Submission by Pollution Probe

Walkerton Inquiry Public Hearing Number 4

Source Protection

Introduction

Pollution Probe is a Canadian charitable organization that defines environmental problems through research, promotes understanding through education and presses for practical solutions through advocacy. Pollution Probe is dedicated to achieving positive and tangible environmental change.

Pollution Probe works in partnership with all sectors of society to protect health by promoting clean air and clean water. We are supported by an active donor-base of approximately 10,000 Canadians.

From its inception over 30 years ago, Pollution Probe has been a strong clear voice for Canadians, pushing hard for enforceable environmental policies and sustainable environmental practices. We presently have a full-time employee complement of approximately 20 with additional consultants and part-time workers.

Pollution Probe in coalition with several other grass-roots environmental groups, the Canadian Environmental Defence Fund (CEDF) and a first nations group has formed the Safe Water Coalition to facilitate the involvement of coalition members at the Walkerton Inquiry and to further the interests of the public.

The CEDF and Pollution Probe are active participants in all parts of the Walkerton Inquiry, seeking to assist the commissioner in finding positive and practical solutions to providing clean, safe drinking water to Ontarians.

Source Water Protection

There are increasing pressures on both the quantity and quality of Ontario's drinking water sources. Some of these are factors including demographic trends such as population growth and urban sprawl. Other factors include industrialization, agricultural intensification, local weather patterns and global climatic change, as well as other changes in land use patterns and practices. Because of this environment of constant change, assumptions regarding Ontario drinking water quality must be examined regularly for their current and future validity (*Pollution Probe*, 1999).

Ontario's municipal water systems have two sources of water supply — groundwater reached through wells and surface water drawn from lakes and rivers. The latter source provides more than two-thirds of water to Ontario water consumers. Most of these people have never faced the droughts and shortages experienced in many other parts of the developed and developing world and therefore tend to take a somewhat complacent attitude with respect to the cost and availability of water supply.

Groundwater is a precious resource that must be managed and protected using very long time-frame strategies and approaches. Groundwater has long been considered a safe, protected source of drinking water. However, overpumping of aquifers can eventually lead to serious depletion of such resources, or to the intrusion of poor quality groundwater from contaminated surface waters and from other connected aquifers. Land-use planning and transportation planning decisions also can have a major impact on the sustainability of groundwater resources. The Ontario government, together with other stakeholders, such as municipalities, industry, farmers and environmental groups, must ensure that these resources are protected and managed for the benefit of present and future generations. Source protection should become a priority. Watershed management and source protection programs are especially important in protecting groundwater as a future source of drinking water (*Pollution Probe*, 1999).

Surface water supplies in Ontario are also important to protect. Most of Ontario's major cities draw their water through deep intakes in one of the Great Lakes. Development in suburban areas and intensification of land use in rural southern Ontario are placing extraordinary demands on Ontario's water supplies. For example, the Greater Toronto Area is anticipating a population increase of two million over the next twenty years. Location of that new population will be important to the long range planning of water sources.

These lakes are subject to the influences of human activities (e.g., urban habitation, industry, transportation, agriculture and mining), but the volume and natural purification capacities of the lakes have, to date, minimized the impact of these activities on the suitability of the lakes as drinking water sources (*Pollution Probe*, 1999). Nevertheless, maintaining the generally high quality of the drinking water from the Great Lakes and other inland lakes and rivers, especially in near-shore areas close to major population influences, requires vigilance, and points to the importance to assuring long-term access to clean water of such activities as the Remedial Action Program (RAP) and Lakewide Management Program (LaMP) carried out under the auspices of the Canada-US Great Lakes Water Quality Agreement.

Although industrial water discharges are better controlled today, increased population, urbanization and industrialization continue to contribute, through water and air deposition, to contamination of Ontario's water supplies in the Great Lakes, inland lakes and rivers and groundwater. As monitoring and analytical techniques are becoming increasingly sophisticated, the detection and reporting of toxic pollutants in the province's water sources are becoming more frequent and alarming (e.g., "Hazardous solvents found in drinking water", *Globe and Mail*, March 21, 2001). Thus, in addition to biological contaminants, bio-accumulated and persistent toxic chemicals are of particular concern, such as PCBs, pesticides, dioxins and other industrial chemicals, as well as heavy metals such as lead, mercury and cadmium. Recent research has confirmed that some persistent organochlorines, such as PCBs, can pose a serious threat to human health by disrupting the human endocrine system, causing reproductive and immune system dysfunction and other developmental disorders. More than 35,000 commercial chemicals are reported to be in use in Canada today, but just how many of these are toxic is not clear. It must be anticipated that, as further studies are conducted, additional chemicals (and microbiological contaminants) will emerge as substances for which safeguards must be established for both preventing their introduction to water sources and safely treating drinking water supplies.

Managing water system assets for the long haul has requirements and implications that extend beyond the planning, inventory and analysis of the physical and financial capabilities of the facilities and institutions responsible for delivering water services. The source water itself is an asset that has value and needs to be included in the basic inventory of infrastructure assets. An assured supply of clean water is a fundamental prerequisite and, in the long-term planning of a system, consideration must be given to the conservation and protection of the water resource upon which the system is based.

Pollution Probe will be submitting a separate submission to the Walkerton Inquiry (for Public Hearing number 7 and 8) on the subject of the Management and Financing of Drinking Water Systems, where we will call for an approach called Sustainable Asset Management.

In "Managing the Environment: A Review of Best Practices" by the Executive Resource Group for the Ontario Ministry of the Environment (January, 2001) Valerie Gibbons calls for a place-based approach to environmental management that places an emphasis on geographic convergences of water, land and air – where people live, breathe, eat and drink water. Pollution Probe is in general agreement with the directions and shifts called for in the Gibbons report relevant to source protection. The report says that watersheds are an appropriate basic organizing principle for place-based environmental management and concludes that there are a number of new and different structures and processes that are needed in order to actually practice watershed management and to protect our drinking water sources.

Recommendations

Pollution Probe calls for a focused approach to the development of a watershed source protection initiative in Ontario based on a framework that includes both regulatory and policy dimensions. Development and implementation of both regulatory and policy dimensions of the source protection initiative will require further dialogue with full involvement of local agencies and authorities. The Ontario government should:

1. Develop source water protection legislation that will be "top-down" directional and enabling in terms of requiring and enabling the development of standards and guidelines that would deal with specific aspects of source protection including groundwater protection, aquifer recharge protection and planning and development, in a "nested" or "overlapping" watershed approach.

2. Put in place a source protection fund that could be used in a "bottom-up" way that would assist local participation in source protection planning, goal setting, mapping, modelling, assessment, implementation, monitoring and reporting, watershed and sub-watershed studies and protection initiatives.

3. Put in place a comprehensive "bottom-up" web-based, demand-driven data management and information system that will inform citizens and officials on watershed status, serve as a focus for reporting on surface and groundwater quality, where watersheds are being stressed or jeopardized, and whether remediation or protection activities are being successful. Such a system should be part of broader provincial data management and public reporting system that will also include a complete complement of environmental information on a

watershed or community basis, including ambient air and water quality, treated drinking water quality, how they compare with standards or guidelines, as well as data on emissions and transfers from facilities, as collected and reported in other publicly available databases including the National Pollutant Release Inventory (NPRI).

References

Pollution Probe. 1999. *The Water We Drink.* A Report on Pollution Probe's Conference " The Water We Drink: Examining the Quality of Ontario's Drinking Water", November 16-17, 1998.

Pollution Probe. 2001. *The Management and Financing of Drinking Water Systems: Sustainable Asset Management*. Prepared for the Walkerton Inquiry, April 2001.

Executive Resource Group. 2001. *Managing the Environment: A Review of Best Practices*". Prepared for the Ontario Ministry of the Environment. January 2001.

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