# Source Water Protection Information Package

*This is a resource for certified preparers. Use this information as a guide when you are preparing a Nutrient Management Strategy (NMS), Nutrient Management Plan (NMP), or a NASM plan. Remember to always check if a Source Water Protection (SWP) program applies to the farms you are working with. Other resources are included to help determine if extra measures are needed to protect drinking water.*

## Contents

# Source Water Protection Overview

The *Clean Water Act, 2006*, was passed to help ensure that every person in Ontario has access to safe drinking water. Local Source Protection Committees:

- identify areas surrounding municipal groundwater wells and surface water intake zones that are vulnerable to contamination or depletion. These are known as wellhead protection areas (WHPAs), intake protection zones (IPZs) and issue contributing areas (ICAs).
- identify and classify activities, including those on farm operations, that could be significant, moderate or low drinking water threats. These activities may pose a risk to municipal water sources from a quality or quantity perspective.
- develop Source Protection Plans (SPP) for municipalities across the province. Each plan contains mandatory policies for significant drinking water threats, as well as other (generally non-binding) policies for moderate and low drinking water threats.
- provide a process for the negotiation of risk management plans (RMPs) and the implementation of other risk management measures.
- ensure that existing and new prescribed instruments under the *Nutrient Management Act, 2002* (NMA) comply with SPP policy requirements

Visit MOECC website on Source Protection for more detailed information.

# Which agricultural activities are managed through a prescribed instrument?

Prescribed instruments are existing regulatory documents that deal with activities that could be drinking water threats. Under the Clean Water Act, Nutrient Management Strategies (NMS), Nutrient Management Plans (NMPs), and NASM plans are all prescribed instruments.

The SWP program identifies activities that could be a significant threat to drinking water. Of these threats, several relate to agriculture. Agricultural threats are listed below along with the prescribed instrument that manages the activity:

| **Agricultural Threat** | **Prescribed Instrument (s)** |
|---|---|
| Application of ASM | NMP |
| Storage of ASM | NMS |
| Application of NASM | NASM Plan |
| Handling and storage of NASM | NASM Plan |
| Application of commercial fertilizer to land | NMP, NASM Plan |
| Outdoor confinement area or a farm-animal yard | NMS for OCA/yard |
| Use of land as livestock grazing or pasturing land | Managed through a risk management plan |

# How to determine if the farm unit is in a vulnerable area

Before submitting a NMS or NASM plan to OMAFRA for review and approval, check the farm unit to see if any land falls within a vulnerable area identified by a Source Protection Plan (SPP).

Please see OMAFRA's Source Protection Plans on the Farm factsheet for more information about vulnerable areas.

## Use online mapping

Several online mapping tools are available to see if a farm falls within one of these areas:

- AgMaps has provincial SWP mapping layers
- The Ministry of the Environment and Climate Change (MOECC) has a SWP mapping site
- Individual Source Protection Areas or Conservation Authorities may have their own online tool. Check their websites for availability.

# Is the agricultural activity a significant drinking water threat?

If a farm is in a vulnerable area, the next step is to determine the threat level of the activity. An activity (e.g. storage of ASM) may be a low, moderate, or significant drinking water threat depending on the type of vulnerable area and the specific vulnerability score of the area. Use an online mapping tool to determine the threat level.

## Online Threat Tool

MOECC created an online Source Water Protection Threats tool. The 'Threats Tool' uses site-specific information to search which activities would be low, moderate, or significant threats. Use the 'Zone and Score' search tool.

For new NMS or NASM plan, limit the search to 'significant' threats only, and use both 'pathogens' and 'chemicals' as the contaminants of concern.

After you select the site-specific information, the tool identifies which activities can be a significant threat on the property. The tool also specifies which contaminant is of concern in each situation. Click on the activity for more information.

## Note on Storages

The *Clean Water Act* identifies the storage of ASM or NASM as threat activities but does not differentiate between new/expanding storages or existing ones. Therefore, existing storages must also be included when determining if the storage of ASM or NASM is a significant drinking water threat. The information below also applies to existing storage structures.

# What happens if there is a significant drinking water threat?

Local source protection policies are required for activities classified as significant threats.

If agricultural activities are determined to be a significant threat based on the MOECC Source Water Protection Threats tool, there should be a policy to deal with the threat in the local Source Protection Plan.

The Conservation Ontario website contains links to all Source Protection Plans (SPP) across the province. Use the SPP to determine which policies apply and if there are requirements for an NMS, NMP or NASM plan.

## Source Protection Policies

There are typically two types of policies that may impact your strategy or plan.

1. Prohibition policies
   - prohibit the activity from taking place in the vulnerable area
2. Management policies
   - allow the activity to occur, providing it can be managed to ensure it is not, and does not, become a threat to drinking water
   - additional measures and conditions may need to be incorporated into a NMS, NMP, or NASM plan in these instances

For more information or clarification on specific SPP policies, please contact the local Risk Management Official (RMO) responsible for implementing the Source Protection Plan.

## Resources for additional measures

Some source protection policies may allow for management of a significant drinking water threat through a NMS, NMP, NASM plan. Depending on the policy, you may be required to consider additional measures or conditions to protect drinking water beyond the Nutrient Management Regulation.

Work with your client to determine if any additional measures are required on the farm. There are resources available to help with this:

- the Farm Source Water Protection Framework developed by Ontario Farm Environmental Coalition contains measures to help protect drinking water.
- MOECC and Toronto Region Conservation Authority have developed a Risk Management Measures Catalogue that can be searched to find appropriate measures.
- your local RMO is the main contact regarding the SPP and should be contacted about the situation in general and to provide input.

As well as the resources above, use your professional judgement when determining if any significant threat activities require additional measures. As the nutrient management expert, you are in the best position to see the operation first-hand to determine if any activities need extra measures to protect drinking water.

# Submitting a NMS or NASM plan with a significant drinking water threat to OMAFRA

If the NMS or NASM plan you submit to OMAFRA contains significant drinking water threats, time can be saved in the review process if the above steps are followed prior to submission. Contacting and working with the RMO before submission will also streamline the process.

If additional measures to protect drinking water are required, include those measures in the NMS or NASM plan.

## Templates for submissions

Use the templates in this document when submitting NMSs and NASM Plans for farms in vulnerable areas subject to significant threat policies. Also use them to incorporate source water protection into NMPs.

# Responsibility for non-approved strategies and plans

OMAFRA is responsible for ensuring nutrient management strategies and plans approved by the Director conform to SPP policies to protect drinking water. This could mean conditions are added to approvals of NMS and NASM plans.

You can use the resources in this document for source water protection even when creating non-Director approved documents (NMPs, registered NMSs and registered NASM plans).

# Source Water Protection for your Nutrient Management Strategy

This template will help ensure your Nutrient Management Strategy (NMS) includes appropriate measures to protect source water when it is required by the *Clean Water Act, 2006.* A NMS is identified as a prescribed instrument under the *Clean Water Act, 2006.*

Under the Clean Water Act, OMAFRA is responsible for ensuring prescribed instruments approved by the Director conform to Source Protection Plan policies and are protective of drinking water. The information included in this document will help the Director meet that requirement.

The agricultural activities in a NMS subject to source water protection policies (for significant drinking water threats) are:

- The storage of agricultural source material (ASM).
- The use of an outdoor confinement area or a farm-animal yard.

Note: Both existing and future ASM storage can be a threat and may be subject to source protection plan policies. The Director must ensure threats related to current and future storages are managed.

Use the table on the next page to identify the site-specific information related to farms impacted by a vulnerable area if the storage or management of ASM or the use of an OCA or livestock yard could be a significant drinking water threat. Include measures needed to ensure those threats are managed.

There is not a strict list of measures required to address threat activities managed in a NMS. However, some local source protection policies may specify content and measures that must be included. It is very important to consult the applicable source protection policy when considering what measures to incorporate. There are several questions that can be asked to determine if an activity requires extra management, including:

- Were storages built under the Nutrient Management Regulation engineered? If so, is there proof of engineering that can be provided?
- Do storages built prior to the Nutrient Management Regulation meet the requirements of the Regulation? Has storage integrity been assessed (i.e. engineering assessment)?
- Is there adequate secondary containment for liquid storages?
- Is the runoff management option for storages or outdoor confinement areas/livestock yards appropriate for the vulnerable area, or is there a better alternative?

The OFEC Farm Source Water Protection workbook is a great starting point for determining measures. Review the applicable sheets before finalizing the template and wording from the workbook can be used in the template. Complete and include the **OFEC Farm Source Water Appendix C – Farm Assessment Table** template for the applicable threats identified in the template (starting on page 106 for WHPA or 110 for IPZ). Please note that if the standard or practice only meets Level 1 standards, additional measures will need to be proposed and implemented. For standards or practices that reference design criteria, proof should be provided that the storage does meet the referenced criteria (i.e. confirmation from an engineer).

**Please include the following template and OFEC workbook sheets with Nutrient Management Strategies submitted for approval where there are significant drinking water threats related to the storage of ASM (permanent or temporary), or the use of an OCA or livestock yard. If multiple farms are impacted by SWP, please complete a template for each farm.**

# SWP for your Nutrient Management Strategy Template: Page 1

## Property Information

Roll number: _____ Farm Name: _____

Source Protection Authority: _____ Applicable policy number: _____

## Source Water Protection Information

### Vulnerable Area

☐ Wellhead Protection Area (WHPA) ☐ Intake Protection Zone (IPZ)

☐ Issues Contributing Area (ICA) (E. coli, nitrogen, phosphorus)

Highest vulnerability score or issue from ICA: _____

### Threats

Please check the **significant drinking water threat (SDWT) activities** that apply or confirm that they do not currently exist:

| Activity | Yes, exists and a SDWT | Does not exist | Yes, but not a SDWT |
|---|---|---|---|
| **Permanent storage of ASM** | ☐ | ☐ | ☐ |
| **Temporary field storage of ASM (TFS)** | ☐ | ☐ | ☐ |
| **Use of an outdoor confinement area (OCA)** | ☐ | ☐ | ☐ |
| **Use of a livestock yard** | ☐ | ☐ | ☐ |

# SWP for your Nutrient Management Strategy Template: Page 2

## Threat Management

### Step 1: Complete OFEC Farm Source Water Appendix C template

Before completing this section, refer to the local source protection policies and complete the OFEC Farm Source Water Appendix C template– SWP Farm Assessment Table (starting on page 106 or 110) for the applicable threats. Complete an Appendix C template – Farm Assessment Table for each storage/OCA/Yard.

### Step 2: Complete the table

For all practices identified as **Level 1, you must** explain what measures will be taken to mitigate the threat to drinking water in the table below.

You **must include proof** with the submission for Level 2 or 3 practices that reference specific criteria. Briefly state in the table below what proof you have included.

| **Storage/OCA/Yard** **(name used in Agrisuite)** | **Prohibition/Management Measure** | **Rationale** | **Timeline for implementation** |
|---|---|---|---|
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**Please provide a map showing the location of storages, OCAs/yards in relation to the vulnerable areas. Provide the completed OFEC workbook sheets and any supporting documentation (i.e. engineer's letter).**

# Source Water Protection for your Nutrient Management Plan

This template will help ensure your Nutrient Management Plan (NMP) includes appropriate measures to protect source water when it is required by the *Clean Water Act, 2006.* A NMP is identified as a prescribed instrument under the *Clean Water Act, 2006.*

Under the Clean Water Act, the issuer or preparer of a prescribed instrument is responsible for ensuring it conforms to Source Protection Plan policies and is protective of drinking water. Since a NMP is not approved or issued by OMAFRA, it is the responsibility of the NMP preparer to ensure source water protection policies are met. The information included in this document will help you meet that requirement.

The agricultural activities in a NMP subject to source water protection policies (for significant drinking water threats) are:

- The application of ASM to land.
- The application of commercial fertilizer to land.

Use the table on the next page to identify the site-specific information related to farms impacted by a vulnerable area where the application of ASM or commercial fertilizer to land could be a significant drinking water threat. Include measures needed to ensure those threats are managed.

There is not a strict list of measures required to address threat activities managed in a NMP. However, some local source protection policies may specify content and measures that must be included. It is very important to consult the applicable source protection policy when considering what measures to incorporate. There are several questions that can be asked to determine if an activity requires management, including:

- What are the field characteristics of the portion(s) of the field in the vulnerable area (i.e. soil type, depth to ground water, depth to bedrock, presence of bedrock outcrops, etc.)?
- What are the field management practices (i.e. pre-tilling, surface application versus injection/incorporation)?
- Are the management practices appropriate for the type of vulnerable area (i.e. surface water systems versus groundwater systems)?
- Are there best management practices that can be used to protect drinking water?

The OFEC Farm Source Water Protection workbook is a great starting point for determining measures. Review the applicable sheets before finalizing the template and wording from the workbook can be used in the template. Complete and include the **OFEC Farm Source Water Appendix C – Farm Assessment Table** template for the applicable threats identified in the template (starting on page 106 for WHPA or 110 for IPZ). Please note that if the standard or practice only meets Level 1 standards, additional measures will need to be proposed and implemented. For standards or practices that reference design criteria, proof should be provided that the storage does meet the referenced criteria (i.e. confirmation from an engineer).

**Please include the following template with Nutrient Management Plans where there are significant drinking water threats related to the land application of ASM or commercial fertilizer. If multiple farms are impacted by SWP, a table should be completed for each farm.**

# SWP for your Nutrient Management Plan Template: Page 1

## Property Information

Roll number:_____ Farm Name: _____

Source Protection Authority: _____Applicable policy number: _____

## Source Water Protection Information

### Vulnerable Area

☐Wellhead Protection Area (WHPA) ☐ Intake Protection Zone (IPZ)

☐ Issues Contributing Area (ICA) (E. coli, nitrogen, phosphorus)

Highest vulnerability score or issue from ICA:_____

### Threats

Please check the **significant drinking water threat (SDWT) activities** that apply or confirm that they do not currently exist:

| Activity | Yes, exists and a SDWT | Does not exist | Yes, but not a SDWT |
|---|---|---|---|
| **Application of ASM to land** | ☐ | ☐ | ☐ |
| **Application of commercial fertilizer to land** | ☐ | ☐ | ☐ |

# SWP for your Nutrient Management Plan Template: Page 2

## Threat Management

### Step 1: Complete OFEC Farm Source Water Appendix C template

Before completing this section, refer to the local source protection policies and complete the OFEC Farm Source Water Appendix C template– SWP Farm Assessment Table (starting on page 106 or 110) for the applicable threats. Complete an Appendix C template – Farm Assessment Table for each land application of ASM or commercial fertilizer.

### Step 2: Complete the table

For all practices identified as **Level 1, you must** explain what measures will be taken to mitigate the threat to drinking water in the table below.

You **must include proof** with the submission for Level 2 or 3 practices that reference specific criteria. Briefly state in the table below what proof you have included.

For each threat activity identified above, specify any **prohibitions or management measures** needed to address the risk.

| Threat Activity | Prohibition/Management Measure | Rationale | Timeline for Implementation |
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**Please include a map showing the field locations in relation to the vulnerable areas, OFEC workbook sheets and any supporting documentation.**

# Source Water Protection for your NASM Plan

This template will help ensure your NASM Plan includes appropriate measures to protect source water when it is required by the *Clean Water Act, 2006.* A NASM Plan is identified as a prescribed instrument under the *Clean Water Act, 2006.*

Under the Clean Water Act, the issuer or preparer of a prescribed instrument is responsible for ensuring it conforms to Source Protection Plan policies and is protective of drinking water. The information included in this document will help the Director meet that requirement.

The agricultural activities in a NMP subject to source water protection policies (for significant drinking water threats) are:

- The application of NASM to land.
- The handling and storage (permanent or temporary) of NASM.
- The application of commercial fertilizer to land.
- The application of ASM to land

Use the table on the next page to identify the site-specific information related to farms impacted by a vulnerable area where the storage of NASM, or the land application of NASM, ASM or commercial fertilizer could be a significant drinking water threat. Include measures needed to ensure those threats are managed.

There is no strict list of measures required to address threat activities managed in a NASM plan. However, some local source protection policies may specify content and measures that must be included. It is very important to consult the applicable source protection policy when considering what measures to incorporate. There are several questions that can be asked when determining if an activity requires management measures, including:

- What are the field characteristics of the portion(s) of the field in the vulnerable area (i.e. soil type, depth to ground water, depth to bedrock, presence of bedrock outcrops, etc.)?
- What are the field management practices (i.e. pre-tilling, surface application versus injection/incorporation)?
- Are the management practices appropriate for the type of vulnerable area (i.e. surface water systems versus groundwater systems)?
- Are there best management practices that can be used to ensure drinking water is protected?

The OFEC Farm Source Water Protection workbook is a great starting point for determining measures. Review the applicable sheets before finalizing the template and wording from the workbook can be used in the template. Complete and include the **OFEC Farm Source Water Appendix C – Farm Assessment Table** template for the applicable threats identified in the template (starting on page 106 for WHPA or 110 for IPZ). Please note that if the standard or practice only meets Level 1 standards, additional measures will need to be proposed and implemented. For standards or practices that reference design criteria, proof should be provided that the storage does meet the referenced criteria (i.e. confirmation from an engineer).

**Please include the following template with NASM Plans submitted for approval where there are significant drinking water threats related to the storage of NASM, or land application of NASM or commercial fertilizer. If multiple farms are impacted by SWP, please complete a template for each farm.**

# SWP for your NASM Plan Template: Page 1

## Property Information

Roll number:_____ Farm Name: _____

Source Protection Authority: _____Applicable policy number: _____

## Source Water Protection Information

### Vulnerable Area

☐Wellhead Protection Area (WHPA) ☐ Intake Protection Zone (IPZ)

☐ Issues Contributing Area (ICA) (E. coli, nitrogen, phosphorus)

Highest vulnerability score or issue from ICA:_____

### Threats

Please check the **significant drinking water threat (SDWT) activities** that apply or confirm that they do not currently exist:

| Activity | Yes, exists and a SDWT | Does not exist | Yes, but not a SDWT |
|---|---|---|---|
| **Application of NASM to land** | ☐ | ☐ | ☐ |
| **Storage of NASM (permanent or temporary)** | ☐ | ☐ | ☐ |
| **Application of commercial fertilizer to land** | ☐ | ☐ | ☐ |
| **Application of ASM to land** | ☐ | ☐ | ☐ |

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## Threat Management

### Step 1: Complete OFEC Farm Source Water Appendix C template

Before completing this section, refer to the local source protection policies and complete the OFEC Farm Source Water Appendix C template – SWP Farm Assessment Table (starting on page 106 or 110) for the applicable threats (storage and management/handling of NASM or land application of NASM or commercial fertilizer). Complete an Appendix C template – Farm Assessment Table for each storage or NASM application area identified above. The Farm Assessment Table only references Category 1 NASM – however, use the table below for Category 2 and 3 NASM as well.

### Step 2: Complete the table

For all practices identified as **Level 1, you must** explain what measures will be taken to mitigate the threat to drinking water in the table below.

You **must include proof** with the submission for Level 2 or 3 practices that reference specific criteria. Briefly state in the table below what proof you have included.

If more than one storage was identified, please list the management measures for each storage separately.

| **NASM Storage (permanent or temporary) / Other threat activities** | **Prohibition/Management Measure** | **Rationale** | **Timeline for Implementation** |
|---|---|---|---|
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**Please include a map showing the field locations in relation to the vulnerable areas, OFEC workbook sheets and any supporting documentation.**