

Drinking Water Source Protection Background Document

**The use of land as livestock grazing or pasturing land, an outdoor confinement area
or a farm-animal yard**

**v.3 May 2011
(Amendments are included as Tracked Changes)**

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1. Definition

This paper provides background information for **prescribed drinking water threat 21 - Livestock grazing/pasturing and outdoor confinement area/farm animal yard.**

An outdoor confinement area (OCA) is a yard, facility, or enclosure (for livestock, deer, elk or game animals) with a very high animal concentration, typically 15 + animals per acre, often for extended periods of time. *Ontario Regulation 267/03* made pursuant to the *Nutrient Management Act* defines outdoor confinement areas as follows:

- 1) It has no roof, except as described below (#3);
- 2) It is composed of fences, pens, corrals or similar structures;
- 3) It may contain a shelter to protect the animals from the wind or another shelter with a roof of an area of less than 20 square metres;
- 4) It has permanent or portable feeding or watering equipment;
- 5) The animals are fed or watered at the enclosure;
- 6) The animals may or may not have access to other buildings or structures for shelter, feeding or watering; and
- 7) Grazing and foraging provides less than 50 per cent of dry matter intake.

Farm-animal yards are outdoor livestock areas lined with concrete other than those meeting the definition of an outdoor confinement area. Food and water are not provided in **farm-animal** yards. They are generally used as outdoor exercise areas or holding areas for when barns are being cleaned out, usually in association with a barn/covered structure.

Grazing is crop production (forages) where the animals do the harvesting. Ontario grazing systems involve a concentration of up to 2-3 animals per acre during the grazing season, often on a rotational basis.

Although grazing/pasturing, farm animal yards and outdoor confinement areas are different (i.e. the latter is a more concentrated animal area requiring more active management), many sections of this background report apply to all. In this report when all types of outdoor livestock areas are referred to collectively, the term "outdoor livestock areas" is used for brevity.

2. What causes this activity to be a drinking water threat?

The Ontario Ministry of the Environment (MOE) Tables of Drinking Water Threats (Ontario Ministry of the Environment, 2009) identify nitrogen, total phosphorus and pathogens (such as e-coli) as contaminants that could make their way into surface and groundwater from outdoor livestock areas (circumstances 200 to 211, 1945 and 1946). Nitrogen is a concern for both surface and groundwater. Total phosphorous is only considered for surface water because excessive inputs result in eutrophication and can cause toxic algae blooms.

These nutrients and pathogens found in animal manure could threaten the safety of drinking water sources in certain situations. Generally speaking, keeping greater numbers of livestock in a space intensifies the accumulation of nutrients and pathogens, thereby increasing the risk of contamination and the requirement for more active management. As such, the ranking of drinking water threat in the MOE Tables increases proportional to the concentration of manure in a given area.

Livestock Grazing and Pasturing Land

A nutrient unit (NU) compares livestock based on the nutrient content (nitrogen and phosphorus) found in manure. A NU is based on the manure equivalent of nutrients contained in 43 kg of nitrogen or 55 kg of phosphate, varying according to livestock type. (For example - 300 NU = 2,400 dairy goats or 210 large frame Holsteins). As nutrients from one dairy goat does not equal nutrients from one large frame dairy cow, under the Nutrient Management Act animals were all standardized to Nutrient Units so that they could be treated equitably.

The circumstance for pathogens applies to the use of land as livestock grazing or pasturing land for one or more animals. The chemical circumstances (nitrogen and total phosphorus) are divided into three groups based on the number of animals on the farm and field area.

- Less than 0.5 NU/ac/year
- 0.5 to 1 NU/ac/year
- Greater than 1 NU/ac/year

Outdoor Confinement Areas and Farm-Animal Yards

The circumstance for pathogens applies to land where one or more animals are kept in an outdoor confinement area or farm animal yard.

- Less than 120 NU/ha/year
- 120 to less than or equal to 300 NU/ha/year
- Greater than 300 NU/ha/year

3. Understanding the nature of the drinking water threat

Table 3.1 displays where these threat activities are or would be drinking water threats according to the MOE Tables of Drinking Water Threats (2008, as amended in 2009). Appendix A provides detailed information on the local scale of these drinking water threats.

Table 3.1 – Outdoor Livestock Area Drinking Water Threat

Vulnerable area		vulnerability score	significant	moderate	low
Name of well/groundwater system	WHPA A, B	10	☐	☐	x
Name of well/groundwater system	WHPA C	8	x	☐	☐
	WHPA D	6	x	x	☐
	WHPA E	7	x	☐	☐
Name of well/groundwater system	WHPA A, B	10	☐	☐	x
	WHPA C	8	x	☐	☐
	WHPA D	6	x	x	☐
Name of well/groundwater system	WHPA A, B	10	☐	☐	x
Name of well/groundwater system	WHPA C	8	x	☐	☐
	WHPA D	6	x	x	☐
HVA/SGRA		6	x	x	☐
Name of surface water system	IPZ 1	9	☐	☐	x
	IPZ 2	8.1	☐	☐	x
Name of surface water system	IPZ 1	9	☐	☐	x
	IPZ 2	8.1	☐	☐	x
Name of surface water system	IPZ 1	9	☐	☐	x
	IPZ 2	8.1	☐	☐	x
	IPZ 3a	6.3	x	☐	☐
Name of surface water system	IPZ 1	6	x	x	☐
	IPZ 2	4.2	x	x	☐
Name of surface water system	IPZ 1	6	x	x	☐
Name of surface water system	IPZ 2	4.2	x	x	☐
Name of surface water system	IPZ 1	7	x	☐	☐
Name of surface water system	IPZ 2	6.3	x	☐	☐
Name of surface water system	IPZ 1	7	x	☐	☐
	IPZ 2	6.3	x	x	☐
Name of surface water system	IPZ 1	7	x	☐	☐
	IPZ 2	5.6	x	x	☐
Name of surface water system	IPZ 1	7	x	☐	☐
	IPZ 2	5.6	x	x	☐

4. Applicable legislation, policies and programs

This section identifies the legislation, policies and programs that apply to outdoor livestock areas. Some of the laws apply directly to farming practices while others are applied indirectly.

a. National

Fisheries Act

The Federal *Fisheries Act* always applies where fish habitat is concerned. In general, the *Fisheries Act* is enforced by Fisheries and Oceans Canada; however, the section that applies to contamination is under the authority of Environment Canada. The main objective of this Act is to protect fish including their habitat and other life requirements. The deposition of any deleterious substance (contaminant) is in contravention of the legislation, per Section 36(3): "... no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water" (Government of Canada, 1985).

Manure and sediment runoff are considered deleterious substances. Manure and sediment could enter surface water as a result of unrestricted livestock access to surface water or runoff from outdoor livestock areas.

b. Provincial

There are three provincial regulations that apply to outdoor livestock areas; each is outlined below. Where there is overlap between the *Nutrient Management Act* (NMA) and the *Environmental Protection Act* (EPA) the NMA applies. For example, should a storm cause manure to flow from an outdoor confinement to a watercourse and the farm has a Nutrient Management Strategy the NMA applies, otherwise the EPA and the Ontario Water Resources Act (discussed below) would apply

Environmental Protection Act

The *Environmental Protection Act* (EPA) generally prohibits anyone from polluting the environment and is enforced by the Ontario Ministry of the Environment. Sections 6 and 14 of the EPA prohibit pollutant releases except where the discharge of a contaminant is a result of normal farming practices (Government of Ontario, 1990). The exception for normal farming practices allows activities that are necessary for raising livestock (e.g. manure to be spread on fields) without the approvals that are required for other wastes.

Section 14 and the definition of adverse effect below display the normal farming practices exemption contained in the EPA.

14.1 Subject to subsection (2) but despite any other provision of this Act or the regulations, a person shall not discharge a contaminant or cause or permit the discharge of a contaminant into the natural environment, if the discharge causes or may cause an adverse effect.

Exceptions

(2) Subsection (1) does not apply to,

- (a) a discharge that is authorized under this Act or the *Ontario Water Resources Act*, if the discharge does not cause and is not likely to cause an adverse effect; or
- (b) a discharge of a contaminant that arises when animal wastes are disposed of in accordance with normal farming practices, if the only adverse effect that is caused or that may be caused by the discharge is an adverse effect referred to in clause (a) of the definition of “adverse effect”.

Adverse effect means,

- (a) “impairment of the quality of the natural environment for any use that can be made of it”, not the other portions of the definition which are as follows:
- (b) injury or damage to property or to plant or animal life,
- (c) harm or material discomfort to any person,
- (d) an adverse effect on the health of any person,
- (e) impairment of the safety of any person,
- (f) rendering any property or plant or animal life unfit for human use,
- (g) loss of enjoyment of normal use of property, and
- (h) interference with the normal conduct of business.

Essentially normal farming practices (i.e. a farm operation that uses proper and acceptable customs and standards as well as technology consistent with proper advanced farm management practices) by their nature do affect natural systems, but not cause adverse impacts as noted above.

Ontario Water Resources Act

The Ontario Ministry of the Environment is responsible for enforcement of the *Ontario Water Resources Act* (OWRA). Two sections apply to outdoor livestock areas.

Section 30(1): “Every person that discharges or causes or permits the discharge of any material of any kind into or in any waters or on any shore or bank thereof or into or in any place that may impair the quality of the water of any waters is guilty of an offence.” This includes manure and sediment.

Under section 32 of the Act the Ministry can order a person who holds a certificate of approval to make changes if it is found that material is being discharged into the water that could impair its quality (Government of Ontario, 1990).

Nutrient Management Act and Ontario Regulation 267/03 - General

Farms are regulated under the Nutrient Management Act if the farm generates greater than 300 nutrient units annually or generate between 5 and 300 NU annually and have applied for a building permit to construct a building used to hold farm animals or manure. Nutrient management strategies and plans are used by some farms to optimize the relationship between the land-based application of nutrients, farm management techniques and crop requirements; to maximize the efficient use of on-site nutrients; and to minimize adverse impacts to the environment.

The *Nutrient Management Act* (NMA) only applies to all farm operations in the following instances:

- No high trajectory irrigation guns are to be used apply manure or non-agricultural source materials if they are able to spray more than 10 meters
- The application of anaerobic digestion output that is from a mixed anaerobic facility that is not a regulated mixed anaerobic digestion facility
- Vegetated filter strip construction and use
- Farm operation receives off-farm anaerobic digestion materials for treatment through mixed anaerobic digestion in a regulated mixed anaerobic digestion facility (Government of Ontario, 2002)

Compliance with the *Nutrient Management Act* is the responsibility of the MOE. According to “Complying with Environmental Legislation on Farms” (Ontario Ministry of the Environment, 2009), the MOE’s on-farm compliance program uses a problem-solving approach to help farmers comply with the law and manage environmental issues through education and outreach. Minor violations can be addressed through voluntary abatement plans, authorizing document amendments (to the nutrient management strategy and/or plan), and provincial officer orders. Enforcement, including *Provincial Offences Act* summons and investigation and prosecution, would be used in situations where serious issues are identified.

Deleted: The balance of the NMA and regulations only apply to phased-in farms (i.e. operations with 300 NU or greater, or that produce more than 5 NU and have applied for a building permit for livestock housing and/or manure storage, or constructing a manure storage made out of earth or constructing a regulated mixed anaerobic digester under the NMA regs).¶

Deleted: and enforcement of

Permanent outdoor confinement areas (OCAs) on farms that are required to have a nutrient management strategy must comply with the following rules under O. Reg. 267/03. There are no requirements for pasturing and grazing under O. Reg. 267/03 (Government of Ontario, 2003).

Under the *Clean Water Act* the approval of, and compliance with, nutrient management strategies is a prescribed instrument.

The following identifies sections of the O. Reg. 267/03 related to outdoor confinement areas and farm animal yards.

Section 55: “A person who owns or controls a low-density or high-density permanent outdoor confinement area shall not construct a new structure or pave all or part of the load-bearing surface of the confinement area, so as to increase the capacity of the confinement area, unless the confinement area is not located” within 100 m of a municipal well, 15 m of a drilled well that is at least 15 m deep with at least six m of casing, within 30 m of any other well or within 15 m of a field drainage tile.

Section 57: Animals in a high-density or permanent OCA where the farm unit generates at least 300 nutrient units cannot have access to surface water. Note that low density outdoor/non-permanent OCA animals may have access to surface water. Other legislation generally prohibits this activity, but these acts and regulations are operated on a complaint basis and therefore have limited impact.

Section 58: Animals may only be kept in a permanent OCA if there is a nutrient management strategy for the operation, the manure produced is in accordance with the strategy and a runoff management system is in place.

Section 60: Manure may be mounded (i.e. mixed with bedding material to make it more solid and manageable) in an OCA and if it’s used for bedding material, as identified in an approved nutrient management strategy, it may be left (i.e. not moved to a storage facility or applied).

Section 61: Describes special requirement for applying and storing snow with manure (e.g. gentle field slopes, reduced application rate and buffers along surface water).

Section 81. (2, 3) : All runoff from farm animal yards and outdoor confinement areas must be equipped with a runoff management system capable of managing all the runoff from the area.

Section 81. (5): Permanently vegetated areas such as permanent hay fields or permanent pastures can be used to manage runoff from outdoor confinement areas, farm animal yards and small solid manure storages (less than 300 m²) per the requirements below.

Table 4.1 - Location Requirements for Permanently Vegetated Areas to Manage Runoff Areas (PVA's)

Feature	Value or Comment
Minimum distance to field tile	3 m
Minimum distance to a municipal well	100 m
Minimum distance to a drilled well	15 m
Minimum distance to any other well provided that the area is used for a permanent solid nutrient storage facility that is used to store non-agricultural source materials	90 m
Minimum distance to any other well	30 m

Other requirements for permanent vegetated areas (PVAs) under the Regulation include:

- Minimum soil depth of 0.5 m
- PVA for a permanent solid nutrient storage facility or yard must have a flow path that measures at least 150 m from surface water or tile inlets where it handles manure with a dry matter content of greater than or equal to 30 percent or at least 50 m where it handles manure with a dry matter content of 50 percent or greater.
- PVA for outdoor confinement area must have a flow path that measures at least 100 meters if the outdoor confinement area is less than 500 m² or at least 150 if the outdoor confinement area is 500 m² or more.
- There must be no more than 150 NU in an outdoor confinement area using a PVA for runoff and the outdoor confinement area cannot be more than 2,000 m².

Part IX.2 of O. Reg. 267/03 - Vegetated Filter Strip Systems

Vegetated filter strip systems are an engineered method to treat runoff from OCAs, farm animal yards and solid manure storages. The requirements important to source water protection under O. Reg. 267/03 are displayed in the following table and list.

Table 4.2 – Location Requirements for Vegetated Filter Strips

Feature	Value or Comment
Floodplain	Not in 1 in 100 year floodplain
Minimum soil depth over bedrock	0.5 m
Minimum depth to aquifer	0.9 m
Minimum distance to municipal well	100 m
Minimum distance to drilled wells (>15 m deep, cased >6m)	15 m
Minimum distance to any other well	30 m

Minimum flow path distance to surface water or tile inlet*	50 m
Minimum distance to drilled wells (>15 m deep, cased >6m)	50m

*Not allowed in hydrologic soil group A or organic soils

Other requirements for vegetated filter strips under the Regulation include:

- The strip must be designed by a Professional Engineer and built to their specifications based on factors such as slope, infiltration rate for the soil, volume of runoff to be treated, etc.
- 100 percent of the flow must infiltrate the strip.
- Pretreatment of runoff to remove solids is necessary.
- The strip must be inspected at least every six months and repaired when necessary.
- Records of the design, inspections and any actions to ensure proper function must be kept.

There are other options under the NM Regs for managing runoff such as:

- a) diverting up slope water away and putting a roof over the area
- b) building a liquid storage facility to store the runoff (and potentially manure)
- c) sewage works as approved s. 53 OWRA
- d) sewage works approved under part 8 of Building Code

Canada-Ontario Environmental Farm Plan

The Environmental Farm Plan (EFP) is a program that is delivered locally through the Ontario Soil and Crop Improvement Association with expertise provided by the Ontario Ministry of Agriculture and Food. It is a voluntary educational program for farmers delivered through local workshops. Participants progress through a risk assessment and action plan development for their farm. The risk assessment gives the farmer the opportunity to assess the current level of environmental concern in up to 23 different areas on the farm and access funding to make improvements for areas of identified risk (Ontario Soil and Crop Association, 2003). The information sheets on nutrient management for the EFP program are consistent with the requirements of O. Reg. 267/03.

c. Municipal

Municipal Act

Municipalities have the ability to pass by-laws about the economic, social and environmental well-being of the municipality, and about the health, safety and well-being of people, under the *Municipal Act* (Government of Ontario, 2001).

Municipalities have authorities to enact by-laws for specific matters within their jurisdiction and these authorities are available under the Municipal Act, or, in the case of the City of Toronto, under the City of Toronto Act. Municipalities have broad authorities to pass by-laws about the economic, social, and environmental well-being of the municipality, and about the health, safety, and well-being of people. There are limitations on these authorities which need to be taken into consideration. Very generally, these broad authorities may not conflict with specific authorities found in other legislation. For example, any municipal by-law with respect to construction or demolition of buildings is superceded by the Building Code Act and the Building

Code. In addition, in the event of a conflict between a municipal by-law and federal and provincial legislation, the legislation prevails. For example, if a municipality wishes to enact legislation to protect its drinking water sources, the municipality must review the applicable legislation to ensure that the municipal by-law does not conflict with it. Municipalities can supplement provincial regulatory schemes, provided that the by-law does not conflict with the provincial legislation.

In a two tier system, each tier may have exclusive jurisdiction over a matter, for example, lower tiers may enact zoning by-laws whereas upper tiers may be responsible for public health. As a result, the upper tier municipality cannot use its broad authorities to pass a by-law which is specifically within the jurisdiction of the lower tier.

Municipalities may also use authorities under the Municipal Act to set up a licensing regime for businesses. The licensing system generally applies to how operators conduct the business, rather than how a product is applied. However, the municipality may determine that there are certain conditions to holding a license, such as certification or operators.

Minimum Distance Separation Formulae

Agricultural activities can include livestock facilities (e.g. barns and manure storage), and are generally permitted by municipalities on lands that are designated and zoned for agricultural and rural use. In order to reduce incompatibility concerns about odour from livestock facilities, minimum distance separation (MDS) formulae established by the province, are used by municipalities to separate land uses.

Different formulae are applied to new or expanding non-agricultural uses (such as houses) that could impact existing livestock facilities (MDS I), and to new or expanding livestock facilities that could impact existing non-agricultural uses (MDS II). The formulae are applied to lands subject to most types of *Planning Act* applications and to activities that require building permits. The MDS I formulae are applied to low-intensity uses (e.g. industry, one house) proposed within a 1 km radius of the livestock facility, and to high-intensity uses (e.g. a subdivision) proposed within a 2 km radius (Ontario Ministry of Agriculture and Rural Affairs, 2006).

In terms of drinking water source protection, the MDS has the effect of providing separation between new livestock facilities (and permanent nutrient storage facilities) and municipal and private drinking water wells. The MDS requirements may exceed the minimum well separation required under O. Reg. 267/03.

d. Other Programs

Appendix A includes detailed information on local stewardship, education/outreach, and incentive programs being implemented locally.

5. Gaps in existing legislation, policies and programs

- Although unrestricted livestock access to surface water is [not permitted under provincial and federal legislation](#) (i.e. *Fisheries Act, Environmental Protection Act, Ontario Water Resources Act*), the general practice of enforcement agencies is to operate on a complaint basis only.
- Inspections of the phased-in operations that require approval under Ontario Regulation 267/03 are scheduled based on complaints, the inherent risk and past communications.
- Although best management practices have been defined, grazing land and pastures are not specifically [regulated](#) under any legislation.

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6. Policy considerations

- REMINDER: The main consideration for reducing or eliminating drinking water threats related to outdoor livestock areas is to make sure that contamination from the areas does not impact groundwater or surface water.
- Although Ontario Regulation 267/03 has requirements to address concerns associated with outdoor confinement areas, the majority of the farms are not subject to the Regulation because they do not meet the minimum requirements for a nutrient management strategy.
- All policy tools are available to address this drinking water threat with the caveat that risk management plans, prohibition and the related restricted land use options only apply to significant drinking water threats.
- The source protection plan will need to include a high-level policy approach (“a catch-all policy”) to address those “would be” drinking water threats that are unlikely to occur in a given vulnerable area so that they would be eliminated.

Examples of risk management measures and policy ideas

For discussion purposes, this section of the report provides examples of risk management measures and policy ideas that could be applicable to outdoor livestock areas. It is not an exhaustive list.

The examples are categorized by the types of policy tools that can be used to meet the source protection plan objectives. The MOE Risk Management Measures Catalogue (Version 2, 09/07/2010) was reviewed as part of this exercise and measures were incorporated where appropriate.

Table 7.1 – Risk Management Measures for Outdoor Livestock Areas

Policy Tool	Example
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Policy Tool	Example
Education and Outreach	<ul style="list-style-type: none"> • Provide Environmental Farm Program workshop leaders with information on source water protection to communicate to farmers. • Provide annual workshops on grazing and pasture management • Provide educational materials and other learning opportunities such as farm tours to convey the importance of runoff management and showcase local successful solutions • Develop and distribute Source Protection Area specific buffer standards pertinent to soil type, slope, farm operation, distance to municipal well or intake, etc. • Provide information on proper dead animal disposal.
Incentive Programs	<ul style="list-style-type: none"> • Rural clean water-type program to fund livestock restriction, animal yard runoff management, buffer establishment, etc. • Monitor impact of funding program project implementation and make changes to program guidelines as necessary.
Municipal Tools and Land Use Planning	<ul style="list-style-type: none"> • Require the outdoor livestock areas be setback # m from surface water and wells where a municipal intake or well could be affected and ensure proper protection measures are in place (if feasible).
Prescribed Provincial Instruments	<ul style="list-style-type: none"> • <u>Recommend that MOE consider ensuring that significant threat activities governed by prescribed instruments are given priority in an inspection program.</u> • <u>MOE to monitor and report whether instruments conform to the SPP threat policy and whether the instrument holder/landowner carries out their permitted activity accordance to the instrument..</u> • <u>▼</u>
Municipal Operations / Infrastructure	<ul style="list-style-type: none"> • Address any site specific drainage issues for municipal wells adjacent to farm properties.
Land Securement	<ul style="list-style-type: none"> • Purchase or place an easement on land surrounding municipal wells (Zones A and B) where agriculture is present.
Risk Management Plans	<ul style="list-style-type: none"> • <u>Use risk management plans</u> to manage significant risks associated with operations not covered by Ontario Regulation 273/03.
Prohibition	<ul style="list-style-type: none"> • Prohibit outdoor livestock areas where they are or would be significant drinking water threats.
Restricted Land Uses	<ul style="list-style-type: none"> • Flag agricultural land uses (that are associated with livestock) as restricted land uses in IPZs and WHPAs where these activities are or would be significant drinking water threats so that municipal planners and building officials <u>can advise a proponent to obtain clearance from the RMO prior to proceeding with their application.</u>
Technological Options	<ul style="list-style-type: none"> •

Comment [NB1]: Noted that SPCs should first consider existing compliance/inspection programs. Consideration for workload/capacity of implementing body should also be recognized.

Deleted: <#>Increase the number and frequency of inspections under Ontario 267/03.

Deleted: <#>¶ Inspect operations in the most sensitive areas more frequently.

Deleted: MOE to monitor and report on the effectiveness of Ontario Regulation 267/03 requirements related to water quality protection

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Appendix A – Local Information on Drinking Water Threat

1. Local scale of these drinking water threats?

[Insert description and/or map of local threat context with reference to Table 3.1]

- This activity is most likely to occur in the **specify the vulnerable areas** where the majority of farms are located.
- The Outdoor Confinement is or would be a significant threat in {insert area}.
 - This activity is most likely to occur in {insert area}
- The Outdoor Confinement is or would be a significant threat in {insert area}.
 - This activity is most likely to occur in {insert area}
- Data from MOE and Statistics Canada is available so that you can determine the number of farms in your Source Protection Area that currently require nutrient management strategies or plans.
- Grazing is or would be a significant threat in {insert area}.
 - This activity is most likely to occur in {insert area}
- The Grazing is or would be a significant threat in {insert area}.
 - This activity is most likely to occur in {insert area}
- Data from MOE and Statistics Canada is available so that you can determine the number of farms in your Source Protection Area that currently require nutrient management strategies or plans.

2. Local approaches to managing these drinking water threats.

a. Land Use Planning

[Insert description of local land use approaches that are being used]

- Do municipalities have additional requirements for outdoor livestock areas except for building permits under certain circumstances (e.g. roof construction)?

b. Conservation Authority Permitting Requirements

[Insert discussion on whether CA has local requirements]

c. Other Local Programs

[Insert discussion on local programs including Stewardship, Education/Outreach, Incentive, etc. implemented by Conservation Authority, Municipality, or other watershed/community groups.]

d. Cross Jurisdiction Considerations

[Insert discussion on policy approaches being considered by neighboring Source Protection Areas/Regions.]

- **Further Research for Specific Vulnerable Areas**

- [insert additional background research needed, where applicable]

- Research example measures implemented through powers in the *Municipal Act* or *Planning Act* to protect sensitive areas from impacts associated with outdoor livestock areas.

Appendix – B Reference List

Government of Canada. 1985. Fisheries Act. <http://laws.justice.gc.ca/en/F-14/index.html>

Government of Ontario. 1990. Environmental Protection Act. www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90e19_e.htm

Government of Ontario. 1990. Ontario Water Resources Act. www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o40_e.htm

Government of Ontario. 2001. Municipal Act. www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_01m25_e.htm

Government of Ontario. 2002. Nutrient Management Act. www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_02n04_e.htm

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Ontario Ministry of the Environment. 2009. Complying with Environmental Legislation on Farms. www.ene.gov.on.ca/publications/7212e.pdf

Ontario Ministry of the Environment. 2009. Tables of Drinking Water Threats. 2008, as amended in 2009. www.ene.gov.on.ca/publications/cw/7561e03.pdf

Ontario Soil and Crop Association. 2005. Canada-Ontario Environmental Farm Plan. www.ontariosoilcrop.org/en/programs/programsaboutefp.htm

Appendix C - Additional Resources

1. Drinking Water Threat Contaminants Summary (DRAFT).
2. The MOE Water Quality Risk Management Measures Catalogue (Version 2, 09/07/2010)
<http://maps.thamesriver.on.ca/swpCAMaps/rmc/disclaimer.aspx>
3. Ministry of the Environment. SPP Bulletins available at:
www.conservationontario.ca/members/members_source_protection_committee/spc_index.html

Available as of December 2010:

- Overview of Source Protection Plan requirements
- Notice of when Source Protection Plan preparation begins
- Existing municipal authorities and land use planning
- Section 57 Prohibition
- Overview of Prescribed Instruments
 - Table 2 – Prescribed Instruments Management of Drinking Water Threats
 - Pesticide permits
 - Renewable energy approval
 - Municipal drinking water licence and drinking water works permits
 - Example of municipal drinking water licence
 - Example of drinking water works permit
 - Nutrient Management Instruments
 - Sample letter of approval – nutrient management strategy
 - Sample nutrient management strategy and plan
 - Sample record of approval – nutrient management strategy
 - Sample multiple year nutrient management strategy and plan