Environmental Commissioner of Ontario

Engaging Solutions

Annual Report 2010/2011

watersheds serving those systems and, then, by developing and implementing locally-based plans to reduce or eliminate those threats.

Generally, the *CWA* only applies to municipal drinking water systems within the jurisdictional boundaries of conservation authorities. Watersheds outside conservation authority boundaries, as well as private wells and other non-municipal water supplies, are generally not included. However, the Minister of the Environment may establish other source protection areas, and municipalities can include drinking water systems other than municipal residential drinking water systems. In addition, if specifically requested, existing or planned drinking water systems that serve or will serve a First Nations reserve may be included in the source protection planning process. To date, drinking water systems for two First Nations (Kettle and Stony Point First Nation and Six Nations of the Grand River) have been incorporated into the source protection planning process.

The ECO reviewed the *CWA* in our 2006/2007 Annual Report.

The Source Protection Planning Process

The *CWA* provides for the creation of local watershed-based source protection areas (SP areas), generally corresponding to conservation authority boundaries; some of these SP areas are grouped into source protection regions (SP regions).

Each SP area is assigned a source protection authority (SP authority) – usually the local conservation authority – which is tasked with source protection planning for the SP area. The SP authority (or lead authority of an SP region) must establish a committee (SP committee) comprised of municipal, agricultural, commercial, environmental and other representatives to carry out source protection planning for each SP area.

Each SP committee must prepare three key documents for its SP area(s): the terms of reference, the assessment report, and the source protection plan. Once each document is prepared, it must be submitted first to the SP authority and then to the Ministry of the Environment (MOE) for final approval.

Terms of Reference (ToRs) guide the preparation of assessment reports and source protection plans. ToRs must include information about the SP area (e.g., municipalities affected, planned or existing drinking water systems, etc.), as well as a work plan setting out: major tasks required to complete the assessment report and source protection plan; the person or body responsible for completing each task; and the estimated date of completion.

Assessment reports are science-based technical documents that identify and characterize the watersheds in the SP area, create water budgets, and identify:

- the "vulnerable areas" within each watershed;
- the "drinking water threats" in each vulnerable area; and
- which drinking water threats constitute "significant drinking water threats."

Source protection plans establish the strategy for reducing or eliminating drinking water threats in SP areas. Source protection plans must include:

- "significant threat policies" to address activities that are or would be significant drinking water threats;
- policies for monitoring drinking water threats;
- if directed by the Minister of the Environment, policies to achieve targets for Great Lakes drinking water; and
- any other policies prescribed by regulation.

Under Part IV of the *CWA*, source protection plans may also designate:

- prohibited activities;
- regulated activities (i.e., activities only permitted in accordance with a risk management plan); and
- restricted land uses (i.e., preventing certain activities that are prohibited or regulated from being approved under the land use planning process without the necessary risk management measure safeguards in place).

These "Part IV tools" may only be applied to designated activities that are identified as significant drinking water threats, and only to activities and land uses in designated areas within wellhead protection areas and intake protection zones.

Source protection plans carry considerable legal weight. Official plans and zoning by-laws must be amended to conform to significant threat policies and designated Great Lakes policies. Decisions relating to SP areas made under the *Planning Act* or the *Condominium Act, 1998* must also conform, and "have regard to" other policies in the source protection plan. Further, the source protection plan prevails in most cases of conflict with another plan or policy.

Generally, municipalities are responsible for enforcing the Part IV powers of the *CWA*, and are required to appoint a risk management official and risk management inspectors to carry out that duty. Risk management officials are responsible for overseeing the implementation and enforcement of risk management plans required for regulated activities.

Preparing Source Protection Plans – Amendments to O. Reg. 287/07

MOE has approved ToRs for all 38 SP areas and, as of March 31, 2011, had approved assessment reports for four. Until recently, however, SP committees did not have the instructions they needed to prepare source protection plans. The amendments to O. Reg. 287/07, which came into force in July 2010, establish the specific requirements for the preparation and content of source protection plans.

New Policies

The amendments to O. Reg. 287/07 describe additional policy tools to deal with drinking water threats that may be included in source protection plans. These include policies that: establish stewardship programs, best management practices, and pilot programs; govern research; or specify certain actions to be taken. Other policies that are permitted include: incentive, education and outreach programs; collection of data related to climate conditions; updating spill prevention and spill contingency plans along highways, railway or shipping lanes to protect drinking water sources; and policies intended to protect "transport pathways" (i.e., conditions resulting from human activity that increase the vulnerability of a drinking water system's raw water supply).

Prescribed Instruments

Prescribed provincial instruments must conform to significant threat policies and Great Lakes policies in source protection plans, and have regard to other policies. Not only does this apply to new or amended instruments, but ministries that issued prescribed instruments before a source protection plan took effect must amend them to conform to those policies. A number of provincial instruments are now prescribed, such as: Certificates of Approval for waste disposal sites under the *Environmental Protection Act*; Permits to Take Water issued under the *Ontario Water Resources Act*; and nutrient management plans under the *Nutrient Management Act, 2002*.

Prohibitions, Regulated Activities and Restricted Land Uses

The amendments to O. Reg. 287/07 establish the drinking water threats for which Part IV tools may be used. In particular, the regulation provides that all drinking water threats, apart from waste and sewage, may be designated as prohibited or regulated activities (e.g., management of materials such as manure and sewage sludge, handling and storage of fuel, etc.). For an area that a source protection plan designates for restrictions on land use, any land uses described in a zoning by-law or official plan that applies to the designated area may be restricted.

Notice and Consultation

The amendments to O. Reg. 287/07 include new provisions governing notice and consultation requirements during source protection planning, as well as hearings regarding proposed source protection plans.

Objectives

The regulation includes a list of objectives that must be included in every source protection plan. The first objective, "to protect existing and future drinking water sources in the source protection area," is illustrative of these broad objectives. To ensure "that the objectives of the Plan remain within the confines of the [*CWA*]," SP committees are prohibited from including any other objectives in source protection plans.

Other Changes

Other matters addressed in the amendments to O. Reg. 287/07 include:

- the form of source protection plans;
- legal effect of source protection plan policies;
- training and qualifications of risk management officials and inspectors;
- requirements to prepare an explanatory document to accompany a source protection plan;
- the process for amending source protection plans;
- records retention; and
- reporting obligations.

Implications of the Decision

With these regulatory amendments, SP committees now have the necessary tools to move forward with preparing the critical final document in Ontario's three-part source protection planning process – the source protection plan itself. Once source protection plans are in effect, the risks to municipal drinking water posed by threats to source water quality and quantity in program areas should be significantly reduced.

Increased Certainty and Transparency

The detailed rules for source protection plan preparation and content should yield a certain level of predictability and consistency within and between source protection plans, while also providing flexibility to find local solutions to specific drinking water issues in an SP area. The limits on permitted plan objectives should ensure that source protection plans do not stray from their overarching purpose: to protect existing and future drinking water sources in SP areas. The requirement to provide an explanatory document, together with notice and consultation requirements, should lend transparency to the process, as well as keep everyone informed and involved in the planning process.

Effect on Municipalities, Conservation Authorities, Provincial Ministries and Others

Source protection plans will affect many planning and regulatory tools and existing or planned activities in SP areas, creating a lot of work for affected parties. In particular, municipalities will have to review and amend official plans, zoning by-laws and other documents to conform to source protection plan policies, and provincial ministries will be required to do the same for prescribed instruments. Municipalities will also need to prepare to take on enforcement responsibilities, including hiring and training risk management officials and inspectors. People engaged in designated activities in SP areas may need to commence risk management planning.

The work required for municipalities and others to give effect to source protection plans will command significant financial resources. In January 2011, the Ontario government reported that it has invested more than $175 million to protect drinking water sources since 2005. Considerable additional funding will be required moving forward.

Reliance on Provincial Instruments

By prescribing provincial instruments under the *CWA*, those instruments may be used to implement policies in source protection plans. Relying on those instruments (and the ministries responsible for issuing them) to implement source protection policies should be an effective and efficient way to manage local drinking water threats without regulatory duplication. How policies are actually given effect will depend on the level of discretion or direction provided in the source protection plan policy itself.

"Spin-off Benefits"

Although the *CWA* is only intended to protect water sources that feed municipal drinking water systems, policies in source protection plans that prevent or reduce the release of pollutants and pathogens in municipal drinking water sources – lakes, streams, rivers and underground aquifers – could also benefit those who obtain their drinking water from non-municipal supplies in those areas. Source protection measures, generally, should have a positive influence on water quality, soil quality and biodiversity in program areas.

Other Information

Updated Technical Rules for Preparing Assessment Reports

In addition to the general provisions in the *CWA*, directions for preparing assessment reports are found in O. Reg. 287/07 and in "Technical Rules" made by the MOE Director. The Technical Rules set out specific requirements and methodologies for preparing assessment reports, including technical directions for: preparing water budgets; characterizing watersheds; assessing groundwater vulnerability; and delineating wellhead protection areas and surface water intake protection zones.

In November 2009, following public consultation on the Environmental Registry (#010-7573), the Technical Rules were amended significantly to "provide more clarity with respect to the contents of the assessment report and to provide more flexibility to source protection committees to address local conditions." In March 2011, MOE proposed additional amendments to the Technical Rules (Registry #011-2168) regarding the preparation of water budgets and the use of climate data in assessment reports. Public consultation was ongoing at the close of the ECO's reporting year.

Ontario Drinking Water Stewardship Program

The *CWA* establishes the Ontario Drinking Water Stewardship Program (ODWSP) to provide financial assistance to landowners and businesses who take action to reduce threats to sources of municipal drinking water. In 2007, the Ontario government committed a total of $28 million to the program over four years. In the first three years of the program, aimed at early actions, education and outreach, and special projects, ODWSP

provided $21 million in funding to approximately 2,100 local projects involving such activities as well decommissioning and upgrades, improvements to septic systems, runoff and erosion controls, and pollution prevention assessments for businesses.

An additional $7 million was allocated for the fourth year of the program, which is focused on "early response," providing funding for projects to address drinking water threats identified in assessment reports for particular SP areas.

ECO Comment

MOE has described these regulatory amendments as allowing for "the ultimate realization of Justice O'Connor's vision for source-to-tap drinking water protection." While this may be an overstatement – for instance, Justice O'Connor envisioned source protection plans for *all* watersheds in Ontario – having a robust and comprehensive set of rules for source protection planning is indeed critical to achieving the purposes of the *CWA*.

The ECO commends MOE for developing a source protection strategy that aims to reduce drinking water threats posed by past, present and future activities, and for enacting the legislation, regulations and technical guidance required to breathe life into that strategy. Ontario is leading the country in this regard. The recent improvements to drinking water regulation and protection in the province should not only give many Ontarians greater confidence that the water flowing from their taps is safe to drink, but also benefit the environment as a whole. It is discouraging, however, that more Ontarians will not benefit from these improvements. At present, the source protection regime leaves most of the northern part of Ontario, as well as the significant segment of the population that relies on private drinking wells, without protection. The ECO hopes that the benefits of source protection will be extended to other areas of the province in the near future.

The successes and ongoing challenges of Ontario's source protection strategy will not be fully apparent until source protection plans are approved and implemented in the coming years. However, MOE has done a good job creating a comprehensive and thoughtful policy toolkit for SP committees to tackle various drinking water threats in different but appropriate ways. Ontario Regulation 287/07 establishes reasonable conditions on the use of the *CWA* Part IV powers; however, effective training of risk management officials and inspectors will be crucial to implementation and enforcement. Clear guidance will also be necessary to assist municipalities, provincial ministries and others responsible for bringing various instruments, official plans and zoning by-laws into conformity with source protection plan policies. Further, MOE should periodically review the lists of prescribed drinking water threats and prescribed instruments to ensure the regulation stays current.

The ECO is pleased that source protection plans may include policies for collecting climate change data, which could provide critical input to future source protection in an SP area. Although the Great Lakes are an important source of drinking water for many Ontarians, setting Great Lakes targets and including Great Lakes policies in source protection plans unfortunately remains discretionary. The ECO encourages the Minister to prioritize the development of Great Lakes targets so that SP committees may include policies to achieve those targets in their source protection plans.

The ECO is also pleased that MOE has built early, multi-stage notice and consultation into the source protection planning process. It is disappointing, though, that the regulation does not take better advantage of the Environmental Registry to facilitate consultation. The ECO continues to urge MOE to classify source protection planning documents as instruments under the *Environmental Bill of Rights, 1993* (*EBR*), which would provide the public with greater opportunity to participate in source protection planning.

With 38 source protection plans being prepared in the coming months, there likely will be uncertainty and turmoil as SP committees, public bodies and stakeholders navigate the rules for the first time. The process will also continue to be costly for municipalities and others responsible for implementing and enforcing source

protection plans. The ECO urges the Ontario government and MOE to ensure sufficient, stable, long-term funding is in place to support all aspects of the source protection program.

There is no question that source protection planning is complicated, inconvenient and expensive. However, this should not be allowed to eclipse the sheer importance of the program: of not only ensuring a safe drinking water supply but, just as important, of instilling public confidence in it. The suffering that happened in Walkerton in 2000 should be a constant reminder that the benefits to human health and the environment that come from protecting the province's aquatic resources are priceless.

Recommendation 5:

The ECO recommends that MOE develop Great Lakes targets and ensure that Great Lakes policies are included in the source protection planning process.

For a more detailed review of this decision, please refer to Section 4.4 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

4.3 Lake Simcoe Phosphorus Reduction Strategy: Is it Enough?

After the Great Lakes, Lake Simcoe is the largest lake in southern Ontario. Its watershed provides a home for numerous wildlife species, including 32 species at risk, as well as widespread agricultural operations, a thriving recreational community and 23 municipalities that represent an expanding urban presence in the region. However, all this development and agricultural activity has caused a steep decline in the water quality of Lake Simcoe and its watershed. This decline is primarily due to phosphorus loadings, which have more than doubled since pre-European settlement rates. In the 1800s, the phosphorus loadings entering the lake were approximately 32 tonnes per year (t/yr), which has been adopted as the baseline level. Currently, the loadings average approximately 72 t/yr.

Significant amounts of this nutrient enter the lake by atmospheric deposition or water run-off from anthropogenic sources, such as the use of fertilizers and detergents, human and animal waste, and industrial processes. The added phosphorus nurtures greater rates of plant and algal growth, which leads to the depletion of the dissolved oxygen concentration in the cold, deeper layer of the lake, which is required habitat for natural populations of cold-water fish, such as lake trout (*Salvelinus namaycush*).

In June 2010, the Ministry of the Environment (MOE) finalized the Lake Simcoe Phosphorus Reduction Strategy (the "Strategy"). Developed under the *Lake Simcoe Protection Act, 2008* and the Lake Simcoe Protection Plan (LSPP), the Strategy is a multi-partner, 35-year phased approach for identifying and reducing major sources of phosphorus entering Lake Simcoe and its watershed. The Strategy builds upon the scientific research, initiatives and planning conducted by the government and various partner groups over the past several decades. The Strategy shares the $20 million provincial investment for Lake Simcoe initiatives.

The Strategy sets out the goal of restoring the dissolved oxygen concentration in Lake Simcoe to 7 milligrams/litre, which is the concentration needed to support self-sustaining cold-water fish species in the lake. This translates into a reduction of total phosphorus loadings from all major sources from 72 t/yr to 44 t/yr by 2045. Without any action to reduce phosphorus in the watershed, phosphorus loadings are predicted to increase to 94 t/yr by 2045.

The Strategy sets out a reduction target for major sources of phosphorus, as set out in Table 4.3.1.