario
Legislative Building, Queen's Park
Toronto, ON M7A 1A1
Via Email

RE: Financial Assistance - Small Drinking Water Systems

Dear Premier McGuinty,

I am writing to ask for action by your government to assist small business owners that operate small drinking water systems. At its meeting of June 28, 2011, the Council of Tay Valley Township adopted the following motion:

> *Whereas the Government of Ontario introduced a number of regulatory and legislative changes affecting drinking water systems as a result of the Walkerton tragedy; and*
> *Whereas the Government of Ontario has made significant funding available to municipalities that operate drinking water systems and other governmental bodies to meet these new requirements around source water protection and municipal drinking water systems; and*
> *Whereas business owners are also impacted with the provisions set out in Ontario Regulation 319/08, under the Health Protection and Promotion Act, that sets out requirements for small non-municipal drinking water systems serving a major residential development or a trailer park or campground with more than five service connections; and*
> *Whereas Tay Valley Township is home to a number of small tourism operations, campgrounds and trailer parks that must meet these requirements;*
> *Therefore be it resolved that the Council of Tay Valley Township call on the Government of Ontario to explore funding options, including grants and loans, to small business owners seeking to comply with regulations for their small drinking water systems, and given the significant funding previously announced for source water protection and to meet the requirements of the Clean Water Act; and*
> *Further that a copy of this resolution be shared with Opposition Leaders, MPP Randy Hillier, the Association of Municipalities of Ontario, Conservation Ontario, conservation authorities, the Health Unit and the local Source Water Protection Committee.*

Tay Valley Township
217 Harper Road, R.R. # 4, Perth, Ontario K7H 3C6

www.tayvalleytwp.ca
Fax: (613)-264-8516 Phone: (613)-267-5353
1-800-810-0161

The Government of Ontario should be commended for efforts to protect drinking water. However, some of the funding previously announced should be made available to support small businesses that are also affected by these new requirements and regulations.

Sincerely,

Keith Kerr, Reeve

cc: Minister John Wilkinson, Minister of the Environment
Tim Hudak, Leader of the Opposition
Andrea Horwath, Leader of the NDP
Randy Hillier, MPP
Association of Municipalities of Ontario
Rideau Valley Conservation Authority
Mississippi Valley Conservation
Conservation Ontario
Mississippi-Rideau Source Water Protection Committee
Leeds, Grenville and Lanark District Health Unit

2.0 Source Protection Plan Progress

Date: June 23, 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

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 could be 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 in the most vulnerable parts of a:

- **Wellhead Protection Areas**; or
- **Intake Protection Zones**.

These are typically areas closest to the municipal well or intake.

Only 3% of the Mississippi Rideau region is considered vulnerable enough to produce significant threats. Maps of these areas are in the Assessment Reports which are available from staff or on our website at www.mrsourcewater.ca (Assessment Report page).

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 have the potential to 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 (a policy development flowchart is attached):

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. The following is a general policy development schedule.

		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

As policy concepts are developed for each drinking water threat, the attached tables will be used to track:

- Policy Development Progress
- Potential Policy Effect (encourage, manage or prohibit activities)

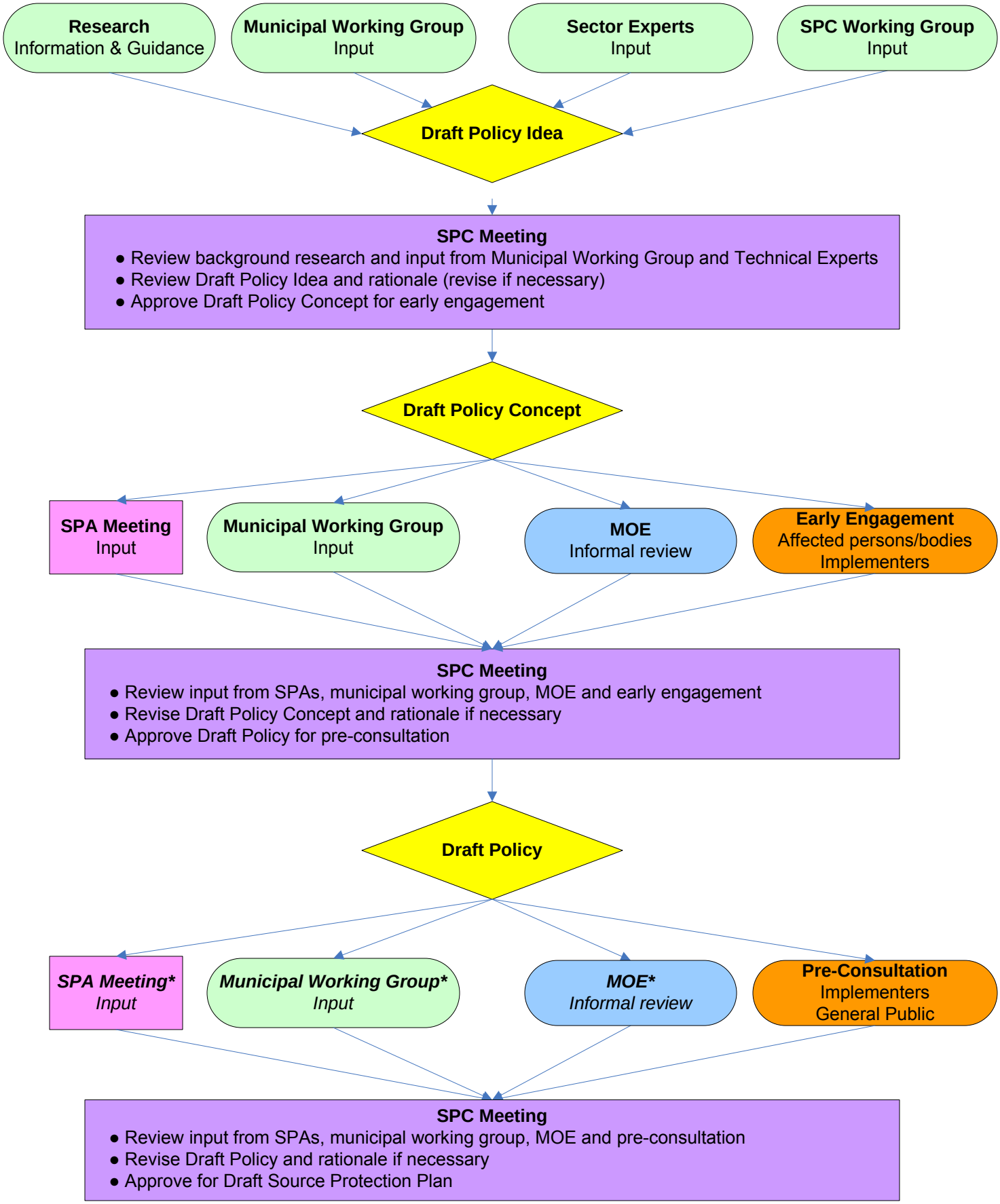
In the coming months, additional tables will be added to track:

- Potential Policy Tools (e.g. education, land use planning, risk management plan)
- Potential Policy Implementers (e.g. provincial ministries, health units, municipalities)
- Potential Municipal Responsibilities (for each individual municipality)

Attachments:

- Policy Development Process
- Draft Policy Concepts: Policy Development Progress
- Draft Policy Concepts: Potential Policy Effect

Source Protection Plan
Policy Development Process



** Only if different from Draft Policy Concept*

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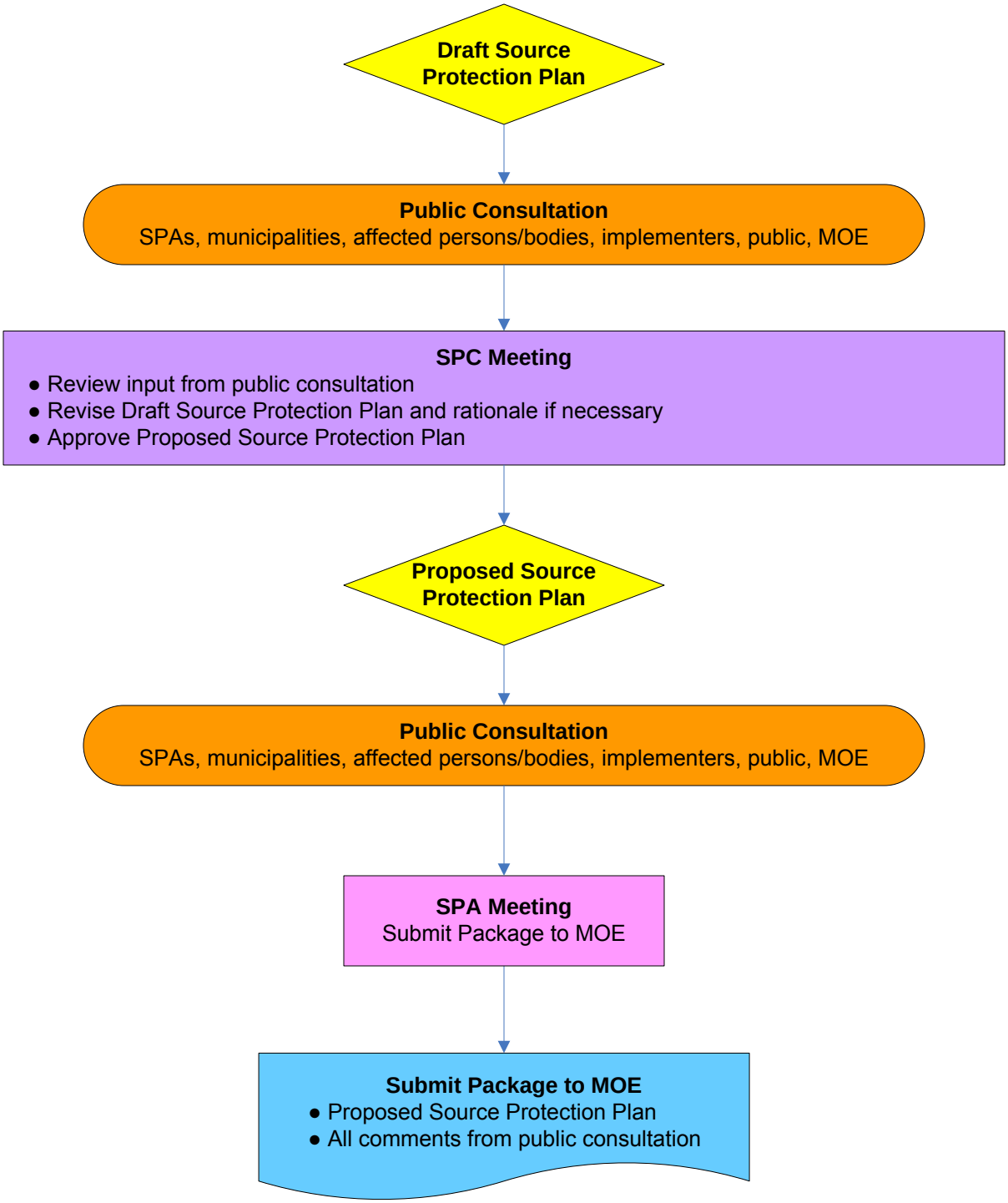

Policy Development Progress
Dated: July 26, 2011

Drinking Water Threats		Municipal Working Group (generate policy ideas)	Sector Experts (generate policy ideas)	SPC Working Group (generate policy ideas)	Draft Policy Concept	SPA Meeting (review draft policy concepts)	MOE (review draft policy concepts)	Municipal Working Group (review draft policy concepts)	Policy Implementers (review draft policy concepts)	Affected People (review draft policy concepts)	Draft Policy	Pre-Consultation (policy implementers & public)	Draft SPP Policy	Draft SPP (post for public consultation)
Waste	Application of untreated septage to land	✓	✓	✓	✓	✓	✓	✓						March, 2012
	Storage, Treatment and Discharge of Tailings from Mines	✓	✓	✓	✓	✓	✓	✓						
	Landfarming of Petroleum Refining Waste	✓	✓	✓	✓	✓	✓	✓						
	Liquid Industrial Waste Injection into a Well	✓	✓	✓	✓	✓	✓	✓						
	PCB Waste Storage	✓	✓											
	Landfilling (Hazardous Waste)	✓	✓	✓	✓	✓	✓	✓						
	Landfilling (Municipal Waste)	✓	✓	✓	✓	✓	✓	✓						
	Landfilling (Solid Non Hazardous Industrial or Commercial)	✓	✓	✓	✓	✓	✓	✓						
	Storage of Hazardous Waste at Disposal Sites	✓	✓	✓	✓	✓	✓	✓						
	Storage of Wastes described in clauses…of the definition of hazardous waste	✓	✓	✓	✓	✓	✓	✓						
Sewage	Discharge of Untreated Stormwater from a Stormwater Retention Pond	✓	✓	✓	✓		✓							
	Sanitary Sewers and Related Pipes	✓	✓	✓	✓		✓							
	Sewage Treatment Plant Effluent Discharges Including Lagoons	✓	✓	✓	✓		✓							
	Storage of Sewage (e.g. Treatment Plant Tanks)	✓	✓	✓	✓		✓							
	Combined Sewer Discharge from a Stormwater Outlet to Surface Water	✓	✓	✓	✓		✓							
	Sewage Treatment Plant Bypass Discharge to Surface Water	✓	✓	✓	✓		✓							
	Industrial Effluent Discharge	✓	✓	✓	✓		✓							
	Septic System / Holding Tank - large	✓	✓	✓	✓		✓							
	Septic System / Holding Tank - small	✓	✓	n/a	✓	✓	✓	✓	✓					
ASM	Application	✓	✓											
	Storage	✓	✓											
NASM	Application	✓	✓											
	Handling and Storage	✓	✓											
Fertilizer	Application	✓	✓											
	Storage	✓	✓											
Pesticide	Application	✓	✓											
	Handling and Storage	✓	✓											
Road Salt	Application	✓	✓	✓	✓	✓	✓	✓						
	Handling and Storage	✓	✓	✓	✓	✓	✓	✓						
Snow	Storage	✓	✓	✓	✓	✓	✓	✓						
Fuel	Handling and Storage - fuel oil	✓	✓	✓	✓	✓	✓	✓						
	Handling and Storage - liquid fuel	✓	✓	✓	✓	✓	✓	✓						
DNAPLs	Handling	✓	✓	✓										
	Storage	✓	✓	✓										
Organic Solvent	Handling	✓	✓	✓										
	Storage	✓	✓	✓										
De-Icing		✓	n/a	✓	✓	✓	✓	✓						
Livestock	Management or Handling of ASM Generation (grazing and pasturing)	✓	✓											
	Management or Handling of ASM Generation (farm-yards or outdoor confinement areas)	✓	✓											

✓	Task completed
✓	Task completed since last Source Protection Committee meeting

Draft Policy Concepts: Potential Policy Effect

Dated: July 25, 2011

Drinking Water Threats		Significant Threats	Encourage	Manage	Prohibit	Moderate / Low Threats	Encourage (across entire HVA)	Encourage (within portions of WHPA / IPZ)
Waste	Application of untreated septage to land		✓		F		F	
	Storage, Treatment and Discharge of Tailings from Mines		✓					
	Landfarming of Petroleum Refining Waste		✓		F		F	
	Liquid Industrial Waste Injection into a Well		✓		F		F	
	PCB Waste Storage		✓					
	Landfilling (Hazardous Waste)		✓		F		F	
	Landfilling (Municipal Waste)		✓		F		F	
	Landfilling (Solid Non Hazardous Industrial or Commercial)		✓		F		F	
	Storage of Hazardous Waste at Disposal Sites		✓		F		F	
	Storage of Wastes described in clauses…of the definition of hazardous waste		✓		F		F	
Sewage	Discharge of Untreated Stormwater from a Stormwater Retention Pond		✓	F	F			
	Sanitary Sewers and Related Pipes		✓	E,F				
	Sewage Treatment Plant Effluent Discharges Including Lagoons		✓		F			
	Storage of Sewage (e.g. Treatment Plant Tanks)		✓	E	F			
	Combined Sewer Discharge from a Stormwater Outlet to Surface Water		✓		F			
	Sewage Treatment Plant Bypass Discharge to Surface Water		✓		F			
	Industrial Effluent Discharge		✓		F			
	Septic System / Holding Tank - large		✓	F	F			
	Septic System / Holding Tank - small		✓	E,F	E,F			
ASM	Application		✓					
	Storage		✓					
NASM	Application		✓					
	Handling and Storage		✓					
Fertilizer	Application		✓					
	Storage		✓					
Pesticide	Application		✓					
	Handling and Storage		✓					
Road Salt	Application		✓	E,F			E, F	
	Handling and Storage		✓		F		E, F	
Snow	Storage		✓	E,F	F		E,F	
Fuel	Handling and Storage - fuel oil		✓	E,F				E,F
	Handling and Storage - liquid fuel		✓	E,F	F			E,F
DNAPLs	Handling		✓					
	Storage		✓					
Organic Solvent	Handling		✓					
	Storage		✓					
De-Icing			✓		F			
Livestock	Management or Handling of ASM Generation (grazing and pasturing)		✓					
	Management or Handling of ASM Generation (farm-yards or outdoor confinement areas)		✓					

E Indicates potential policy effect for "existing" significant drinking water threats

F Indicates potential policy effect for "future" significant drinking water threats

✓ Indicates public education will be used to encourage best management practices for all threat subcategories

3.0a Draft Policy Ideas: DNAPLs and Organic Solvents

Date: July 25, 2011
To: Mississippi-Rideau Source Protection Committee
From: Brian Stratton, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation 1:

That the Mississippi-Rideau Source Protection Committee approve the Draft Policy Ideas for DNAPLs and organic solvents 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
- Sewage collection, storage, transmission, treatment 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

DNAPLs and Organic Solvents

This staff report discusses the storage and handling of dense non-aqueous phase liquids (DNAPLs) and organic solvents. It provides:

- Background information about these significant drinking water threats; and
- Draft policy ideas for how they could be addressed in a Source Protection Plan.

The Threat

As noted above (in bold), two of the provincial threat categories are the storage and handling of a dense non-aqueous phase liquid (DNAPL) and the storage and handling of an organic solvent.

DNAPLs are chemical compounds that are denser than water and do not dissolve readily in water. Many DNAPLs are highly toxic, persistent and carcinogenic. DNAPLs are particularly dangerous near drinking water sources because:

- Even a small amount can cause a toxic level of contamination for human health;
- They sink to the bottom of surface water where water treatment plant pipes often lay
- They sink to the bottom of groundwater, traveling through small fractures and spaces making them nearly impossible to find;
- They do not dissolve readily which creates toxic pools which may remain for decades to centuries; and
- They defy conventional cleanup methods.

There are five DNAPL substances listed in the provincial Tables of Circumstances that could threaten the safety of drinking water sources:

- Dioxane-1,4
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Tetrachloroethylene (PCE) (also called PERC)
- Trichloroethylene (TCE)
- Vinyl chloride

Organic solvents are carbon-based substances that are capable of dissolving or dispersing one or more other substances. Many are recognized as carcinogens, reproductive hazards and neurotoxins.

There are four organic solvents listed in the provincial Tables of Circumstances that could threaten the safety of drinking water sources:

- Carbon tetrachloride
- Chloroform
- Methylene chloride (Dichloromethane)
- Pentachlorophenol

DNAPLs and organic solvents have been used in vast quantities for decades in industrial and commercial applications. They are found in such products as paints, adhesives, degreasing / cleaning agents and in the production of dyes, plastics, textiles, printing inks and pharmaceuticals.

These substances can also be found in small quantities in common household products such as cleaners. Substances such as Dioxane-1,4 present in trace quantities in such products as shampoo and cosmetics would not be a drinking water threat since Dioxane-1,4 must be in its pure phase form for it to have its DNAPL attributes (i.e., behave like a DNAPL).

Where is it a Significant Threat?

DNAPLs and organic solvents are a significant drinking water threat:

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

Threat	Locations	Circumstances
The handling of a DNAPL	WHPA A, B, C* Any vulnerability score	• Above or below grade handling of a DNAPL in relation to its storage • Any quantity
	IPZ vulnerability score of 10	• The above grade handling of a DNAPL in relation to its storage. • Any quantity
The storage of a DNAPL	WHPA A, B, C* Any vulnerability score	• At or above, below or partly below grade • Any quantity
	IPZ vulnerability score of 10	• At or above or partly below grade • Any quantity
The storage of an organic solvent	WHPA vulnerability score of 10	• Below or partly below grade; >25 litres • At or above grade; >250 litres • Stored in a container
	IPZ vulnerability score of 10	• At or above or partly below grade • >250 litres • Stored in a container

*The area around a well where DNAPLs are a significant threat is much larger than for other drinking water threats because DNAPLs rapidly and readily migrate downwards through the subsurface and remediation technology is incapable of dealing satisfactorily with a spill. The five year time of travel is based on the approximate time required to replace the municipal well.

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).

Existing and Future Significant Threats

In the Mississippi-Rideau region there are some locations where DNAPLs and organic solvents are an existing significant drinking water threat. Future significant threats are possible throughout the region.

Drinking Water System		Existing Significant Threats DNAPL	Existing Significant Threats Organic Solvent	Future Significant Threats
WHPA	Almonte	Dry cleaner (1)	None	Possible*
	Carp	Dry cleaner (1) Automotive (1)	None	
	Kemptville	Dry cleaners (3) Electrical power station (1) Electronic / precision equipment repair (1) Wood product manufacturing (1)	None	
	Merrickville	Electrical power station (1) Boat building (1)	None	
	Munster	None	None	
	Richmond	Dry cleaners (3) Magnetic and optical media manufacturing (1) Wood product manufacturing (1)	None	

Drinking Water System		Existing Significant Threats DNAPL	Existing Significant Threats Organic Solvent	Future Significant Threats
	Westport	None	None	

* In areas where zoning prohibits industrial / commercial land uses, significant threats for organic solvents may not be possible due to the larger volumes (i.e., residential users would not typically store >250 litres of organic solvent).

Drinking Water System		Existing Significant Threats DNAPL	Existing Significant Threats Organic Solvent	Future Significant Threats
IPZ	Carleton Place	None	None	Possible*
	Perth	None	None	
	Smiths Falls	None	Electrical power station (1) RV Park (1)	
	Ottawa – Britannia & Lemieux Island	None	n/a	Not Possible (there is no vulnerability score of 10 so a significant threat is not possible)

* In areas where zoning prohibits industrial / commercial land uses, significant threats for organic solvents may not be possible due to the larger volumes (i.e., residential users would not typically store >250 litres of organic solvent).

Existing Regulations

Canadian Environmental Protection Act (CEPA)

Environment Canada and Health Canada are responsible for assessing threats posed by dangerous substances and for undertaking risk reduction measures. Six of the nine DNAPL and organic solvent substances listed as significant drinking water threats are on the CEPA Toxic Substances List and as such are subject to risk management tools such as:

- Sector regulations
- Pollution Prevention Plans
- Environmental Performance Agreements
- Codes of practice
- Recommendations on the design and operation of facilities

Ontario Toxics Reduction Act

The Ontario Ministry of the Environment (MOE) has a toxics reduction strategy that is focused on managing and reducing the use and creation of toxic substances to improve the protection of the environment and human health. Certain facilities are required to prepare Toxic Substance Reduction Plans, however implementation of these plans is voluntary. Where certain DNAPLs are used or created, actions related to these substances must be reported annually to the MOE and to the public.

Other Ontario Regulations, Programs and Guidelines

- Ontario Environmental Protection Act governs:
    - Disposal of DNAPLs and organic solvents (Regulation 347 General Waste Management)
    - Spills (Regulation 675/98; and the Spills Action Centre)
    - Dry Cleaners (Regulation 323/94; governs the training of employees regarding the management of dry cleaning chemicals)

- MOE initiatives related to chemicals include:
    - Guidelines for environmental protection measures at chemical and waste storage facilities;
    - MOE Pollution Prevention Office and Ontario's Environmental Leaders Program (voluntary programs that promote environmental improvements beyond regulatory requirements and reward successes);
    - Best management practices for industrial sectors (textiles, fabricated metal products, motor vehicle parts manufacturing, automotive repair and maintenance, dry cleaners and chemical manufacturing)

- The Ontario Fire Code contains specifications for storage of flammable or combustible liquids (setbacks from buildings and property lines, clearance and fire department access).

Municipal Requirements

- Zoning by-laws specify where industrial users of DNAPLs and organic solvents would be permitted and where retailers that store these substances can be located.
- Sewer use by-laws regulate discharges to municipal sewers and can prohibit or limit the concentration of certain substances allowed to be released into the municipal sewer system.

DNAPLs and Organic Solvents	**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). The following chart shows what policy tools are available to address sewage works where they are or would be a significant threat.

Policy Tool	Address DNAPLs and Organic Solvents
Education and Outreach	**Yes**
Incentives	**Yes**
Prescribed instruments	No – There are none
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 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 DNAPLs and organic solvents. These ideas were developed by staff in conjunction with:

- Sector experts; and
- Our municipal working group
    - Meeting #3 (February 17, 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, Cost, Practicality 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 idea being proposed for DNAPLs and organic solvents.

Effectiveness

Risk Management Plan – Existing Threats

- DNAPLs are arguably the most dangerous of the drinking water threats due to the potential for long-term or irreparable damage to aquifers. As such, the vulnerable area where the handling and storage of a DNAPL is a significant threat is large (five year time of travel). The risk management policy would apply to this large area, for all types of users and for any quantity of DNAPL. Combined with other Federal and Provincial controls on these substances, this approach should effectively manage the activity so that it ceases to be a significant threat.
- Organic solvents are not as dangerous, so the vulnerable area is smaller and the threat circumstance stipulates minimum volumes that need to be stored to pose a significant drinking water threat. The policy idea is to require a risk management plan for those existing businesses that meet the significant threat circumstance. Combined with other Federal and Provincial controls on organic solvents, this approach should effectively manage the activity so that it ceases to be a significant threat.

Prohibition – Future Threats

- While risks associated with existing activities can be managed, the draft policy idea is to prohibit the establishment of future land uses that involve the use of DNAPLs and certain quantities of organic solvents. This is consistent with the policy approach for other significant threats that pose a high risk of contamination, potentially serious consequences in the event of contamination and/or are not essential activities in that area. In these situations, such activities should be established outside vulnerable areas preventing the creation of new significant threats.
- Locating these types of threat activities outside of the vulnerable areas is 100% effective in ensuring they will never become significant drinking water threats.

Education and Outreach

- It seems appropriate to include in the standard education and outreach program for property owners, information about:
    - DNAPLs and organic solvents (and the products that contain them) and the threat they could pose to drinking water
    - Alternative products
    - Proper disposal
    - Awareness of the prohibition of DNAPLs and certain volumes of organic solvents
- This part of the policy will help to address the unique challenges of this threat such as communicating the requirements to a large number and variety of potential users of these substances.

Sewer Use By-Law

- Most municipalities have a sewer use by-law. The policy idea is to ensure that the DNAPL and organic solvent substances in the provincial Tables of Circumstances are specifically listed in a sewer use by-law as prohibited from being discharged.

Cost

- The cost of administering Risk Management Plans falls to municipalities, however;
    - Under the *Clean Water Act*, municipalities may charge fees to recover the costs of administering Risk Management Plans. Therefore the cost could be borne by the property owner requiring the Risk Management Plan (like a permit fee) or could be paid for by those on municipal water services through an additional charge on their water bill.
    - The number of significant threat locations is relatively low (approximately 20). This means the cost of administering a Risk Management Plan program for this threat should be modest, although this will become clearer as further information about Risk Management Plans is received from the MOE.
- The measures required through the Risk Management Plan may have additional costs associated with them (if upgrades or special measures are required) but these costs would be low compared to the costs of a spill.
- There could be a cost of lost opportunity to landowners or developers resulting from the prohibition of future land uses involving DNAPLs and organic solvents.
- There would be a one-time administrative cost of amending Official Plans and Zoning By-laws to reflect the prohibition of new businesses involving the use of DNAPLs and certain volumes of organic solvents.
- The costs associated with establishing or amending a sewer use by-law would also be a one-time, administrative cost.
- There would be a cost associated with establishing and implementing the education and outreach program, however, one program to address multiple threats is proposed (basically all the do's and don'ts of living and working near municipal source water).

Practicality

- MOE guidance material advises against creating policies that address individual chemicals. A policy that addresses a group of chemicals associated with one threat is more practical. The policy idea does not involve different approaches for the different types of DNAPLs and organic solvents.
- A risk management plan can serve to fill certain identified regulatory gaps such as
    - those substances deemed to be "not toxic" by Environment Canada and Health Canada that have no regulatory risk management measures;
    - those users that fall beneath regulatory thresholds (e.g., the solvent degreasing regulations that apply to users of more than 1,000 kg per year);

    - those activities involving DNAPL/organic solvent use that are not subject to regular inspections, audits or any “on the ground” checking by regulatory agencies.
- 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.
- 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 amendment to local Official Plans and Zoning By-laws so municipalities can do all the amendments at once when it is convenient.
- There will be efficiencies and practical advantages to one education and outreach program that addresses multiple threats.
- Sewer use by-laws are a planning tool that is already used by municipalities to prevent certain types of contaminants from entering the storm water sewers and sewage treatment plants. The policy idea takes practical advantage of this existing planning tool to provide an extra regulatory measure to protect drinking water.
- Monitoring of the policies will consist of annual reports to the Source Protection Authority from the Risk Management Official and the education and outreach program implementer as well as a notification from municipalities regarding the establishment or amendment of sewer use by-laws and amendments to Official Plans and Zoning By-laws.

Acceptance

- Municipal staff from each municipality with areas where the policy would take effect supported this approach. They felt that:
    - Policies for existing activities should not cause the closure of businesses with the exception of known contamination sources or contaminated sites.
    - A precautionary approach is appropriate when creating a policy for very hazardous substances such as DNAPLs. Where possible, hazardous activities such as those involving the use of DNAPLs or organic solvents should be established elsewhere in the watershed provided that rural wells and other sensitive features were protected (e.g., large setbacks).
    - Policies should make use of existing land use planning tools where possible since these are familiar to municipal staff who will be the implementers of the majority of the source water protection policies.
- 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 – Section 57 Prohibition
- MOE Bulletin: Source Protection Planning Bulletin – Section 58 Risk Management Plans

Attached:

- Draft Policy Ideas for the Handling and Storage of a Dense Non-Aqueous Phase Liquid (DNAPL) and the Handling and Storage of an Organic Solvent

3.0a Draft Policy Ideas: DNAPLs and Organic Solvents

Handling and Storage of a Dense Non-Aqueous Phase Liquid (DNAPL) and the Handling and Storage of an Organic Solvent

Situation	Description	Policy Tool and Concept	Implementer	Monitoring Policy	Legal Effect	Compliance Date
#1 Existing Significant Threat	Existing handling and storage of a DNAPL or an organic solvent identified as a significant threat.*	**Risk Management Plan:** • Content to be negotiated between the person engaged in the activity and the Risk Management Official (RMO) • Regard should be given for any risk management measures that are already in place and regulatory requirements that are already being met **Restricted Land Use** as an administrative tool to implement the Risk Management Plans	Municipality	The Risk Management Official shall report annually to the Source Protection Authority with the information required in Section 65 of Regulation 287/07 related to the previous calendar year. *This will provide administrative, enforcement and compliance results.*	Must comply	Silent (means date can be set by municipality based on RMO workload)
		Education and Outreach targeted at property owners to promote the following: • Awareness of the vulnerable areas • Awareness of the DNAPL or organic solvent substances (and the products that contain them) and the threat they could pose to drinking water • Awareness of alternative products that do not pose a threat to drinking water and proper disposal of unwanted products • Awareness of the prohibition of any quantity of DNAPL substances and certain volumes of organic solvents in the vulnerable areas where they would be a significant drinking water threat	Municipality	Implementer to provide an annual report to the Source Protection Authority with the following content: • Description of the education and outreach initiatives that were carried out • Estimate of uptake (e.g., numbers of participants in an information session) • Feedback regarding the effectiveness of the policy and recommendations for improvement	Must comply or strategic action depending on implementer	Within 6 months of Source Protection Plan taking effect
		Land Use Planning: Municipalities shall enact a sewer use by-law that prohibits the discharge of sewage containing any of the 9 listed DNAPL or organic solvent substances or add these substances to the wording of existing sewer use by-laws.	Municipality	Municipality shall notify the Source Protection Authority when the by-law has been enacted or existing by-law has been amended.	Must comply	Within 6 months of Source Protection Plan taking effect
#2 Future Significant Threat	Future handling and storage of a DNAPL or an organic solvent that would be a significant threat.*	**Prohibition:** In accordance with Section 57 of the *Clean Water Act.* **Restricted Land Use** as an administrative tool to implement the Risk Management Plans	Municipality	The Risk Management Official shall report annually to the Source Protection Authority with the information required in Section 65 of Regulation 287/07 related to the previous calendar year. *This will provide administrative, enforcement and compliance results.*	Must comply	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 new business that would involve the handling and storage of a DNAPL or an organic solvent where it would be a significant drinking water threat.		Municipality shall notify the Source Protection Authority when their Official Plan and Zoning By-laws have been amended.		Planning Act decisions must conform immediately upon Source Protection Plan taking effect

***Significant Threat Circumstances:**

Handling of a DNAPL
- WHPA A, B, C with any vulnerability score: The above or below grade handling of any quantity of DNAPL in relation to its storage.
- IPZ scored 10: The above grade handling of any quantity of DNAPL in relation to its storage.

Storage of a DNAPL
- WHPA A, B, C with any vulnerability score: Any quantity of DNAPL stored above, below or partly below grade.
- IPZ scored 10: Any quantity of DNAPL stored above or partly below grade.

Storage of an Organic Solvent
- WHPA scored 10: >25 litres of organic solvent stored below or partly below grade or >250 litres stored at or above grade.
- IPZ scored 10: >250 litres stored at or above or partly below grade.

3.0b Draft Policy Ideas: Waste Disposal Sites – PCB Waste and Tailings from Mines

Date: July 25, 2011
To: Mississippi-Rideau Source Protection Committee
From: Brian Stratton, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation 1:

That the Mississippi-Rideau Source Protection Committee approve the Draft Policy Ideas for PCB waste storage and the storage, treatment and discharge of tailings from mines 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**
- 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 – PCB Waste and Tailings from Mines

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*, specifically, a PCB waste storage site and the storage, treatment and discharge of tailings from mines. It provides:

- Background information about these significant drinking water threats; and
- Draft policy ideas for how they could be addressed in a Source Protection Plan.

Waste Disposal Sites – PCB Waste and Tailings from Mines	Background Info

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 two of the ten waste disposal site threat subcategories:

- PCB waste storage
- Storage, treatment and discharge of tailings from mines (hereafter referred to as tailings from mines).

A previous staff report (May 5, 2011 agenda) proposed draft policy ideas for the other 8 waste disposal site threat subcategories:

- Application of untreated septage to land
- Landfarming of petroleum refining waste
- Liquid industrial waste injection into a well
- Landfilling of hazardous waste
- Landfilling of municipal waste
- Landfilling of solid non hazardous industrial or commercial waste
- Storage of hazardous waste at disposal sites
- Storage of wastes described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste

Definitions

Polychlorinated biphenyls (PCBs) are a class of organic compounds that were widely used as coolants and insulating fluids for transformers, early fluorescent lights, as plasticizers in paints and cements, stabilizing additives in coatings of electrical wiring and electronic components. PCBs were also used as an ingredient in pesticide, flame retardants, lubricating oil, hydraulic fluids and sealants. PCBs are very persistent both in the environment and in living tissue. They are endocrine disruptors, neurotoxins and are carcinogenic.

PCB Waste means PCB equipment, liquid or other material (concentration of more than fifty parts per million) that has not been decontaminated.

PCB Related Waste means waste containing low levels of PCBs or waste arising from a spill or clean up of PCB liquid.

PCB Waste Disposal Site/Storage Site is a site as defined by the Ontario *Environmental Protection Act* Regulation 362 containing PCB waste and PCB related waste but not containing other wastes.

Tailings from mines are the waste materials left over after processing ore to extract the mineral of interest. They are typically made up of waste ground rock, processing water and reagents (substance or compound that is added to bring about a chemical reaction). Some tailings are reactive and produce acid after they are deposited. Reactive tailings can result in heavy metals such as mercury and chemical compounds such as cyanide making their way into surface and ground water.

Tailings ponds refer to the pits or surface impoundment structures where mine tailings are stored and de-watered.

Where is it a Significant Threat?

PCB waste storage and tailings from mines are significant drinking water threats:

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

Threat Subcategory	Locations	Circumstances
PCB Waste Storage	WHPA vulnerability score of 10	The PCB waste is stored at a PCB waste disposal site in: • an outdoor area and not in a container; or • below grade in a facility or engineered cell; or • below or partially below grade in a storage tank.
	IPZ vulnerability score of 10	The PCB waste is stored at a PCB waste disposal site in: • an outdoor area and not in a container.
Tailings from Mines	WHPA vulnerability score of 10	The tailings are stored in: • a pit that is or is not part of a facility for which the NPRI* Notice requires a person to report • an impoundment structure on the surface and is part of a facility for which the NPRI* Notice requires a person to report
	IPZ vulnerability score of 10	The tailings are stored in: • an impoundment structure on the surface and is or is not part of a facility for which the NPRI* Notice requires a person to report
	IPZ vulnerability score of 9	The tailings are stored in: • an impoundment structure on the surface and is part of a facility for which the NPRI* Notice requires a person to report

*NPRI – National Pollution Release Inventory

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).

Are There Existing Significant Threats?

In the Mississippi-Rideau region there are no existing waste disposal sites of any kind, including PCB waste storage or tailings from mines, that are considered significant drinking water threats.

Could There Be Future Significant Threats?

Future significant threats are unlikely. PCB regulations include “prescribed locations” which are sensitive land uses where PCB use is prohibited within 100 metres. One of the prescribed locations listed is drinking water treatment plants. Therefore, since PCB use is prohibited in these areas, it is unlikely that approvals would be granted to store PCB waste in vulnerable areas where this land use would be a significant drinking water threat.

Similarly, it is unlikely that tailings from mines would be stored, treated or discharged in the small areas where this activity would be a significant drinking water threat due to lack of space, incompatible existing land uses and/or prohibitive zoning.

Existing Regulations – PCB Waste Storage

The Canadian government has taken action to eliminate PCBs from Canada because of concern for the environmental and because of the health effects of PCBs. The import, manufacture and sale of PCBs were made illegal in Canada in 1977 and release to the environment was made illegal in 1985. However, legislation has allowed owners of PCB equipment to continue using PCB equipment until the end of its service life. The storage of PCBs has been regulated since 1988.

As PCBs are phased out of use, they are taken to storage facilities to await destruction by chemical treatment or incineration. There is a shortage of destruction facilities so there are now more than 3,000 PCB waste storage sites across Canada.

PCBs are regulated provincially under the Ontario *Environmental Protection Act* Regulation 362 (Waste Management – PCBs) which:

- requires safe and secure storage of PCB waste;
- prohibits disposal, decontamination or dilution of PCB waste; and
- involves comprehensive record keeping and reporting to track the movement of PCB waste.

PCBs are regulated federally by Environment Canada which has placed PCBs on the Canadian Environmental Protection Act (CEPA) Toxic Substances List – Track 1 (virtual elimination from the environment). The main regulation is:

- Chlorobiphenyls Regulation (SOR/2008-273) which:
    - establishes prohibitions on the release, manufacture, export, import, sale, processing and use of PCBs;
    - sets deadlines to end the use of PCBs and send them for destruction; and
    - specifies the labeling, record keeping and reporting requirements for PCBs in order to track the progress of ending their use and storage and to track their destruction.

There are numerous other regulations and guidelines addressing PCBs including:

- Federal Mobile PCB Treatment and Destruction Regulations (SOR/90-5)
- PCB Waste Export Regulations (SOR/97-109)
- Canadian Council of Ministers of the Environment (CCME) Guidelines for PCB Transformer Decontamination
- CCME Guidelines for Mobile PCB Destruction Systems
- CCME Guidelines for Mobile PCB Treatment Systems
- CCME Guidelines for the Management of Wastes Containing PCBs

Existing Regulations – Tailings from Mines

Tailings from mines are regulated provincially under:

- Ontario *Environmental Protection Act* Effluent Monitoring and Effluent Limit Regulations (also known as the MISA regulations):
    - Ontario Regulation 561/94 – Industrial Minerals Sector (applies only to existing facilities named in the regulation)
    - Ontario Regulation 560/94 – Metal Mining Sector (applies to existing or future but depends on the volume of effluent discharged daily)

- Ontario *Water Resources Act* (OWRA) Permit to Take Water:
    - Required for > 50,000 litres of water per day

- Ontario *Water Resources Act* Industrial Sewage Works Certificate of Approval:
    - May be required for mine wastewater treatment systems such as settling ponds and tailings effluent treatment facilities

Tailings from mines are regulated federally under:

- *Fisheries Act*, Metal Mining Effluent Regulations:
    - Mines subject to the regulations must conduct effluent characterization, toxicity testing and water quality monitoring to ensure limits for the discharge of deleterious substances are met

Waste Disposal Sites – PCB Waste and Tailings from Mines	**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). The following chart shows what policy tools are available to address PCB waste storage where it is or would be a significant threat.

Policy Tool	Address PCB Waste and Tailings from Mines
Education and Outreach	**Yes**
Incentives	**Yes**
Prescribed instruments**	PCB Waste – No Tailings from Mines – **Yes** • OWRA Permit to Take Water • OWRA Industrial Sewage Works Certificate of Approval
Land Use Planning	**Yes**
Risk Management Plans	No (*Clean Water Act* does not allow this tool to be used for waste threats)
Prohibition (under the Clean Water Act)	No (*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**

**Unlike other types of waste disposal sites, Waste Certificates of Approval under the *Environmental Protection Act*, which are a Prescribed Instrument, are not required for PCB waste storage or tailings from mines.

Draft Policy Ideas

Draft policy ideas have been developed to address all types of waste disposal sites, including PCB waste storage and tailings from mines. 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. Since there are no existing "significant threats" for PCB waste or tailings from mines in the Mississippi-Rideau region, no policies for existing threats 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 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 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.
- Federal PCB Regulations now prohibit the storage of PCBs on land within 100 metres of a drinking water treatment plant and other sensitive land uses. Presumably, this prohibition is viewed as the most effective way to protect human health and the environment from potential adverse effects from PCBs. The policy idea simply extends this prohibition to the entire vulnerable area where PCB waste storage would be a significant threat.
- Similarly, due to the high risk nature of mine tailings ponds and numerous potential contaminants associated with them (13 substances, including arsenic, lead and mercury) it seems that the most effective policy would be to prohibit future occurrences of this activity where it would be a significant drinking water threat.
- 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. Regulatory agencies are encouraged to consider the potential impact on groundwater when reviewing applications for all types of new waste disposal sites, including PCB waste storage sites and the storage, treatment and disposal of tailings from mines, 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 protect local groundwater.

Practicality

- For PCB waste storage and tailings from mines, future prohibition must be achieved through amending municipal Official Plans and Zoning By-laws since there are no other regulatory tools available.
- Prohibiting through the use of existing planning tools has practical advantages such as preventing regulatory duplication and familiarity to municipal staff who will be the primary implementers of the Source Protection Plan.
- 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 involve the municipality notifying the Source Protection Authority when their Official Plan and Zoning amendments are completed.

Cost

- Areas where waste disposal sites are considered a significant threat and would be prohibited through Source Protection policies are not well suited for this type of activity. Currently there are no waste disposal sites in these areas and it is unlikely any would be established in the 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 that there would not be a cost of lost opportunity to landowners resulting from this prohibition.
- The cost implications of the draft policy ideas are administrative in nature involving amendments to the Official Plan and Zoning by-laws of several municipalities.

Acceptance

- Municipal staff from each municipality with areas where the prohibition would take effect supported this approach. They all supported prohibiting all types of 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.

Attachments

- Revised Draft Policy Ideas for Waste Disposal Sites – revisions to capture PCB waste storage and tailings from mines are highlighted in yellow

3.0b Revised Draft Policy Ideas: Waste Disposal Sites

Policy ideas were revised (sections highlighted in yellow) to address storage of PCB waste and storage, treatment and discharge of tailings from mines

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. *Note: Certificates of Approval do not apply to PCB waste storage or the storage, treatment or discharge of tailings from mines*	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 the following types of waste disposal sites within the meaning of Part V of the *Environmental Protection Act* where they would be a significant drinking water threat: • Application of untreated septage to land • Landfarming of petroleum refining waste • Liquid industrial waste injection into a well • Landfilling hazardous waste • Landfilling municipal waste • Landfilling solid, non hazardous industrial or commercial waste • Storage of hazardous waste at disposal sites • Storage of wastes described in clauses (p), (q), (r), (s), (t), or (u) of the definition of hazardous waste • Storage of PCB waste • Storage, treatment and discharge of tailings from mines	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
		Specify Action: The Ontario Ministry of the Environment* should consider the potential impact on drinking water sources during their review of proposals for new PCB waste storage sites and new mining operations throughout the HVA.			Strategic action	

*This policy may be extended to Environment Canada and the Ontario Ministry of Northern Development, Mines and Forestry pending further consultation with agencies.

4.0 Community Outreach

Date: July 26, 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. *Mississippi Valley Source Protection Authority*
    - July 20, Almonte (Sommer attended)
2. *Source Protection Plan Advisory Committee Teleconference*
    - July 21, (Sommer and Tiffany participated)
3. *Agricultural Working Group Meeting*
    - July 25, (Sommer, Allison, Tiffany, Peter and Richard participated)
4. *Informal MOE Review of Draft Policy Concepts – Teleconference*
    - July 27, (Sommer, Allison and Tiffany participated)
5. *OFEC Working Group Meeting*
    - July 26 and 27, Barrie (agricultural representatives were unable to attend, neighbouring regions to provide us with an update)

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. *Lanark County Council*
    - September 7, Perth (Sommer presenting)
2. *Ontario East Municipal Conference*
    - September 14 – 16, Kingston (Sommer attending one day)
3. *Municipal Working Group Meeting*
    - October 20, Perth (staff and some members attending)