

Protecting Ontario's Water Now and Forever

A Statement of Expectations for Watershed-Based Source Protection from Ontario Non Governmental Organizations

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**A Project of the Canadian Environmental
Law Association & Environmental Defence**

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BACKGROUND AND PURPOSE

The purpose of this document is to explain the interests of many of the environmental groups in Ontario concerned with the future of water in the province. Water is now recognized by many as our most precious natural resource. Without an adequate supply of clean, safe water, our health, and the health of our environment is threatened.

On May 12, 2004, more than twenty-five environmental groups from Ontario met in Toronto to discuss the current challenges of ensuring that an adequate supply of clean, safe water will exist for generations to come. Each group explained what they were doing to address the challenges of protecting water. The groups discussed the current policies of watershed-based source water protection in Ontario, and resolved to collaborate to create a document that would clearly convey their expectations for emerging source water protection legislation.

Following the May meeting, four focused half-day discussions were held by conference call. These discussions helped shape this document and provide numerous ideas about new policy and its implementation. Everyone benefited from the wide range of prior and current experience and expertise that each of the groups possess. The result of the collaboration is what follows in the sections below. Each section identifies a current challenge, and proposes recommendations for each of these challenges.

A summary of this document can be found at <http://www.thewaterhole.ca> .

The appendices contain information about:

- Justice O'Connor's 22 recommendations at the conclusion of the Walkerton Inquiry.
- The Source Protection Advisory Committee 55 recommendations from their April 2003 report.



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This document was created and synthesized by Theresa McClenaghan and Darryl Finnigan from the Canadian Environmental Law Association, with input from many individuals from the environmental groups listed on the following page. Additional support was received from Heather Smith and Sarah Winterton from Environmental Defence. Special thanks also to Kathy Zaletnik for many constructive editing suggestions. All photographs by Darryl Finnigan.



A NOTE OF THANKS

We wish thank to individuals below who contributed to discussions which led to this document, which represents a compilation of comments and recommendations representing many years of work and experience promoting water protection. Consensus was not sought in support of this document, and the contributions of individuals from the organizations listed below does not bind their home organizations to the ideas and statements found in this document, now or in the future. Any errors or omission are the sole responsibility of the authors. A summary of this document can be found at <http://www.thewaterhole.ca>. For more information about the organizations listed and others contributing to water policy work in Ontario, see the "Water Champions" page at <http://www.thewaterhole.ca/champions.htm>.

- Vicki Barron, Waterfront Regeneration Trust
- Derek Coronado, Citizens Environment Alliance of Southwestern Ontario
- Bruce Davidson, Concerned Walkerton Citizens
- Bill DeYoung, The Urban League of London
- Carol Dillon, Friends of the Tay Watershed
- Justin Duncan, Sierra Legal Defence Fund
- Bob Duncanson, Ontario Headwaters Institute
- Bonnie Fox, Conservation Ontario
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- David McLaren, Coalition on the Niagara Escarpment / Chippewas of Nawash Unceded First Nation
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- Anne Wordsworth, Canadian Environmental Law Association

Sincerely,

Theresa McClenaghan, Counsel, Canadian Environmental Law Association
Darryl Finnigan, Water Campaigner, Canadian Environmental Law Association
November 10, 2004.

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1.0 Universal Level of Protection

The government should require that the Watershed-based Source Protection Planning framework be used in all watersheds in Ontario. The new legislation must protect individual well users as well as municipally operated systems. The new legislation must protect watersheds in the north as well as south of the Canadian Shield. The new legislation must protect groundwater and surface water sources from non-point, cumulative and point source threats. The new legislation must protect water sources with respect to both water quality and water quantity. Watershed-based Source Protection Planning must be based on the precautionary principle. The Ministry of the Environment must retain ultimate accountability and responsibility for Watershed-based Source Protection Planning.

Recommendations for Policy, Planning, and Implementation

- 1.1 The Source Water Protection legislation must recognize the inherent connectivity of water systems.
- 1.2 Protecting water quality is more prudent and less costly than cleaning up polluted waters, and this should guide planning processes. The benefits of source water protection, including the linkages between human and ecosystem health, and economic prosperity should be highlighted.
- 1.3 Water protection efforts should go beyond drinking water quality standards, as other objectives pursued under other water management processes may be more stringent for particular contaminant parameters, or for water quantity or flow issues.
- 1.4 There should be continuous improvement to watershed water quality as a result of source protection planning.
- 1.5 Watershed-based Source Protection Planning should embrace opportunities for improving water protection where existing projects and programmes already exist. For example, when considering ways to implement source water protection, managers should make every effort to get the most out of existing water projects, funding opportunities, partnerships and networks of information and people, at all levels of public, private, and non-profit sectors.
- 1.6 Riparian rights at common law require that an owner not alter the quality and/or quantity of water flowing through his or her property.
- 1.7 Lack of data should not be a reason to avoid source water protection. Rather, if a lack of data creates uncertainty, a more protective approach should be taken until the data gap is filled. Plans to address data gaps must be developed with priority areas identified.
- 1.8 The different needs of rural communities must be recognized in the development of new Source Water Protection tools. For example, research for more accessible locally based and rapid water testing methods is required.

2.0 Appropriate Planning Scale and Scope

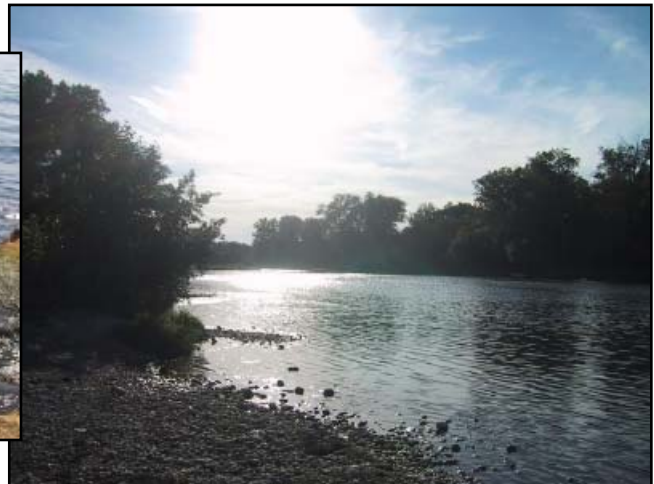
Each watershed should have its own source protection plan, with watersheds grouped into appropriate planning areas to enable more effective and efficient sharing of resources among Watershed-based Source Protection Planning authorities.

All waters must be protected, as well as watershed features such as shorelines, wetlands, and woodlands because of their integral ecological contribution to source water protection.

Source protection plans should recognize the intrinsic relationship between groundwater and surface water within and between watersheds.

Recommendations for Policy, Planning, and Implementation

- 2.1 The scale of Watershed-based Source Protection Planning must encompass and provide for larger watersheds in which the delineated watersheds are nested – for example, impacts on all of Georgian Bay must be included in all of the watersheds within the Georgian Bay basin.
- 2.2 Policies that prescribe approaches to Watershed-based Source Protection Planning must respect that a diversity of issues and challenges to Source Water Protection exist across the province. Similarly, a diversity of water users exists across the province.
- 2.3 Plans must be flexible enough to deal with the priority issues for Source Water Protection in each watershed.
- 2.4 The importance of tablelands and headwaters to Source Water Protection must be recognized.
- 2.5 Best management practices for Source Water Protection should be encouraged for all industries in every watershed. Best Management Practices manuals, including those already published by the Ontario Ministry of Agriculture and Food, should be promoted by the Ministry of the Environment.
- 2.6 Source Protection Plans must integrate high-quality scientific information and Traditional Ecological Knowledge from First Nations communities to ensure a high level of Source Water Protection
- 2.7 Interim protection should be used where necessary due to a lack of data or the time it will take to develop a plan (see also Section 14).



3.0 Thorough Public Participation

Thorough public participation in planning and implementing source protection is crucial to successful protection of source waters. At a minimum, public participation means:

- Any member of the public has the opportunity to participate in Watershed-based Source Protection Planning committees through an application process that is open and transparent.
- Those who do participate on source protection steering committees and sub-committees receive some financial support for the costs of their participation.
- The public has easy access, including electronic web access, to all information, including policy instruments and scientific data, relevant to source protection.
- Source Protection Terms of Reference, Assessment Reports, and Source Protection Plans, are prescribed for notice and comment in the Environmental Bill of Rights Registry.

Recommendations for Policy, Planning, and Implementation

- 3.1 It is the people living in each watershed who will make or break Source Water Protection. Every person must have the right tools and education to participate. Therefore, multiple means of participation should be provided and encouraged. The Ontario government should ensure that there is adequate funding and training for members of the public who wish to participate. Making background information about Watershed-based Source Protection Planning available and reporting on ongoing progress is important to ensure public participation.
- 3.2 Qualified members of the public should be encouraged to apply to sit on steering committees for Source Protection Plans, and the method of selecting applicants should be open, equitable, and transparent. The existence of an application process should be widely broadcast to community groups and stakeholders. The Province should review with Environmental Groups already involved in Source Water Protection how they might best be included in planning committees and in the development and monitoring of Source Protection Plans.
- 3.3 The Ministry of the Environment should put in place a mechanism to require review or challenge to Source Protection Plans not adequately completed or implemented.



4.0 Integration with Existing Legislation

The new source water protection regime must be integrated with existing legislation and given primacy where needed. Other relevant legal instruments (including the *Environmental Protection Act*, the *Environmental Assessment Act*, the *Municipal Act*, the *Planning Act*, the *Provincial Policy Statement*, and others) must be reviewed and amended where necessary to be consistent with the source water protection legislation. Source Protection Plans must supercede all other relevant policy instruments (including Certificates of Approval for discharges to air and water, Permits to Take Water and others).

The legislation should include a paramountcy clause, such as "No person shall issue or amend a prescribed instrument that conflicts with or is inconsistent with an approved Source Protection Plan." The list of prescribed instruments should be specified in an accompanying regulation, and the province must have the authority to amend the list.

Once Source Protection Plans are in place, all existing relevant provincial and municipal regulatory and policy instruments should be revised in order to be consistent with them. Source protection plans should be integrated with other federal and provincial water protection programs, including:

- Great Lakes programs
- Flood and drought management plans
- Fisheries protection programs
- Species at Risk habitat protection and species recovery programs
- Historic Canal protection programs

Where those programs include more stringent requirements for water quality or quantity than would otherwise be included in the Source Protection Plan, the Source Protection Plan should adopt the more stringent requirements.

Recommendations for Policy, Planning, and Implementation

- 4.1 Province-wide water protection policy is still needed as recommended by Justice O'Connor (Recommendation 65) "The provincial government should develop a comprehensive "source to tap" drinking water policy covering all elements of the provision of drinking water, from source protection to standards development, treatment, distribution, and emergency response."
- 4.2 Although a superseding provision is needed for Watershed-based source water protection, it is not sufficient to include such a provision without considering how Source Water Protection legislation will work with other existing or expected future legislation and processes.
- 4.3 Once Source Protection Plans are in place, all existing relevant provincial and municipal regulatory and policy instruments should be revised in order to be consistent with these plans, including the Environmental Protection Act, the Municipal Act, the Planning Act, and others.
- 4.4 Source Protection Plans should be integrated with other federal and provincial water protection programs, including Great Lakes programs, Fisheries protection programs, Species at Risk habitat protection and species recovery programs, Historic Canal protection programs, Provincial Class Environmental Assessment processes for water, sewer, and highway infrastructure.

- 4.5 Any approach to Watershed-based Source Protection Planning must recognize that waters in Ontario are part of a larger Great Lakes Basin that extends beyond provincial boundaries.
- 4.6 Watershed-based Source Protection Planning legislation should supersede environmental laws that are inconsistent with source protection and have primacy over laws designated in Watershed-based Source Protection Planning regulations.
- 4.7 The “one-window” approach to planning review should be ended and provincial ministries should return to municipal plan review to ensure consistency with provincial policies.
- 4.8 Not only the statutory decision makers, but also the relevant appeal tribunals such as the Ontario Municipal Board and the Environmental Review Tribunal must be directed in the relevant legislation to give effect to approved source protection plans in their decisions.
- 4.9 Certificates of approval issued under the Environmental Protection Act to discharge contaminants to air or water must be reviewed to be consistent with Watershed-based Source Protection Planning.
- 4.10 Permits to take water issued under the Ontario Water Resources Act must be reviewed to be consistent with Watershed-based Source Protection Planning.
- 4.11 New landfills must not be located in or affecting vulnerable or sensitive water sources. Existing landfills must be reviewed if located in or affecting vulnerable or sensitive water sources and changes to the certificates of approval made to require the landfill operator or owner to address threats posed by the landfill. For example, leachate collection systems, treatment systems, and monitoring systems may be required if not already in place.
- 4.12 Source Water Protection legislation should require source protection plans to identify, where applicable, where there are other water management objectives in the watershed, and specify a plan to ensure coordination or integration or to avoid conflict with such objectives. For example, if there is a restoration objective under another water protection or management system, the source protection plan should identify those aspects of the plan that will support or coordinate with that objective and should identify and alter those aspects of the plan that might otherwise conflict with that restoration objective.
- 4.13 Individual farmers should only be required to do one planning process that deals both with the broad-based Nutrient Management Act requirements, and also with the specific, possibly additional source protection requirements that pertain to that farm as located within that watershed.
- 4.14 The provincial policy statement must be amended to include provisions for Watershed-based Source Protection Planning and to give priority to it. Additional comments will be provided by many of the signatory groups in the province’s consultation on the Planning Act and Provincial Policy Statement presently underway. Where there should be limits on growth or development, and re-direction of it because of the requirements of watershed source protection, this requirement should have priority over the normal planning rules. New development should proceed based on finding conservation and savings in the watershed from existing uses.
- 4.15 No planning / official plan amendment exemptions should be granted to municipalities who are already engaged in aspects of Watershed-based Source Protection Planning; they must still ensure that their planning instruments meet the requirements of the Drinking Water Source Protection Act and the relevant watershed based drinking water source protection plans.
- 4.16 Provisions relating to the Oak Ridges Moraine should be reviewed and harmonized with the drinking water source protection requirements. If there are additional requirements, then both should be met.

- 4.17 Source Water Protection and the Niagara Escarpment Planning and Development Act: The purpose of this Act is “to provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment, and to ensure only such development occurs as is compatible with that natural environment.” Therefore the Act and the Niagara Escarpment Plan should be amended to protect water in the Escarpment planning area to a standard higher than that afforded by provincial source water protection legislation. A high degree of cooperation will be necessary between the Niagara Escarpment Commission and Conservation Authorities charged with implementing source protection legislation in areas adjacent to the Niagara Escarpment.
- 4.18 Source Water Protection and Green Belt legislation: The specific areas that merit protection for drinking water source protection and for other values under the Green Belt legislation may or may not correspond. Areas covered by pending Green Belt legislation must in any event meet the requirements for drinking water source protection and if there is an actual conflict, the source protection legislation must prevail. However, in most cases, resolution of the conflict should be accomplished by meeting the requirements for drinking water source protection as well as for Green Belt legislation.
- 4.19 Source Water Protection and water takings (both OWRA and Annex 2001): Watershed source protection plans should prevail and water taking permits be subject to the quantity and quality protection requirements of the plans. Water taking permits must be issued in the context of watershed scale water budgets. The use to which the water is to be put must be scrutinized to determine the impacts on drinking water source quality or quantity and taken into account in deciding whether to issue a permit, or whether to issue it with terms and conditions. The ecosystem approach to water taking permits from Regulation 289 should be included in the relevant legislation as well as in the relevant regulation.
- 4.20 Source Water Protection and biosolids application to land: Source Protection plans must prevail and certificates of approval for application of biosolids must not be granted unless consistent with source protection plans for the relevant watershed.
- 4.21 Source Water Protection and aggregate extraction: Source protection plans must prevail. If aggregate extraction will affect quality or quantity of drinking water sources, aggregate plans must be amended to avoid that impact. Water taking permits must be scrutinized and the use to which the water is put must be included in the permit review process to determine what impact that use will have on drinking water source protection (e.g. turbidity may affect downstream treatment).
- 4.22 Source Water Protection and mining: Source protection plans must prevail. If mining activities will affect quality or quantity of drinking water sources, mining approvals and operations must be amended to avoid that impact. Water taking permits must be scrutinized and the use to which the water is put must be included in the permit review process to determine what impact that use will have on drinking water source protection, as well as the quality of the water discharged from the mining operation, including extraction, milling and waste and tailings handling.
- 4.23 Source Water Protection and road construction / operation: Source protection plans must prevail. Siting of new roads must be done in the context of source protection plans. Operation of roads must take account of the requirements of the source protection plans, for example with respect to turbidity or chlorides or Stormwater drainage with other contaminant loading from roads.

- 4.24 Source Water Protection and Drainage: Source protection plans must prevail and furthermore must explicitly require an evaluation of drainage systems and their impact on water sources' quality and quantity. Where necessary, source protection plans should provide for changes to drainage systems to address quality or quantity impacts. Examples could include for wetland restoration as buffers and filters; or to avoid rapid egress of water quantity from the system; to allow for gradual recharge; or to avoid rapid loading of contaminants or sediments to a system.
- 4.25 Source Water Protection and Waste Disposal (landfill): Source protection plans must prevail. New landfills must not be located in or affecting vulnerable or sensitive water sources. Existing landfills must be reviewed if located in or affecting vulnerable or sensitive water sources and changes to the certificates of approval made to require the landfill operator or owner to address threats posed by the landfill. For example, leachate collection systems, treatment systems, and monitoring systems may be required if not already in place.
- 4.26 Source Water Protection and Environmental Assessment: Source protection plans must prevail. Projects undergoing environmental assessment must be consistent with the source protection plans in the watersheds that they will affect.
- 4.27 Source Water Protection and Sewer Treatment Plants: Source protection plans must prevail. Certificates of approval must be reviewed and modified so as to be consistent with source protection plans. Where additional treatment is required to meet source protection plans, this must be added to the certificate of approval. Inputs to sewer systems must be examined to reduce loading, both point and non-point. A standardized, rigorous sewer use by-law should be mandated by the province.
- 4.28 Source Water Protection and municipal well siting: Source protection plans must dictate the preferable locations for new municipal water sources. The best quality and quantity source should be pursued with the necessary protection for same built into the source protection plan.
- 4.29 Source Water Protection and private wells: Power to require disclosure of abandoned wells must be given to municipalities. The province must establish a database to map abandoned wells as they are discovered. Incentive financing to properly abandon private wells should be established as soon as possible.
- 4.30 Source Water Protection and septic systems: Municipalities must be mandated to do periodic septic inspections or to require same by qualified persons, and to require necessary improvements or reconstruction of septic systems. On inspection, septic systems must be required to meet current standards.
- 4.31 The province must fully utilize GIS technology to examine the activities occurring in a watershed, and to coordinate its approval actions so as to be consistent with source protection plans.
- 4.32 Source protection and other sectors: Manufacturing, energy and waste management sectors' relevant regulations and policies must be reviewed with respect to consistency with source protection.



5.0 First Nations

In recognition and respect of First Nations' traditional environmental knowledge, as well as their aboriginal and treaty rights and claims, the province must pursue a strategy with the federal government and First Nations that will support the ability of First Nations (and their technical designates) to be full participants in Watershed-based Source Protection Planning and implementation.

Recommendations for Policy, Planning, and Implementation

- 5.1 Federal and Provincial cooperation on Watershed-based Source Protection Planning must extend to agreements with the First Nations of Ontario as to how to implement Source Protection Planning on their territories and waters.
- 5.2 Allocation of resources to accomplish real protection of drinking water sources is imperative for First Nations communities, especially those located in rural or northern communities without centralized water treatment facilities.



6.0 Conservation Authorities

The responsibilities and accountability of Conservation Authorities must be specifically delineated in source protection legislation so that their roles are supported by their governance structures and by the public.

Conservation Authorities, and others responsible for source protection, must be provided with adequate resources (including funding or funding tools, technical expertise and training, etc.) to match their new responsibilities and allow them to carry them out within the necessary timeframes.

Recommendations for Policy, Planning, and Implementation

- 6.1 As conservation authorities (where they exist) are already in place, delineated on a watershed basis, they are the logical choices for overseeing the development of Source Protection Plans. However, given existing Conservation Authorities' mandates, their capacity and responsibilities will have to be altered. Conservation Authorities' responsibilities must enhance public/community buy-in and appropriate First Nation involvement.
- 6.2 Conservation Authority responsibilities and accountability must be specified in legislation and mandatory (e.g. provision of technical support) so that their roles are supported by their governing structures and by the public. These responsibilities must be matched to the Conservation Authority resources.
- 6.3 Watershed-based Source Protection Planning, implementation and maintenance must be understood as a core program of Conservation Authorities; not just a short-term project.
- 6.4 There must be a requirement for neighbouring Conservation Authorities to coordinate overlapping Source Water Protection issues.
- 6.5 There must be technical integration across provincial Ministries with a central water database, supported by all Ministries, integrated, with public access. Technical integration across provincial ministries must not be seen to detract from a single, responsible and accountable minister overseeing Watershed-based Source Protection Planning and implementation.
- 6.6 Watershed-based Source Protection Planning Committees must be inclusive of the public, very broadly defined, in order to ensure public acceptance of Source Protection Plans. Groups already well-entrenched in Source Water Protection related activities must be thoroughly included in development of Source Protection Plans. Watershed-based Source Protection Planning must be based on strong community support from the bottom up in addition to meeting mandated requirements. The public must be engaged early and often.
- 6.7 Watershed-based Source Protection Plans in the north should include Conservation Authorities where relevant, but must be lead by appropriate communities such as First Nations. The size of watersheds in the north should be reconsidered to become more manageable.



7.0 New Municipal Powers, Roles, and Requirements

The province should work with municipalities and other stakeholders to develop appropriate new municipal powers that should be made available for the purposes of source water protection. In particular, these powers should include:

- the ability to impose water conservation and efficiency requirements on all users, and to collect and report data on water use by sector; and
- the ability to restrict the construction of impervious surfaces in all new developments.

Municipal accountability and authority for its role in source protection must be specifically delineated in source protection legislation. The legislation must also clearly describe some prescriptive requirements for municipalities to manage threats to drinking water sources.

Municipalities should be required to update their Official Plans to be consistent with their approved Source Protection Plans.

Municipalities should be required to pass pesticide by-laws and sewer/septic system use by-laws incorporating provincially set standards and provisions.

Municipalities should be required to develop and implement water conservation plans, which in general should include metering for users of municipally supplied water. Municipalities should not be issued any new water-taking permits until a water conservation plan is in place.

Municipalities should be required to provide water to new developments first from what can be saved through conservation measures, before being issued permits to take additional water, with the goal of achieving no net increase in their total water use.

Recommendations for Policy, Planning, and Implementation

- 7.1 Municipalities must have the authority to require mandatory water conservation measures in new construction as well as mandatory retrofitting of existing uses. The Ontario Building Code should be amended to require mandatory utilization of specified water conserving measures.
- 7.2 Municipalities should be empowered to impose financial assurances to secure performance measures aimed at Source Water Protection – e.g. for those developments that fall into a serious risk category.
- 7.3 Municipal Class Environmental Assessment provisions should be reviewed to restrict roads or sewage lines in or near wetlands, streams, and watercourses.
- 7.4 Municipalities should provide incentives and rebates for water conservation measures. Further, municipalities should be encouraged to use water conservation by-laws year round rather than only in times of crisis, such as summer months of drought.
- 7.5 Public education regarding the impacts of activities on others in the watershed must progress from the outset of the Watershed-based Source Protection Planning exercise so that the public understands and supports the specific management actions that will be required once the threats are identified. The role of Source Water Protection in a multi-barrier approach to water quality and quantity protection must be stressed.

- 7.6 Downstream municipalities should expect to contribute to Source Water Protection efforts upstream.
- 7.7 Municipal growth should be consistent with Provincial limits and should focus on infill development and Smart Growth as opposed to sprawl.



8.0 Adequate Funding

All authorities responsible for the development and implementation of source protection plans (including Conservation Authorities, municipalities, First Nations and others) must be provided with adequate resources (including funding or funding tools, technical expertise and training, etc.) to match those responsibilities and allow them to carry them out within the necessary timeframes.

Recommendations for Policy, Planning, and Implementation

- 8.1 Use approaches as outlined in the report “Revenue Raising for Source Protection Planning - Innovative Tools” March 2004, by CIELAP and CELA available on the CELA website at <http://62.44.8.131/publications/cardfile.shtml?x=1884>).
- 8.2 Federal and provincial financing programs and tools must be leveraged together for the maximum effective protection of drinking water and of other water management objectives.
- 8.3 Provincial revenue sources must be provided for sparsely populated areas that, for example, may have an important role to play in Source Water Protection for the benefit of downstream users.
- 8.4 The Province must establish requirements for full cost pricing as soon as possible.
- 8.5 Use of water meters and pricing tools – e.g. province should forbid declining block rate pricing of water rates.
- 8.6 The Conservation Land Tax must be amended so that it applies to buffers for water protection and the Province should financially support this initiative so that it is not a financial burden to municipalities.
- 8.7 Provision for incentives to avoid use of treated water for gardening.
- 8.8 The Ministry of the Environment should create and distribute a guidebook to facilitate the planning and implementation of Source Protection Plans.
- 8.9 Utilization of science and new research for Source Water Protection goals must be greatly enhanced.



9.0 Cost Recovery and Conservation

All those who impact water quality or quantity, as well as those who benefit from the provision of clean water should contribute to the costs of source protection, to a degree appropriate to their impact or benefit.

Source protection plans must include the development of water budgets and water conservation standards for all watersheds within the planning area. These goals must be:

- based on an assessment of the cumulative impacts of all water takings in the watersheds;
- publicly reported, along with the cumulative impacts assessment; and
- reflected in each and every Permit to Take Water in the planning area, as specific, measurable, and enforceable conservation requirements of the Permit holder.

Recommendations for Policy, Planning, and Implementation

- 9.1 Everyone should play a role in protecting water.
- 9.2 The water conservation goals of a Source Protection Plan should be reflected in specific, measurable, enforceable water conservation requirements for the holder of every Permit to Take Water. This could take the form of a requirement to reduce the actual water taken by a specified percentage against a base year (for example, a 30% reduction over five years for a municipality).
- 9.3 Stormwater must be harnessed for gradual infiltration and release both to groundwater and surface waters where applicable. Very specific measures should be required to be specified in Source Protection Plans, with time lines, responsibility, and a plan for funding such measures. Examples include disconnection of downspouts, restoration, or construction of wetlands, preservation, maintenance or construction of riparian buffers, strict limits on hardened surfaces, and elimination of combined sewer over-flow systems.
- 9.4 Metering must be required for municipal systems and most private water takers and there should be a disallowing of perverse incentives such as declining block rates for large water takers.
- 9.5 Incentives should be provided for up-take of household water conservation technologies such as rain barrels, low flow toilets. For example, the city of Barrie, Ontario greatly reduced its water consumption by conducting a 2-year campaign that included the subsidy of ultra low flow toilets, showerheads, and aerators. The city estimates that it saved 1,782,500 litres per day (an average of 62 litres per person) and translated a \$3.1M program investment into a net deferral of \$18.7M for 7 years.
- 9.6 The province should require municipalities and other sectors to publicly report on their water conservation targets, plans to reach them, and their achievements including achievements leading to reduced or avoided costs.
- 9.7 Technologies to avoid using drinking quality water for other uses should be explored.

10.0 Water Taking Charges

The new source water protection regime must apply charges/levies to water taking activities, and the revenue from those charges should be entirely allocated back to the source protection system. Examples of areas for allocation include:

- development of relevant components of Source Protection Plans
- data collection and dissemination
- research
- public education programs
- implementation of certain source protection measures such as land acquisition, easements and capital works
- monitoring water quality and quantity

None of these areas should depend entirely on the revenue generated by water taking charges to continue operating.

Recommendations for Policy, Planning, and Implementation

- 10.1 Economic incentives are a potentially effective means to encourage improvements in water quality and preservation of water quantity. When individuals are required to pay the full-cost of their water use, an effort to minimize such costs will lead to conservation. Additionally, revenues raised from use can improve water quality by ensuring spending on protection measures.
- 10.2 Permits to take water must consider whether there is a reasonable alternative to the taking and where applicable, require re-use of water before allowing expanded water takings (e.g. grey water capture strategies).
- 10.3 Source Protection Plans should be able to deal with funds for priority issues in different watersheds, whether to address gaps in data or to allocate implementation funds but the water taking charges should be allocated across the province regardless of where the water taking charges were imposed.
- 10.4 Revenue from charges levied for water must not perversely create negative impacts on water quantity. There should be an equitable distribution of funds over all watersheds.
- 10.5 Those who will potentially affect water quantity or quality should be obliged to provide on-going peer-reviewed monitoring of their impacts.
- 10.6 It is expected that water-taking charges will not provide enough funding for the full Source Water Protection system and a full range of tools must be ensured so that there is sufficient sustainable resourcing to conservation authorities, municipalities, the province and others to carry out the implementation of source water protection.



11.0 Infrastructure

Provincial Class Environmental Assessment processes, as well as other decision-making processes for water, sewer and highway infrastructure must be reviewed and amended where necessary to be consistent with Watershed-based Source Protection Planning legislation.

Approval of new infrastructure should be deferred by the province until Source Protection Plans are completed, and all future approvals must be made consistently with the approved Source Protection Plans.

Recommendations for Policy, Planning, and Implementation

- 11.1 Ontario's groundwater has been valued by some authors to be worth millions of dollars. The benefits of clean, safe groundwater to Ontarians include a source of inexpensive drinking water, water for agricultural uses such as irrigation and livestock, and dilution of wastewater in private septic systems, especially in rural areas of the province (Marg Troyak, Environment Canada, 1996: *An Assessment of the Ecological and Economic Value of Groundwater*). Groundwater also is key in providing adequate habitat for recreational cold-water fisheries. AS well as benefits to humans, groundwater has integral ecological functions that make our environment more attractive and healthy. All of these ideas support the concept that investment in protecting Ontario's groundwater for many years into the future will allow the province to maintain a great economic competitive advantage to other regions of the world.
- 11.2 The benefits of protecting groundwater extend greatly beyond the headwaters of watersheds, and all Ontarians must recognize the critical aspect of protecting the headwaters and table lands of watersheds.
- 11.3 The economic benefits of Source Water Protection over-ride the costs of implementing Source Water Protection – e.g. in saved infrastructure; saved additional treatment processes etc.
- 11.4 Interim protection must be provided while Source Protection Plans are developed and implemented, to ensure that long-term infrastructure decisions do not irreversibly affect or harm Source Water Protection opportunities. In particular, suburban sprawl must be discouraged while Watershed-based Source Protection Planning is implemented, and interim measures must preclude unsustainable developments. “Leap-frogging” development must be controlled in the interim.
- 11.5 As soon as possible, vulnerable and sensitive ground and surface water areas must be identified and interim protection imposed by the province until long-term Source Protection Plans are approved by the province.
- 11.6 Infrastructure decisions must be linked to source protection plans, both as to water quality protection and as to water quantity protection
- 11.7 True costs of infrastructure, including environmental costs must be captured.
- 11.8 Combined sewer overflows must be eliminated and Source Protection Plans must improve stormwater handling
- 11.9 Hardening of surfaces should be limited to specified percentages according to the geology of the watershed and linkage to the hydrologic cycle (e.g. location of recharge and discharge areas)
- 11.10 Incremental decision making must be avoided in terms of planning for long term infrastructure and resulting development

- 11.11 The Class EA process must be revised to include Source Water Protection considerations and result in decisions consistent with water source water protection
- 11.12 Where possible, infrastructure replacement must be carried out in light of and consistently with the approved Source Protection Plans.
- 11.13 Infrastructure decisions must be predicated on water conservation; new or expanding water infrastructure should be premised on finding the savings from existing uses
- 11.14 Mandatory standards for sewer use by-laws must be established by the Province, both for better protection of water quality, and to level the requirements across municipalities.



12.0 Integration with Great Lakes Protection

The new source water protection regime must be fully integrated with Great Lakes protection. Communities with existing and future Great Lakes demands must be required to fully participate in drinking water source protection, including research, funding, and programs for point and non-point discharges.

When participating in inter-jurisdictional negotiations regarding the Great Lakes (including current negotiations around the Great Lakes Charter Annex 2001), the province must work to have the principles of source water protection incorporated into the resulting agreements.

Recommendations for Policy, Planning, and Implementation

- 12.1 Those who take water from the Great Lakes will benefit from and must participate in source water protection. Source Water Protection will have to be integrated with existing Great Lakes programs of various jurisdictions and common opportunities to advance water protection goals must be identified.
- 12.2 Source Protection Plans must be integrated with other water protection programs, both provincial and federal, including Great Lakes programs, to avoid inconsistent objectives or duplication of efforts.
- 12.3 Ontario negotiations in inter-jurisdictional agreements like the Great Lakes Charter Annex 2001, the Canada-Ontario Agreement and potential annexes or renewals of the Great Lakes Water Quality Agreement should emphasize and be consistent with a Watershed-based Source Water Protection approach.
- 12.4 Great Lakes programs and Source Protection Plans must integrate the knowledge, data and science that they are all gathering and this information must be publicly accessible. Duplication of effort must be avoided, and similarly, knowledge gained in one program should not be lost to other programs. A central record of all concurrent projects should be maintained by the Ontario Ministry of the Environment.
- 12.5 Actual water takings must be tabulated not only on a watershed basis but also on a Great Lakes basin basis.
- 12.6 Research in Great Lakes programs and Source Water Protection must be integrated to avoid “silos” of knowledge – research agendas and priorities should be set with a common mechanism for prioritization and dissemination of the results among the water management programs
- 12.7 Existing research and data collection mechanisms like the National Water Research Institute, NSERC grants, the Canadian Water Network and the National Pollutant Reporting Inventory should be involved in linking research needs and priorities with Source Water Protection research needs that are linked to other water management research needs

13.0 Enforceable Timelines

The first Source Protection Plans must be developed and approved in all regions within three years of the legislation being passed.

Where a Watershed-based Source Protection Planning Authority is unable to complete a Source Protection Plan within that time frame, the Province should be prepared to impose a Source Protection Plan.

Recommendations for Policy, Planning, and Implementation

- 13.1 It is paramount that the timing of implementing Source Protection Plans is adequate to ensure that sufficient capacity and resources are available to developing good Source Protection Plans. However, whenever possible, specific target dates should be identified for deliverables for each of the Source Protection Plans. Within 2-years of the passing of new legislation, each of the Source Protection Plans should have identified the main issues within the planning area and taken initial steps to address each of these issues.
- 13.2 Watershed-based Source Protection Plans should follow a provincially mandated template of requirements to ensure efficiency in developing the plan and to have a common approach to protection to all Ontarians across the province; at the same time, flexibility to allow for local circumstances should be provided.
- 13.3 Existing laws and regulations must be enforced and existing powers and authorities must be used to achieve an adequate level of Source Water Protection while Source Protection Plans are developed, approved, and implemented.
- 13.4 Watershed-based Source Protection Planning should be completely transparent with plentiful communication to the public throughout the initial plan development process, but also on an on-going basis into the future. Each Watershed-based Source Protection Planning board / committee must publish on its web site on an on-going basis the status of its Source Protection Plan as well as the other information described in the “public participation” segment of this Statement above. Annually, each Watershed-based Source Protection Planning board should publish an annual report of the progress made in its watershed, and once the plan is approved, of the outcome measures required by the plan.
- 13.5 For Conservation Authorities and / or municipalities that cannot meet the specified time frames, the province should first work to address the reasons for delay but in any event, in order to ensure timely Source Water Protection for all Ontarians, the province should be prepared to impose a Watershed-based Source Protection Plan if necessary to meet the legislated deadlines.



14.0 Strong Interim Measures

The province, municipalities and conservation authorities must use their available powers to protect water sources by taking immediate action with respect to high-risk activities and land uses until Source Protection Plans are approved and implemented.

Vulnerable or sensitive areas should be identified, and preliminary measures taken to protect them, within one year of the legislation being passed; adequate funding for the identification process must be provided, and criteria for identification should be specified by regulation.

No new policy instruments with the potential to cause significant or irreversible harm to water sources (including Certificates of Approval and Permits to Take Water) should be issued until Source Protection Plans are in place.

Recommendations for Policy, Planning, and Implementation

- 14.1 Interim Source Water Protection should be achieved as part of the first round or phase of Watershed-based Source Protection Planning. For example, the permit to take water moratorium should be extended until Source Protection Plans are in place. If any such permits are issued, they should be issued on the basis of a precautionary or conservative approach with provisions for amendment or reversibility of the certificates once Source Protection Plans are in place
- 14.2 No new certificates of approval for discharges to water (or air for contaminants that are an issue for air deposition to water) should be issued until Source Protection Plans are in place.
- 14.3 Vulnerable or sensitive areas should be identified as soon as possible in the first phase of Watershed-based Source Protection Planning; i.e. within the first year after Source Water Protection legislation is in effect – and criteria for such identification should be specified by regulation. Further, development in vulnerable lands should be prohibited until Source Protection Plans are in place
- 14.4 There is a concern that ongoing threats to drinking water sources will continue unabated while Source Protection Plans and their implementation are developed; and/or that new threats will be allowed to proceed, possibly even in a manner that makes it very difficult to reverse or undo the risks that they present. On the other hand, if too much time is taken developing an interim protection system, we could have used those dollars and time to get a lot of the information and protection from actual Watershed-based Source Protection Planning and implementation.
- 14.5 Threats from existing uses, both urban and rural should be managed as soon as possible by giving municipalities the needed new tools described in the Source Water Protection advisory committee April 2003 report: including tools to deal with funding issues, an agreed-upon list of new municipal powers provided to municipalities so that they may use them to better protect source water and implement watershed-based. Municipalities should also be actively encouraged to utilize tools they may already have; where appropriate the province should also utilize the tools it already has for interim protection from existing uses (refer also to Appendix III).
- 14.6 Other means of protecting drinking water sources should be provided, such as long term financial incentives, acreage payments, and land conservation easements for appropriate circumstances

15.0 Long-term Monitoring

Data must be collected and publicly reported for, at a minimum, all of the outcome measures listed in the April 2003 Report of the Source Protection Advisory Committee, including:

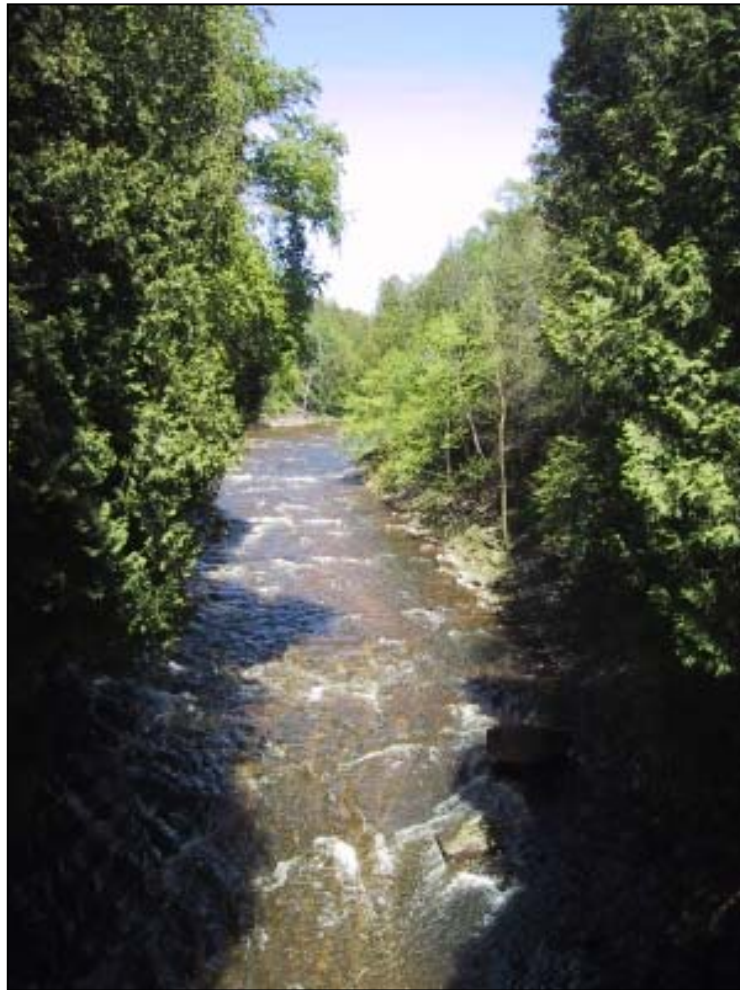
- the number of completed source protection plans;
- the proportion of the province protected by approved watershed-based source protection plans, as measured geographically and by population;
- the number of municipalities that have well head protection plans;
- the availability of data to the public, academia and public interest groups;
- the level of public reporting and evidence that Ontarians are aware of the effort being made to protect water resources for present and future generations;
- increased industry and public participation in water preservation and conservation activities;
- occurrences of pathogens and viruses in water;
- source water quality after wet weather events, as measured by turbidity, total coliform, E. coli (e.g., number of beach closures);
- levels of inorganic chemicals, nitrates, phosphorous, pesticides and fecal contaminants in surface waters, especially streams, and groundwater where applicable;
- health of biota in surface waters, including wetlands, disclosing less stress and adverse impacts from contaminants;
- number and lengths (kilometres) of surface waters meeting all provincial water quality objectives set by the province;
- fish tissue concentration for key contaminants;
- multi-year average stream base flow volumes and groundwater levels;
- number of municipalities managing within water budget; and
- change in total hectareage or percentage of landscape comprised of wetlands, riparian zones and forested lands that perform a significant hydrological function within the headwater, recharge, and discharge zones of a watershed or subwatershed.

All technical data on water quality and quantity indicators (including an inventory of all existing Permits to Take Water) should be consolidated in a central province-wide, user-friendly database, accessible by the general public.

Recommendations for Policy, Planning, and Implementation

- 15.1 One goal of Source Water Protection must be that we return water to our ground and surface systems healthier than the state in which we removed it.
- 15.2 The outcome measures listed in the April 2003 Source Protection Advisory Committee report (<http://www.ene.gov.on.ca/envision/techdocs/4383.htm#info>) must be included in Watershed-based Source Protection Planning. For example, the number of completed Source Protection Plans; the proportion of the province protected by approved Watershed-based Source Protection Plans, as measured geographically and by population; the number of municipalities that have well head protection plans; etc.
- 15.3 Healthy ecosystems provide major economic benefits to a watershed and outcome measures should reflect this connection.
- 15.4 Evidence of good environmental health must include ecosystem indicators such as riparian systems' health. Ecosystem health and human health are integrated -- not distinct from each other. In many cases, ecosystem outcome measures are good indicators of water that is safe for

- human health, and are often the only reliable indicators of improving or healthy water systems. Human health indicators are almost impossible to detect with our public health surveillance tools (Pierre Payment, INRS-Institut Armand-Frappier).
- 15.5 When using biological indicators of the health of source waters, a broad set of indicators should be used to best capture the effectiveness of Watershed-based Source Protection Planning and implementation.
 - 15.6 Measuring the success of Source Water Protection must include measuring the ability to avoid severe consequences from climate change and from severe events, both as to quality and quantity as a result of source water planning.
 - 15.7 There should be an indicator to measure public awareness of the need for and measures being taken for source protection. There also should be indicators to measure level of public involvement and public attitudes regarding protection of our water sources.
 - 15.8 Outcome measures must be mandatory for Source Protection Plans, including ensuring that the monitoring or measuring is funded, conducted, and reviewed for adjusting the Source Protection Plans as a result of the results or trends disclosed by the outcome measures.



16.0 Review of Source Protection Plans

Source Protection Plans should be reviewed and updated regularly to reflect emerging data and science regarding water resources, changes in the watershed and the results of outcome monitoring under Source Protection Plans.

Recommendations for Policy, Planning, and Implementation

- 16.1 When source protection plans are reviewed, it must be determined if anything within the plan area has changed. For example, have new issues emerged within the watersheds, have there been significant changes to water quality or quantity. The use of monitoring data and reporting is essential at this step if the planning process.
- 16.2 Plan reviewers must determine if new information and data allows for a better understanding of the plan area. If so, plans should be amended to reflect the new understanding of how to best manage the watershed.
- 16.3 Monitoring reports should be interpreted and compared to a baseline of information to determine if the efforts of implementing the source protection plan are in fact working to protect water quality and quantity.
- 16.4 Those who will potentially affect water quantity or quality should be obliged to provide on-going peer-reviewed monitoring of their impacts.
- 16.5 Provincial instruments should all automatically be reviewed after the first round of source protection plans are in place in order to be amended so as to be consistent with approved source protection plans
- 16.6 Provincial policies must also be reviewed for consistency with Watershed-based Source Protection Planning legislation, such as:
 - 16.6.1 The Reasonable Use policy (degradation to half of the drinking water standard beyond the applicable property boundary should be discontinued as provincial policy in granting certificates of approval to landfills and others)
 - 16.6.2 Guide for Applying for Approval of Permit To Take Water
<http://www.ene.gov.on.ca/envision/gp/3151e.pdf>
 - 16.6.3 The Fisheries Act; the Canada Ontario Agreement (COA); other Great Lakes programs and policies; municipal pesticide by-laws and sewer/septic system use by-laws incorporating provincially set standards and provisions;



APPENDIX I: Walkerton Inquiry Recommendations

The following recommendations from the Walkerton Inquiry are excerpted from: "Advisory Committee on Watershed-based Source Protection Planning: Protecting Ontario's Drinking Water: Toward A Watershed-Based Source Protection Planning Framework, Final Report," April 2003 <http://www.ene.gov.on.ca/envision/techdocs/4383e.pdf>

JUSTICE O'CONNOR'S RECOMMENDATIONS RELATED TO SOURCE PROTECTION: PART TWO REPORT OF THE WALKERTON INQUIRY	
The Protection of Drinking Water Sources (Chapter 4)	
Recommendation 1	Drinking water sources should be protected by developing watershed-based source protection plans. Source protection plans should be required for all watersheds in Ontario.
Recommendation 2	The Ministry of the Environment should ensure that draft source protection plans are prepared through an inclusive process of local consultation. Where appropriate, this process should be managed by conservation authorities.
Recommendation 3	Draft source protection plans should be reviewed by the Ministry of the Environment and subject to ministry approval.
Recommendation 4	Provincial government decisions that affect the quality of drinking water sources must be consistent with approved source protection plans.
Recommendation 5	Where the potential exists for a significant direct threat to drinking water sources, municipal official plans and decisions must be consistent with the applicable source protection plan. Otherwise, municipal official plans and decisions should have regard to the source protection plan. The plans should designate areas where consistency is required.
Recommendation 6	The provincial government should provide for limited rights of appeal to challenge source protection plans, and provincial and municipal decisions that are inconsistent with the plans.
Recommendation 7	The provincial government should ensure that sufficient funds are available to complete the planning and adoption of source protection plans.
Recommendation 8	Conservation authorities (or, in their absence, the Ministry of the Environment) should be responsible for implementing local initiatives to educate landowners, industry, and the public about the requirements and importance of drinking water source protection.
Recommendation 9	Septic systems should be inspected as a condition for the transfer of a deed.
Recommendation 10	The Ministry of the Environment should not issue Certificates of Approval for the spreading of waste materials unless they are compatible with the applicable source protection plan.
Recommendation 11	The Ministry of the Environment should take the lead role in regulating the potential impacts of farm activities on drinking water sources. The Ministry of Agriculture, Food and Rural Affairs should provide technical support to the Ministry of the Environment and should continue to advise farmers about the protection of drinking water sources.
Recommendation 12	Where necessary, the Ministry of the Environment should establish minimum regulatory requirements for agricultural activities that generate impacts on drinking water sources.
Recommendation 13	All large or intensive farms, and all farms in areas designated as sensitive or high-risk by the applicable source protection plan, should be required to develop binding individual water protection plans consistent with the source protection plan.

JUSTICE O'CONNOR'S RECOMMENDATIONS RELATED TO SOURCE PROTECTION: PART TWO REPORT OF THE WALKERTON INQUIRY

Recommendation 15

The Ministry of the Environment should work with the Ministry of Agriculture, Food and Rural Affairs, agricultural groups, conservation authorities, municipalities, and other interested groups to create a provincial framework for developing individual farm water protection plans.

Recommendation 16

The provincial government, through the Ministry of Agriculture, Food and Rural Affairs in collaboration with the Ministry of the Environment, should establish a system of cost-share incentives for water protection projects on farms.

Recommendation 17

The regulation of other industries by the provincial government and by municipalities must be consistent with provincially approved source protection plans.

Monitoring and Measurement (Chapter 8)

Recommendation 38

Sampling plans should provide for sampling under the conditions most challenging to the system, such as after heavy rainfalls or spring floods.

The Provincial Government Role in Overseeing Drinking Water Systems (Chapter 13)

Recommendation 65

The provincial government should develop a comprehensive source to tap drinking water policy covering all elements of the provision of drinking water, from source protection to standards development, treatment, distribution, and emergency response.

Recommendation 68

The provincial government should amend the Environmental Protection Act to implement the recommendations regarding source protection.

Recommendation 70

The provincial government should create a Watershed Management Branch within the Ministry of the Environment to be responsible for oversight of watershed-based source protection plans, and, if implemented, watershed management plans.

First Nations (Chapter 15)

Recommendation 88

Ontario First Nations should be invited to join in the watershed planning process outlined in Chapter 4 of this report.

APPENDIX II: Source Protection Advisory Committee Recommendations

The following background and listing of the Source Protection Advisory Committee 55 recommendations are excerpted from: "Advisory Committee on Watershed-based Source Protection Planning: Protecting Ontario's Drinking Water: Toward A Watershed-Based Source Protection Planning Framework, Final Report," April 2003

<http://www.ene.gov.on.ca/envision/techdocs/4383e.pdf>

INTRODUCTION

RECOMMENDATION 1: The government requires the watershed-based source protection framework described in the Advisory Committee's report and recommendations to be used in all watersheds in Ontario.

FRAMEWORK FUNDAMENTALS

Responsibility and Accountability

RECOMMENDATION 2: Consistent with Justice O'Connor, the provincial government, specifically, the Ministry of the Environment, has the ultimate accountability for ensuring source water protection, notwithstanding the shared responsibility of all governments and stakeholders to contribute to our collective goal of ensuring a sustainable supply of safe clean drinking water.

Goal of Source Protection Plans

RECOMMENDATION 3: The goal of watershed-based source protection planning in Ontario is to protect human health through the protection of current and future sources of drinking water, including inland lakes, rivers and groundwater, from potential contamination and depletion through locally-developed watershed-based source protection plans.

Scope of the Framework Regarding the Great Lakes

RECOMMENDATION 4: While the source protection planning framework focuses on inland waters, all communities and water users whose source of water is the Great Lakes share in the responsibility for the protection and enhancement of the waters of the Great Lakes, as well as inland water sources. Furthermore, the Ministry of the Environment should require any entity that discharges waste water, rural run-off or stormwater to the Great Lakes to manage or improve the quality of its discharges to a standard that meets the objectives of source water protection.

RECOMMENDATION 5: As the province negotiates with its Great Lakes partners, it should recognize the benefits of source protection and work to have its principles incorporated into future agreements.

Principles Guiding Source Protection Planning

RECOMMENDATION 6: Decision-making that could have potential impacts on human health and affect water quality or quantity be guided by the following principles:

Sustainability: Water is essential for our health and ecosystem viability and must be valued as finite. Source protection plans should consider historical, existing, new and future land uses when considering how to ensure clean sources of drinking water now and in the future.

Comprehensiveness: All watershed-based source protection plans must take a precautionary approach that uses the best available science and is subject to continuous improvement as our knowledge increases. The plan must be defensible and have the flexibility to accommodate Ontario's diverse watersheds.

Shared Responsibility and Stewardship: While the Ministry of the Environment has ultimate accountability for ensuring source water protection, responsibility for specific outcomes is shared among all water managers, users and land owners.

Public Participation and Transparency: There must be open discussion and communication of the source protection planning process and its results, from development to implementation. Stakeholders and the public will have opportunities for meaningful input.

Cost Effectiveness and Fairness: The costs and impacts on individuals, land owners, businesses, industries and governments must be clear, fair and economically sustainable. Source protection planning must access all information that is practical and reasonable and use technologies and risk management practices to maximize the protection of public health.

Continuous Improvement: Source protection planning is built on a commitment to continuous improvement, including peer review, which requires ongoing support of all stakeholders to ensure successful implementation based on assessment, monitoring, evaluation and reporting, followed by appropriate modifications to the plan.

Legislative Basis for Source Protection Planning

RECOMMENDATION 7: A stand-alone piece of legislation for source water protection be developed that incorporates provisions related to source protection from other legislation so that the legislation will be as clear and comprehensive as possible.

RECOMMENDATION 8: Where risk to human health is the concern, source protection legislation should supersede other legislative provisions and other considerations, consistent with the hierarchy set out by Justice O'Connor (refer to Appendix A: Justice O'Connor Recommendations 4 and 5). This also that requires provincial decisions affecting water quality and quantity, such as permits to take water, the Oak Ridges Moraine Conservation

Plan and certificates of approval, etc., to be consistent with source protection legislation in the same way.

RECOMMENDATION 9: Other legislation, such as the Environmental Protection Act, Municipal Act, Planning Act, Nutrient Management Act, Drainage Act, the Brownfields Statute Law Amendment Act and the Mining Act, etc., be amended where necessary to be consistent with the source protection legislation.

RECOMMENDATION 10: Source protection legislation and regulations should include, among other requirements:

- a schedule for completion of initial plans that reflects a phased approach that recognizes the capacity of participants and the existing level of risk (watersheds at a higher risk should be required to develop and implement plans more quickly; watersheds with high quality water should be protected from potential contamination; the province should consult with stakeholders when establishing the schedule);
- all planning areas must initiate the planning process within two years of the effective date of the legislation in accordance with the legislated schedule and each plan, once started, should generally be completed within three years (source protection plans must be in place across Ontario by the end of the fifth year);
- the power for the Minister of the Environment to identify the planning areas to which a specific source protection plan is to apply and to designate the organization with lead responsibility for co-ordinating plan development for the planning area;
- the roles and responsibilities of the key parties involved in source protection planning (see also 3) THE PLANNING PROCESS).
- the minimum content of source protection plans (refer also to Advisory Committee Recommendation 31);
- the process requirements for the source protection plan development, including local consultation, as well as clear public reporting requirements (these requirements would also include those related to the approval process); and
- grounds for appeal related to the content or process used in developing source water protection plans, the entity or body which is responsible for hearing these appeals, associated timelines and other procedures and requirements (refer also to Advisory Committee Recommendations 39 and 40).

New Powers for Municipalities

RECOMMENDATION 11: The province work with municipalities and other stakeholders to identify the appropriate types and scope of new municipal powers that should be made available for the purposes of source water protection, including dealing with funding issues.

Then, the province should take steps to ensure that the agreed-upon list of new municipal powers is provided to municipalities so that they may use them to better protect source water and implement watershed-based source protection plans (refer also to Advisory Committee Recommendations 33 and 34).

New Responsibilities for Conservation Authorities

RECOMMENDATION 12: Conservation authorities be the organization given responsibility for co-ordinating the development of watershed-based source protection plans wherever possible.

RECOMMENDATION 13: The resourcing of conservation authorities recognize their new role in source protection planning and provide for new sources of funding in specific instances related to source protection planning (refer also to Advisory Committee Recommendations 33 and 34).

RECOMMENDATION 14: The province requires all municipalities and local services boards to participate in source protection planning.

First Nations

RECOMMENDATION 15: Recognizing current agreements and relationships with conservation authorities, provincial ministries and other jurisdictions, First Nations (and their technical designates) and the Ministry of the Environment establish a working relationship with respect to source protection planning as soon as possible.

RECOMMENDATION 16: The province pursue a strategy with the federal government and First Nations that would support the ability of First Nations (and their technical designates) to be full participants in source water protection planning and implementation. This would include ensuring their involvement in the development of the plan, including participation on the source protection planning committee and in the consultation process, and in the implementation of watershed-based source protection planning through agreements.

Interim Risk Management

RECOMMENDATION 17: The province, municipalities and conservation authorities use their available powers to manage potential threats to human health and protect sources of drinking water by taking action with respect to high-risk activities and land uses until source protection plans are approved and implemented.

RECOMMENDATION 18: Conservation Ontario and the province provide a model source protection plan, based on existing source protection plans that will be used as a guide in the interim by those without source protection plans. This model would establish a common platform that would be informed by details particular to each area.

Financing Initial Source Plans

RECOMMENDATION 19: The province substantially funds development of all initial watershed-based source protection plans.

RECOMMENDATION 20: Contributions from sources in addition to the provincial government, consistent with Justice O'Connor's report, be negotiated to support ongoing source protection planning (refer also to Advisory Committee Recommendations 33 and 34).

THE PLANNING PROCESS

Planning Areas

RECOMMENDATION 21: For the purposes of developing source protection plans, there should be approximately 16 planning areas in southern Ontario and approximately 8 in Northern Ontario. This recognizes that the grouping of watersheds into planning areas may enable more effective and efficient sharing of resources.

RECOMMENDATION 22: Consistent with Justice O'Connor, the plan development process is co-ordinated by a conservation authority, or the Ministry of the Environment (or designate) in areas where there is no conservation authority. Where a conservation authority is in an area adjacent to large areas of Crown land, the conservation authority should play a co-ordinating role alongside the Ministry of the Environment.

RECOMMENDATION 23: The SPPC will act as an advisory committee to the board of directors of the conservation authority. It is the board(s) of directors that submits the recommended draft plan to the Ministry of the Environment for approval. A parallel process will be established for areas that do not have a conservation authority.

RECOMMENDATION 24: The chair of the SPPC will be appointed by the Minister based on a recommendation from the board(s) of directors of the conservation authorities. The chair may be a full-time position in some areas.

RECOMMENDATION 25: Membership on the SPPC be distributed as follows: one-third municipal representatives; one-third provincial, First Nations and federal representatives, and; one-third local public health and other stakeholders. At a maximum, SPPCs will be made up of 18 individuals plus the chair. Note, that each stakeholder or group of stakeholders would select its own representative(s) to the SPPC. In addition, the SPPC may establish working groups as necessary, providing another opportunity for direct involvement of others in the plan development process.

RECOMMENDATION 26: SPPCs must define in their terms of reference what constitutes sufficient municipal support for the draft source protection plan to be recommended for approval to the Ministry of the Environment. This must be agreed to by the board of directors of the conservation authority (or authorities) and forwarded for approval by the MOE as one of the first steps in the plan development process.

RECOMMENDATION 27: Each planning area will, as part of their responsibilities, constitute an expert panel made up of individuals that would, at key milestones, assess the appropriateness and validity of the approach, science and operational / management practices, and its advice will be used to inform the planning process.

Technical Expertise

RECOMMENDATION 28: Planning areas must have access to the necessary technical expertise to support the development, implementation, and ongoing enhancement of source protection.

Planning Area Consultation Process

RECOMMENDATION 29: The minimum requirements for a transparent local consultation process in a planning area will include having:

- meetings of the Source Protection Planning Committee that are advertised and open to public attendance; draft plans and proposals published widely;
- adequate time and information to ensure a range of views are fully canvassed and considered;
- invitations for public comment in writing;
- documentation of responses to public input, as appropriate; and
- involvement of other affected local parties, including municipalities, local services boards, elected officials, land users, water system operators, First Nations, off-reserve Aboriginal communities, local public health officials, and the public, in its important role of drinking water consumer.

RECOMMENDATION 30: All Source Protection Planning Committees define in their terms of reference a plan for local consultation that meets minimum requirements and this must be agreed to by the board(s) of directors of the conservation authority early in the planning process.

Content of the Initial Source Protection Plan

RECOMMENDATION 31: The components to be included in a source protection plan integrating Justice O'Connor's list of "key ingredients" are as follows:

- objectives and targets of the Source Protection Plan.
- technical information including:
- a water budget, including future water needs;
- a fate of contaminants model, including assessment of future pollutant loading and cumulative impacts;

- maps, based on provincially prescribed definitions and methodology, that identify areas of high, medium and low vulnerability areas and sensitive water resources (refer to Risk Management section);
- a baseline map to establish the state of the watershed at the outset of the planning process and an overlay map of existing and potential land uses;
- identification and delineation of natural features such as various types of wetlands, woodlands and riparian zones that contribute to the protection of drinking water sources;
- identification of areas where a significant direct threat exists to the safety of the drinking water supply;
- maximum contaminant loads to meet water quality objectives;
- inventory of major point and non-point sources of contaminants and high-risk land uses; and
- maps of all significant water takings and areas experiencing stress due to water takings.
- identification of where source protection issues exist, such as:
 - where a significant direct threat exists to the safety of the drinking water source;
 - potential water allocation problems;
 - need for special operational limits to water taking;
 - areas where the plan might need to influence or govern municipal land use and zoning;
 - areas where farm water protection plans are needed;
 - areas where biosolids and septage spreading need special consideration;
 - contaminated site issues that need priority action;
 - priority areas for identifying and properly decommissioning unused or abandoned wells;
 - priority areas for ending the misuse of abandoned pits and quarries or for their rehabilitation; and
- identification of knowledge gaps and research needs for the watershed.
- an implementation plan* to manage the identified source protection issues, including roles and responsibilities, accountability, process, schedule and outputs.
- a monitoring and reporting plan*, including roles and responsibilities, accountability, process, schedule and outputs.
- a description of how the plan will be reviewed and updated, including roles and responsibilities, accountability, process, schedule and outputs.
- a description of outstanding or unresolved issues and how they will be dealt with* (these may be addressed through additional data collection, more detailed study and approved analytical tools).

*These may be supplemented by more detailed technical or other support guidelines to be developed by the province.

Approval Process for Source Protection Plan

RECOMMENDATION 32: The province define in legislation the criteria and process through which it will review and approve source protection plans based on the recommendations of the Advisory Committee and the results of the expert working group (refer also to Advisory Committee Recommendation 31 regarding the content of source protection plans).

Toward Implementation

RECOMMENDATION 33: Consultation on implementation and ongoing planning, including how to pay for them, be undertaken with different stakeholder groups immediately following receipt of this source protection planning framework. This consultation should start from the list of potential roles and responsibilities presented by the Advisory Committee in its report.

RECOMMENDATION 34: The model for the sharing of costs to align funding mechanisms with the appropriate responsible body should be negotiated with stakeholders while the initial source protection plans are being developed. Furthermore, all those in a planning area, particularly those who impact sources of drinking water and those who benefit from it, should contribute, to some degree, to the costs of source protection.

RECOMMENDATION 35: Incentive programs and payments for environmental benefits should be considered, especially in sensitive areas and well capture zones, as one way to encourage implementation of source protection measures and provide for long-term sustainability.

Review and Updating of Source Protection Plans

RECOMMENDATION 36: Groups involved in initial plan development and any newly identified participants should be convened periodically to review and revise the plan as necessary.

RECOMMENDATION 37: Proposed roles for those responsible for keeping plans up-to-date are as follows:

Conservation Authorities will be responsible for:

- keeping the source protection plan up-to-date and for keeping other partners and interest groups informed of any changes;
- revising the local consultation process and work plan, if required, to fill in the information gaps in the source protection plan on an ongoing basis; and
- issuing implementation status reports.

Municipalities will be responsible for:

- participating in source protection planning as a member of the conservation authority;
- identifying new issues related to source protection and bringing them to the attention of the conservation authority; and
- issuing implementation status reports.

First Nations will be responsible for:

- working with the conservation authority on source protection planning;
- identifying new issues related to source protection and bringing them to the attention of the conservation authority; and
- issuing implementation status reports.

The Province will be responsible for:

- defining the updating process, including public consultation, by working with affected groups (e.g., to establish the formal source protection planning cycle)
- mandating when a new or updated plan is required;
- reviewing and updating standards; and issuing implementation status reports.

Reporting Roles

RECOMMENDATION 38: Consistent with Justice O'Connor, the government must report publicly on the status and progress of source water protection. Public reporting must be required from the Ministry of the Environment and each lead organization on watershed-based source protection plans and planning activities.

Appeals

RECOMMENDATION 39: Consistent with Justice O'Connor, appeals should provide for limited rights of appeal to challenge source protection plans and decisions of provincial and municipal governments that are inconsistent with those plans. These appeals may be heard by the Environmental Review Tribunal (ERT) or another appropriately designated appeals body.

RECOMMENDATION 40: Amendments to existing appeal processes (e.g., under the *Planning Act*, the *Ontario Water Resources Act*) be developed, where necessary, to provide appropriate grounds of appeal related to source protection planning. The details of appeal processes related to source protection must be developed as part of implementation planning.

Public Consultation and Education

RECOMMENDATION 41: The province must undertake broader public consultation on the recommendations made in the Advisory Committee's report to ensure that all stakeholders and Ontarians have an opportunity to contribute to the development of the source protection planning framework prior to legislation being introduced

RECOMMENDATION 42: The province, conservation authorities, municipalities and other stakeholders ensure that public education and dissemination of information is undertaken to ensure that Ontarians fully embrace the importance of protecting our drinking water sources.

RISK MANAGEMENT

Risk Management Strategies

RECOMMENDATION 43: The province establish the definitions of threats and their relative risks to water sources that will be inventoried in all watersheds. To this end, the province should immediately establish a working group of experts to agree on an Ontario-based threat assessment process within six months of the receipt of the Advisory Committee's report and present its findings to the province for approval. This working group must also develop the initial definition of "vulnerable area" and "sensitive water resource" to be used in all planning areas.

RECOMMENDATION 44: Any working definition of "vulnerable area" or "sensitive water resource" used in the initial planning stages and legislation be reviewed on an ongoing basis to make it appropriate for source water protection and consistent with definitions in other pieces of legislation and programs.

RECOMMENDATION 45: The approach to threat assessment, risk management and sustainable supply for both ground and surface water sources in Ontario be consistent with the considerations identified in the Advisory Committee's report in the sub-sections:

Threat Assessment and Risk Management Strategies

RECOMMENDATION 46: The risk analysis process must be premised on the best available science. While it is recognized that more qualitative classifications of threat, vulnerability and sensitivity will be necessary initially, the risk analysis process must evolve toward more accurate quantitative methodologies and technologies as our knowledge base grows and improves over time with advances in research.

Additional Standards for Surface Water

RECOMMENDATION 47: All Ontario surface water bodies should continue to be required to meet the Provincial Water Quality Objectives (PWQO) since meeting them consistently would be an important step towards meeting the goal of source protection planning. These standards should be not used as a substitute for more detailed and site-specific source protection strategies, nor should they be interpreted as allowing high quality water to be degraded to meet a minimum standard.

RECOMMENDATION 48: The PWQOs should be peer reviewed so that they meet the highest international standards. The PWQOs should be reviewed specifically from the perspective of source water protection and new PWQOs should be added as necessary.

INFORMATION MANAGEMENT

Monitoring and Information Management

RECOMMENDATION 49: The province undertake an assessment of the capacity of current and planned monitoring networks to support the needs of source protection planning. Any additional investment in information systems must clearly enhance current capacity, rather than duplicate it.

Roles and Responsibilities Related to Information

RECOMMENDATION 50: The province is the lead data management organization, recognizing that other stakeholders will play an important role in the collection of information and maintenance of local monitoring programs.

RECOMMENDATION 51: The following activities, related to information, need to be carried out or co-ordinated at the provincial level:

- centralized compilation, collection and improvement of data sets. (this includes the work being done by Land Information Ontario to develop mapping and georeferencing standards that will ensure source protection plans fit together);
- provision of provincial data to SPPCs to support the development of initial source protection plans;
- development of data standards with the involvement of stakeholders, including a mechanism to ensure that all participants are working with the same or compatible data;
- a central repository and conduit for provincial data access and sharing with planning participants, to complement the sharing of data and information amongst planning areas, conservation authorities and municipalities;
- provision of advice, training and expertise to planning participants;
- development of, and input into, the selection of specific modelling tools; and
- aggregation of source protection plans and reporting at a provincial level that ensures consistency of mapping.

RECOMMENDATION 52: Conservation authorities and municipalities would be responsible for managing and collecting information relevant to source protection that is not already being collected by the province or another body. Their roles would include:

- co-ordination of the local compilation, collection and improvement of data sets;
- sharing data and information with other planning areas, conservation authorities and municipalities;
- integration of local data with provincial data sets;
- aggregation and reporting of data and information into a central repository;
- analysis of the integrated information sets to create source protection plan products;
- development of appropriate specific models for watershed planning purposes; and
- provision of local information support through the development of the source protection plan.

RECOMMENDATION 53: To the extent possible, data should be as available to all those involved, including the dissemination of data and information to the public (e.g., non-proprietary information).

Outcome Measures and Evaluation

RECOMMENDATION 54: The province working with stakeholders identify the lead indicators by which progress toward the achievement of desired outcomes can be assessed and measured at the provincial and local levels. These indicators should be developed within six months of the beginning of the planning process.

Research Related to Source Water Protection

RECOMMENDATION 55: The government ensure that a sustainable level of funding for ongoing research into the sciences that support source protection and, in particular, those disciplines that increase our understanding of the impact on human health. Furthermore, that the government ensure that Justice O'Connor's recommendations on drinking-water research and those of the Advisory Committee are implemented in an integrated manner, ensuring timely dissemination of relevant research findings to those involved at all levels, from academia to those in charge of day-to-day activities.