

Chapter 1

Section 1.12

Ministry of the Environment and Climate Change

Source Water Protection

Follow-Up on VFM Section 3.12, 2014 Annual Report

RECOMMENDATION STATUS OVERVIEW

	# of Actions Recommended	Status of Actions Recommended			
		Fully Implemented	In Process of Being Implemented	Little or No Progress	Will Not Be Implemented
Recommendation 1	3	2	1		
Recommendation 2	1		1		
Recommendation 3	1		1		
Recommendation 4	1		1		
Recommendation 5	3		2	1	
Recommendation 6	1	1			
Recommendation 7	1	1			
Recommendation 8	1			1	
Recommendation 9	3	2	1		
Recommendation 10	2	1		1	
Total	17	7	7	3	0
%	100	41	41	18	0

Background

Ontario borders four of the five Great Lakes, which provide drinking water to over 75% of the province's population. Of the remainder, 1.6 million people depend on private wells that draw water from underground aquifers, while the rest get their drinking water from more than 250,000 inland lakes and 500,000 kilometres of rivers and streams.

In May 2000, seven people died and more than 2,300 became ill in the Bruce County town of

Walkerton when its drinking water system became contaminated with deadly bacteria from manure that had been spread on a nearby farm. The town's water-treatment plant had failed to remove this contamination.

After the outbreak, the Province established the Walkerton Commission Inquiry (Inquiry) to report on the cause of the contamination and recommend measures to protect sources of drinking water across the province. In 2002, the Inquiry recommended that source water protection plans be developed for each watershed in the province.

In response, the province enacted the *Clean Water Act* (Act) in 2006 to protect existing and future sources of drinking water. The Act and its regulations required that source water protection plans address 21 specific threats to drinking water sources. These threats include waste-disposal sites, sewage systems, commercial fertilizers and pesticides, and road salt.

After the Act was proclaimed, the Ministry of the Environment and Climate Change (Environment Ministry) designated 19 source water protection regions in the province, and established a Source Protection Committee in each to develop source water protection plans. These plans outline policies designed to reduce or eliminate threats to sources of drinking water.

The *Nutrient Management Act*, although not a direct response to Walkerton, also serves to protect drinking water sources by seeking to manage agricultural nutrients such as manure, fertilizer, compost and sewage. Under the *Nutrient Management Act*, large livestock farms that produce significant quantities of manure (300 nutrient units per year, equivalent to manure from roughly 1,800 hogs) must have plans to manage nutrients stored on their properties or spread on fields. These plans must be developed by individuals certified by the Ministry of Agriculture, Food and Rural Affairs (Agriculture Ministry), which is also responsible for approving the nutrient management plans. The Environment Ministry is responsible for enforcing the *Nutrient Management Act*.

At the time of our audit in 2014, we noted that 14 years after the crisis in Walkerton, source water protection plans were still not in place to ensure a first level of defence for drinking water in Ontario. Factors that contributed to this included:

- The Ministry did not have a clear time frame in which to approve source water protection plans. At the time of our audit, the Ministry had approved only three of the 22 source water protection plans that had been developed. In addition, seven of the 22 plans submitted to the Ministry were incomplete

because they did not include water budget studies to identify threats to water quantity within their region.

- The Ministry lacked a long-term strategy to ensure that municipalities and Conservation Authorities had the funding to implement the plans once approved, and that the plans remained current.

We also noted the following weaknesses in the source water protection plans:

- The plans did not address all potential threats, including those posed by spills from industrial and commercial facilities, to drinking water intakes in the Great Lakes.
- Private wells or intakes that serve single residences were excluded from source water protection planning. For the estimated 1.6 million Ontarians who get their drinking water from private wells, protecting source water is the only line of defence.
- The plans did not address the risks posed by abandoned wells to groundwater. A study estimated that Ontario has 730,000 abandoned wells, many of which may not have been decommissioned properly.

We also noted that since passage of the *Nutrient Management Act* in 2002, phosphorous and nitrogen contamination has continued to grow in the province's agricultural watersheds. Non-compliance with the *Nutrient Management Act*, and the Ministry's weak enforcement, increased the risk that source water is not effectively protected. In this regard, we found that:

- Only a limited number of farms that produce and use manure were required to comply with the *Nutrient Management Act* and its regulations. For example, the farm that was the source of contamination in Walkerton would not have been captured by the Act because it was too small.
- Neither the Environment Ministry nor the Agriculture Ministry had information on the total number of farms that produce manure and need to manage it in accordance with

the Act. Both ministries relied on education and outreach to ensure that farms self-report whether they meet the conditions in the regulations under the Act.

- In 2013/14, the Environment Ministry inspected only 3% of the farms that were known to be subject to the Act's regulations for the proper storage and application of manure. Where non-compliance was identified, the Ministry often did not follow up, and it rarely imposed punitive measures.

Lastly, we noted that the Ministry was only recovering about \$200,000 of the \$9.5 million in direct annual program costs attributable to industrial and commercial facilities that take water for use in their operations. The low cost-recovery rate was due to the low fees paid by the limited number of companies drawing large volumes of water. At the time, 60 industrial and commercial users paid only \$3.71 for every million litres that they drew.

We made a number of recommendations for improvement and received commitments from the Ministry that it would take action to address our recommendations.

Status of Actions Taken on Recommendations

According to information we received from the Environment Ministry, some of the recommendations in our *2014 Annual Report* have been implemented by it and by the Agriculture Ministry.

For example, the Environment Ministry has approved all 22 source water protection plans developed for the province's 19 source water protection regions. The Environment Ministry has also identified all remaining municipalities that were eligible to receive one-time funding to help implement the policies in source protection plans. In addition, in the spring of 2016, the Environment Ministry signed funding agreements with all 19 Source Pro-

tection Committees to help them provide support to municipalities for plan implementation.

With regard to the administration of the *Nutrient Management Act*, the Agriculture Ministry has gathered information on the number of farms in the province that had to manage the storage and application of manure in accordance with the Act. Using this data, the Environment Ministry began using a risk-based approach in 2015/16 to select farms for inspection.

We also noted that progress has been made on many of the recommendations. For example, 11 of the 17 water budget studies that were outstanding at the time of our audit have since been completed. These water budget studies help determine how much water is available for human use while ensuring there is also enough left to support natural processes. In addition, the Environment Ministry is currently in the process of:

- updating its technical framework for assessing the significance of threats to drinking water intakes;
- reviewing the regulations and sections of the *Ontario Water Resources Act* that pertain to wells to determine what changes are needed to, for example, ensure that abandoned wells are decommissioned properly; and
- assessing the feasibility of using new administrative monetary penalties as punitive measures when inspections identify violations.

Three recommendations will take more time to fully address, specifically those aimed at:

- considering the feasibility of requiring source water protection plans to address threats to sources of water that supply private wells;
- phasing in remaining farms in Ontario that generate or apply nutrients so that they also must adhere to the requirements of the *Nutrient Management Act*; and
- updating the Ministry's water-taking charges to improve cost recovery.

The status of actions taken on each of our recommendations is described in the following sections.

Delays in Source Water Protection Plan Approval and Implementation

Recommendation 1

To ensure that source water protection plans are reviewed, approved and implemented in a timely manner, the Ministry of the Environment and Climate Change should:

- internally set a firm commitment of when plans should be approved and then review its current staffing of key personnel responsible for reviewing and approving plans to ensure it is sufficient to meet the commitment;

Status: Fully implemented.

Details

During our 2014 audit, we noted that 22 source water protection plans had been developed by the Source Protection Committees for the province's 19 regions. However, only three of the 22 plans had been approved by the Ministry. At the time, the Ministry stated that its goal was to have all plans approved by the end of 2015. Following our audit, the Ministry developed a strategy with established timelines and resources for the timely approval of each plan. All 22 source water protection plans were approved as of December 2015.

Seven Regions Lacked Water Budget Studies Needed to Complete Their Source Water Protection Plans for Approval

- work with Source Protection Committees to ensure that outstanding water budget studies are completed and submitted as soon as possible; and

Status: In the process of being implemented by March 2017.

Details

The *Clean Water Act* requires source water protection plans to address threats to both water quality

and quantity. Water quantity threats were identified in 12 of the 19 regions, which required those regions to conduct a more detailed water budget study to assess the significance of the threat. Water budget studies help determine how much water is available for human use while ensuring there is enough left to support natural processes.

At the time of our audit in 2014, we noted that seven of the 12 regions that had to conduct water budget studies had not submitted 17 studies for their regions.

At the time of our follow-up, six water budget studies from three regions had not yet been submitted to the Ministry. The Ministry had already approved the source water protection plans for these regions between April 2015 and July 2016. The Ministry informed us that it had approved the plans because preliminary water budgets had been completed to assess water quality stress levels in the watersheds within these regions. Detailed water quantity risk assessments and water budget studies from these regions must be submitted to the Ministry between December 2016 and March 2017. The Ministry expects the results of the water budget studies to be incorporated into source water protection plans by November 2018.

Funding Uncertainty for Implementation of Policies in Source Protection Plans

- in consultation with municipalities and Conservation Authorities, devise an approach to fund the implementation of many of the policies within the plans once the plans are approved.

Status: Fully implemented.

Details

The 22 source water protection plans approved by the Ministry contain over 12,500 policies designed to reduce or eliminate threats against sources of drinking water. Municipalities and Conservation Authorities are responsible for implementing about two-thirds of these policies. At the time of our

2014 audit, the Ministry did not have a long-term strategy to address funding of municipalities and Conservation Authorities to ensure that source water protection plans were properly implemented once approved.

In the spring of 2016, the Ministry signed capacity funding agreements to provide amounts ranging from \$43,000 to \$1.6 million in 2016/17 to all 19 Source Protection Committees to support the implementation of the source protection plans. The funding is intended to help the Committees provide technical advice to municipalities on issues such as policy interpretation, provide training related to the policies, and facilitate municipal working groups to resolve issues.

The Ministry stated that municipalities and Conservation Authorities generally have to implement the policies in the source water protection plans within three years of the plans coming into effect. To help Source Protection Committees provide support during the implementation of the policies, the Ministry plans to continue to provide funding until 2017/18.

Recommendation 2

In the longer term, the Ministry of the Environment and Climate Change, in conjunction with Source Protection Committees, should develop a strategy that addresses timely updates of the plans to ensure that local threats to source water, and policies that eliminate or mitigate the threats, remain current.

Status: In the process of being implemented by December 2016.

Details

Municipalities and Conservation Authorities are responsible for updating the source water protection plans to ensure that they remain current. At the time of our 2014 audit, the Ministry did not have a long-term strategy for timely updates of the plans.

The *Clean Water Act* requires that, when a source water protection plan is approved, an order must also be given that governs the review of the plan.

Since our audit, the Ministry has issued orders to all Source Protection Committees requiring them to review and update their source water protection plans by specified dates—usually within three years after the source protection plans come into effect.

Twenty of the Source Protection Committees were ordered to submit work plans to the Ministry describing the steps they will take to review the plans, including which portions of the plans will be reviewed, the rationale and time frames for each step of the review, as well as the public consultation that will be undertaken for the review. The first two work plans must be submitted to the Ministry by November 2017. Fifteen more are due by November 2018, and the last three are due by November 2019.

The Ministry is developing a guidance document to help the Source Protection Committees prepare these work plans. At the time of the drafting of this report, the Ministry expects to finalize the guidance document by December 2016.

The Ministry's strategy is to assign the work plans on a first-come, first-served basis to one of four staff responsible for reviewing them. The Ministry will re-assess this strategy if the reviews are not completed in a timely manner. At the time of our follow-up, the Ministry had not assessed whether four staff would be enough to review the 15 work plans expected in November 2018; nor had it established a time frame by which the plan reviews must be completed.

For the two Source Protection Committees that are not required to submit a work plan, their source water protection plans will be reviewed when the region's Official Plans, which describes land-use planning policies, are reviewed in 2018 and 2019.

Ministry Framework Does Not Identify All Significant Threats to Source Water

Recommendation 3

To strengthen source water protection and better ensure all significant threats are identified and

addressed, the Ministry of the Environment and Climate Change should ensure that the data and assumptions used in its framework for assessing the significance of threats to drinking water intakes in the various regions of the province are current and properly enable significant threats to be classified as such.

Status: In the process of being implemented by January 2017.

Details

When developing and updating source water protection plans, Source Protection Committees use the Ministry's framework of technical rules to assess the significance of threats to drinking water.

At the time of our 2014 audit, Source Protection Committees and Conservation Authorities informed us that the Ministry's framework was outdated, and did not allow them to sufficiently classify threats as significant. For example, threats related to petroleum products transported in pipelines, transportation of hazardous substances across or near surface water, application of road salt, and storage of snow could not be assessed as significant using the Ministry's current framework.

The Ministry held four formal discussions with Source Protection Committee chairs and Conservation Authorities from October 2014 to March 2016 to determine what changes are needed to its framework. Based on those discussions, the Ministry developed a list of proposed changes that will, for example, allow Source Protection Committees to assign vulnerability scores for large bodies of water and introduce a new method for assessing the risk from the use of road salt.

As required under the *Environmental Bill of Rights*, the Ministry posted the updated technical framework on the Environmental Registry for public review in September 2016. Once the public consultation process is completed, the Ministry expects the updated framework to be finalized by January 2017.

In addition, in April 2016, the Ministry developed a Standard Operating Procedure for ongoing identification of emerging issues. The

procedure document calls for Ministry staff to record any potential and emerging threats identified in their review of source water protection plans, annual progress reports, work plans, and other reports from Source Protection Committees. At the time of our follow-up, the Ministry had not recorded any such threats.

Source Protection Plans Do Not Address All Potential Threats to Drinking Water Intakes in the Great Lakes

Recommendation 4

To ensure that source water protection plans address all potential threats to drinking water intakes in the Great Lakes, the Ministry of the Environment and Climate Change should work with the relevant Conservation Authorities and Source Protection Committees to complete an inventory of all conditions and near-shore activities that pose a threat to the intakes, assess the conditions, and incorporate into the protection plans ways of dealing with these threats.

Status: In the process of being implemented by November 2019.

Details

During our 2014 audit, Conservation Authorities informed us that only one of the 154 intakes in the Great Lakes was significantly deep and far offshore enough to not be susceptible to unsafe levels of contamination. Source Protection Committees and Conservation Authorities conducted modelling exercises for eight regions where Great Lake intakes exist to determine whether contaminants can reach water intakes at levels high enough to pose a threat to human health. The exercises confirmed that there is in fact a potential for elevated levels of contaminants to reach drinking water intakes in the Great Lakes.

In the spring of 2016, the Ministry began investigating possible sources of information to complete this inventory. One such source is the database of municipal, private and industrial sewage systems

and waste disposal sites from the Ministry's environmental approvals program. The Ministry has compiled a list of sites located within the near-shore boundary. In September 2016, the Ministry provided this list—including maps of their locations—to Source Protection Committees to be used when updating their source water protection plans.

Source Water Protection Plans Do Not Address Risk That Abandoned Wells Pose to Groundwater Sources

Recommendation 5

To strengthen source water protection, the Ministry of the Environment and Climate Change should consider the feasibility of requiring source protection plans to identify and address threats to sources of water that supply private wells and intakes and threats that abandoned wells may pose to sources of groundwater.

Status: Little or no progress on recommendation regarding private wells. Recommendation regarding abandoned wells is in the process of being implemented by spring 2017.

Details

Under a regulation of the *Clean Water Act*, source water protection plans do not have to address threats to sources of water that feed private wells and intakes. During our 2014 audit, we noted that 36% of the 166,000 private-well water samples that were tested by Public Health Ontario in 2013 tested positive for bacteria, including *E. coli*. Water from these wells that tested positive for bacteria would be regarded as unsafe if private wells were held to the same standards as public drinking water.

At the time of our audit, the Ministry informed us that its focus is on larger drinking water systems, such as the municipal drinking water systems that serve over eight million Ontarians. In addition, the *Act* authorizes municipalities—provided that the municipal council signs a resolution—to include private wells that serve six or more residences to their source water protection plans. At the time of

our follow-up, the Ministry had determined not to fund municipalities that decide to do so.

Private well owners are responsible for maintaining and decommissioning wells. With regard to abandoned wells, we noted in our 2014 audit that an estimated 730,000 wells have been abandoned in Ontario, and many may not have been properly decommissioned. Abandoned wells that have not been properly decommissioned pose a risk to groundwater because they provide open pathways to aquifers, and bypass the natural filtration provided by the different layers of the earth.

In December 2014, the Ministry began reviewing regulations and sections of the *Ontario Water Resources Act* that pertain to private wells. The Ministry's legislative review identified issues related to the following:

- lack of licensing requirement for individuals who decommission wells;
- lack of insurance requirements for abandonment activities; and
- lack of clarity regarding technical aspects related to abandoning a well.

The Ministry is currently developing a proposal to address these issues. The proposal will include recommended options for policy and program changes, timelines and resource needs. The Ministry expects to post the proposed changes on the Environmental Registry in spring 2017 to solicit public input.

As well, in conjunction with the Ministry of Health and Long-Term Care and public health units, the Ministry should put mechanisms in place to notify private well owners when bacterial and chemical levels are known to exceed acceptable levels in their area.

Status: In the process of being implemented by December 2016.

Details

At the time of our 2014 audit, there were no mechanisms in place to notify private-well owners when chemical levels in groundwater exceeded acceptable levels. We noted that in 2013, 31 well locations

contained chemical levels—mainly fluoride and nitrate—that exceeded acceptable drinking water standards by an average of nearly 30%.

In summer 2015, the Environment Ministry and the Ministry of Health and Long-Term Care (Health Ministry) created an advisory group made up of representatives from the local public health units, Conservation Authorities and Ministry staff to review the current notification processes. The Health Ministry and Public Health Ontario are using the results of the advisory group's review to inform new guidance on notification procedures for private-well owners under the Ontario Public Health Standards and Protocols. In September 2016, the Health Ministry distributed a draft of this guidance document to members of the advisory group for review and feedback.

In addition, the Environment Ministry is developing a set of fact sheets for use by local public health units. These fact sheets contain information on contaminants that pose threats to private well-water quality, and are expected to be finalized by December 2016.

Some Eligible Municipalities Left Out of One-Time Funding for Source Protection Plan Implementation

Recommendation 6

To better ensure that any future funding to municipalities for the implementation of source protection plans is allocated fairly to achieve intended objectives, the Ministry of the Environment and Climate Change should ensure all eligible municipalities are identified before distributing funds.

Status: Fully implemented.

Details

In 2013, the Ministry received one-time approval to provide \$13.5 million over three years to eligible municipalities to help them implement source water protection plans. The Ministry distributed the amount through the Source Protection Municipal

Implementation Fund, which provided grants between \$18,000 and \$100,000 to eligible municipalities based on a formula that considered the number of threats identified in the source water protection plans.

In our 2014 audit, we noted that the Ministry had committed the entirety of the funds to 189 eligible municipalities before all municipalities had finished verifying the threat counts. As a result, other eligible municipalities received no funding because all the funds had already been allocated to the 189 municipalities.

After our audit, the Ministry identified 11 additional municipalities that were eligible for funding, and allocated an additional \$466,000 to them in 2015/16, with a further \$404,000 planned for 2016/17. The Ministry confirmed with Source Protection Authorities that no other municipalities were eligible for funding. The Ministry also extended the program's original expiry date by one year, to March 31, 2017.

Many Farms in the Province Do Not Have to Adhere to the Nutrient Management Act and Its Regulations

Recommendation 7

To better ensure that the objectives of the Nutrient Management Act are being met, the Ministry of the Environment and Climate Change, together with the Ministry of Agriculture Food and Rural Affairs, should develop an approach to gather information on the total number of farms in the province that need to manage nutrients in accordance with the Nutrient Management Act and its regulations.

Status: Fully implemented.

Details

At the time of our 2014 audit, neither the Environment nor the Agriculture ministries had information on the number of farms that produce more than 300 nutrient units of manure and would therefore have to comply with the *Nutrient Management*

Act. We noted that both ministries relied on education and outreach activities to ensure that farms self-reported whether they met the conditions set out in the Act.

Starting in July 2015, the Environment and Agriculture ministries formed a working group to identify the number of unreported large livestock farms in Ontario that need to manage nutrients in accordance with the *Nutrient Management Act*. The working group used the most recent Statistics Canada census data from 2011 to validate the number of large livestock farms already in the Agriculture Ministry's records that have self-reported and prepared nutrient management plans.

The Agriculture Ministry's analysis of the 2011 census data indicated that there are 1,149 large livestock farms currently operating in Ontario, or 71 more than the 1,078 that have self-reported and prepared nutrient management plans. The Agriculture Ministry had expected differences because the two data sets were based on different time frames and units of measurement. Specifically, the 2011 census data classified farms by the number of animals, while the Ministry records classified farms by nutrient units. Given these differences, the Agriculture Ministry concluded that there was insufficient evidence to warrant a concern that a significant number of farms have not self-reported, and therefore, no further action was needed to determine whether the 71 farms met the conditions outlined in the Act.

Moreover, farms that must comply with the Act will be identified when they apply for a municipal building permit for their manure storage facilities or barns. Municipalities must consider the requirements under the Act when issuing the building permits.

Recommendation 8

The Ministry of the Environment and Climate Change, in conjunction with the Ministry of Agriculture, Food and Rural Affairs, should phase-in the remaining farms in Ontario that generate or apply nutrients so

that they also must adhere to the requirements of the Nutrient Management Act and its regulations.

Status: Little or no progress.

Details

Some regulatory requirements under the *Nutrient Management Act* apply only to large livestock farms that produce over 300 nutrient units of manure, so many smaller farms are not covered. For example, the farm that was the source of the contamination in Walkerton's drinking water generated only about 60 nutrient units of manure, and so would not have been subject to the Act.

During our 2014 audit, we calculated—based on the Statistics Canada census data from 2011—that 1.8 million nutrient units were produced in Ontario annually, but that nutrient management plans were required for only 800,000 units.

In addition, the regulatory requirements under the *Nutrient Management Act* apply only to farms that have livestock. However, many farms without livestock use manure as crop fertilizer. Our 2014 audit determined that commercial fertilizer was applied to approximately 2.4 million hectares of farmland in Ontario, but only 250,000 hectares were covered by the Act.

In response to our recommendation in 2014, the Environment and Agriculture ministries stated that if nutrients are used in significant risk areas, farming activities, regardless of size, are captured under the *Clean Water Act*. Since early 2016, both ministries have been in consultation to determine whether applying the *Nutrient Management Act* to additional farms would enhance protection.

At the time of our follow-up, the ministries had not decided whether to expand the scope of the Act. The Ministries are examining various mechanisms (including amendments to regulatory requirements) to address risks posed by farm contaminants such as phosphorus. For example, in 2016, Canada and the United States established a target to reduce phosphorus levels entering Lake Erie by 40% as part of the Great Lakes Water Quality Agreement, which involves all levels of government. The

ministries are considering how risks posed by farm contaminants can be addressed through actions to support the targets. In October 2016, the Environment Ministry posted its proposed actions on the Environmental Registry for public review. The actions included working with the agriculture sector to enhance its outreach to farmers to promote the application of nutrients at the right time and imposing tighter restrictions on application of nutrients during the non-growing season.

Ministry's Enforcement of the Nutrient Management Act Is Limited

Recommendation 9

To better ensure that the Nutrient Management Act and its regulations are being enforced, the Ministry of the Environment and Climate Change should:

- *Set appropriate inspection targets that fully utilize inspection staff and maximize the number of inspections being performed;*

Status: Fully implemented.

Details

During our 2014 audit, we noted that the Environment Ministry could target and complete more farm inspections than it was doing. For example, in 2013/14, the Ministry's goal was for its 17 inspectors to inspect 336 farms. This equated to less than one farm inspection every two weeks per inspector. We noted that over half of inspections took no longer than a day to perform, with the remainder taking a couple of days. Despite this, the Ministry did not meet its inspection target in 2013/14, performing only 269 of the 336 planned inspections.

In 2015/16, the Ministry's goal was to conduct 388 inspections. The target was based on the principle that inspections should account for approximately 40% of its inspectors' workload. The Ministry's rationale for this is that inspectors perform other duties beyond inspection, such as responding to complaints and conducting outreach

activities. Inspection targets are also set at the regional level, which allows the Ministry's regional staff to balance the workload across regions based on the circumstances.

The Ministry's 14 inspectors conducted 370 inspections in 2015/16, or an average of about 26 inspections each. In comparison, the 17 inspectors performed approximately 15 inspections each in 2013/14.

- *Use appropriate risk-based criteria to select farms for inspection; and*

Status: Fully implemented.

Details

We found in our 2014 audit that inspections were not completed using a risk-based framework. Instead, inspectors had the discretion to select which farms to inspect. Given the small percentage of farms that receive inspections, risk-based selection is required to maximize Ministry resources. By conducting a formal risk assessment, the Ministry could target farms most likely to be in non-compliance, and whose non-compliance was most likely to cause environmental harm.

In March 2015, the Environment Ministry obtained data from the Agriculture Ministry regarding farms with approved nutrient management plans. The data included farm size and location, number of animals, nutrient units produced, area of land where nutrients are applied, and the length of time nutrients were stored. The Ministry used these factors to develop a risk-ranked list of farms for inspection in 2015/16. The Ministry also considered other risk factors to rank the farms, such as the status of the farm's management strategy and risks to source water. For example, inspections placed particular emphasis on farms in vulnerable areas where the storage of nutrients was a significant threat. The Ministry inspected 20 of the 113 farms that it identified as high-risk in 2015/16.

- *Follow up on any noted cases of non-compliance and encourage compliance by using, where*

necessary, all available punitive measures, such as offence notices.

Status: In the process of being implemented by spring of 2017.

Details

In our 2014 audit, we noted that despite the results of its inspections, the Ministry rarely used punitive measures such as issuing offence notices, which could result in fines set by provincial courts. About half of the farms that had been inspected in 2012/13 and 2013/14 were found to be non-compliant with the *Nutrient Management Act*, and in half of those cases, the non-compliance posed a risk to the environment and human health.

The Ministry is currently assessing the feasibility of using administrative monetary penalties to allow the Ministry to more easily impose fines for a range of offences using fewer resources. The Ministry is conducting a preliminary analysis and internal consultation, the first of five steps in the process to implement such a system. After this, the Ministry will need to conduct further jurisdictional research and stakeholder consultation to inform its submission to Cabinet to seek approval for the framework. Its goal is to determine the necessary legislative and regulatory changes by spring 2017.

In order to follow up on cases of non-compliance, in 2015, the Ministry implemented a tracking mechanism in its current information system that will send reminders to inspectors when deadlines for voluntary abatement actions expire. The Ministry will also be able to produce reports on the current status of identified cases of non-compliance. The Ministry plans to generate this report annually beginning in 2016/17. At our request, the Ministry produced such a report, which showed that 21% of the 370 farms inspected in 2015/16 were found to be non-compliant. We noted that in 22% of cases where voluntary abatement actions were in place, the issues of non-compliance were still not addressed at the time of our follow-up. In August 2016, the Ministry developed

guidelines for its staff to use when following up on non-compliances.

The Ministry's Water-Taking Charges Are Insufficient to Recover Program Costs

Recommendation 10

To ensure the Ministry of the Environment and Climate Change (Ministry) will be able to recover the province's cost of administering its water quantity management programs, and to ensure the sustainability of sources of water in the province, the Ministry should:

- *Charge industrial and commercial users of either surface or groundwater sources in Ontario an appropriate fee; and*

Status: Little or no progress.

Details

Since 1961, anyone taking more than 50,000 litres of water per day from either surface or groundwater sources in Ontario requires a Permit to Take Water from the Environment Ministry. This includes taking water for commercial, industrial, construction, institutional, agricultural and recreational purposes.

In 2009, the government passed a regulation under the *Ontario Water Resources Act* that allowed the Ministry to begin charging industrial and commercial companies that take high quantities of water, such as water-bottling companies and those that incorporate water into their products. These companies accounted for about 1% or 60 of the over 6,000 permit holders at the time of our audit in 2014, and they were charged \$3.71 per million litres of water. Other industrial and commercial users of water such as mines, thermal power companies, pulp and paper mills and steel mills, needed permits but did not have to pay water-taking fees. These companies accounted for 23% of all the permit holders at the time.

The regulation also requires the Ministry to review the water charge every five years beginning in 2012. The Ministry's 2012 review of its water-taking charges found that it recovered only about \$200,000 of the \$9.5 million in costs directly attributable to industrial and commercial users. At the time of our audit in 2014, the Ministry had begun working on proposals to Treasury Board and Management Board of Cabinet to increase the current charge for companies that take high quantities of water, and phase in new charges for the other industrial and commercial users.

In June 2016, the Ministry developed a proposal to begin charging the other industrial and commercial users, and gradually increase the rates charged to these users. The proposal estimated that the Ministry will receive about \$7.3 million annually from 1,700 users. However, the Ministry informed us that further work to obtain final approval for this proposal has been postponed until it is farther along with implementation of the cap-and-trade program and the Climate Change Action Plan.

In August 2016, the Premier asked the Environment Minister to review pricing options for water takings by water bottling facilities. In October 2016, the Ministry proposed a regulation to establish a moratorium on the issuance of new or expanded permits for water bottling until January 1, 2019. The moratorium would prohibit any new or increased use of groundwater for water bottling. The Ministry stated in its proposal that while the moratorium is in place it would examine a range of pricing mechanisms.

Ministry Does Not Use All Information When Issuing Water Permits

- *refer to relevant water budget studies prepared by Conservation Authorities when deciding to issue water-taking permits.*

Status: Fully implemented.

Details

The *Ontario Water Resources Act* requires that the Ministry consider the use of all available and relevant information such as water budget studies when issuing water-taking permits. At the time of our 2014 audit, we found that Ministry staff were not using the information from the water quantity studies in evaluating and granting applications for Permits to Take Water.

After our audit, the Ministry established a working group to develop guidance on integrating source protection water budget information into the Permit to Take Water program. In April 2016, the Ministry finalized its Standard Operating Procedure for integrating results of water budgets into the Ministry staff's review of permit applications. The procedure document also includes instructions to review existing permits in vulnerable areas where water budget studies have identified significant water quantity risks. In September 2016, the Ministry provided training to its staff on the use of the Standard Operating Procedure, after which it was to be integrated into the review process for permit applications.

In its October 2016 moratorium proposal, the Ministry also stated that it would review the existing rules governing water takings to determine if they are adequate to protect and conserve water resources.