

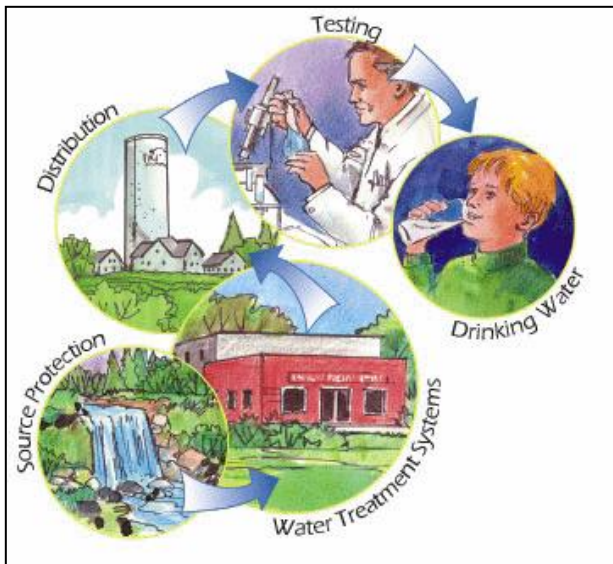
An Introduction to Source Water Protection Governance

Briefing Note #1

April 2009

This is the first in a series of briefing notes prepared under the Canadian Water Network project *Governance for Source Water Protection in Canada*. In this note we draw attention to the importance of governance.

Source water is raw water from streams, lakes or aquifers that supplies drinking water systems. Protecting the quality and quantity of source waters is a critical first step in a multi-barrier approach to achieving safe drinking water systems.



When combined with appropriate water treatment technologies, regular maintenance of distribution systems, systematic testing and careful training for practitioners, source water protection (SWP) can be a highly effective strategy for protecting human health. In addition, SWP can also be a platform for accomplishing complementary goals, such as building local capacity to solve water problems or promoting a watershed approach to environmental management.

SWP can be implemented in various ways to address a wide range of human and natural threats to the quality and quantity of drinking water sources. Most of these are tried-and-true water management, stewardship and planning techniques – and virtually all of them are much less costly than

cleaning up contaminated water bodies. Even when the focus is primarily on protection of human health, SWP can have wider benefits such as healthier aquatic ecosystems and reduced water treatment costs.

Many threats to the quality and quantity of drinking water sources are local in nature. Therefore, most countries around the world realize that municipalities, local water management agencies, land owners and other local actors must be involved. While SWP can be organized based on political boundaries, such as municipal city limits, watersheds often are considered an appropriate unit for bringing together different stakeholders because they can promote an integrated approach to environmental management. Importantly, using watersheds as units for planning efforts requires that many municipalities, private businesses, land owners and others join together to engage in collaborative planning. This is neither simple nor straightforward.

Typical SWP Activities

- Identification of threats to source waters
- Zoning by-laws and local plan policies
- Identification of permitted activities within vulnerable areas
- Livestock fencing (and other cost-sharing projects with farmers)
- Land acquisition
- Capping abandoned wells
- SWP education and awareness programs
- Septic system stewardship programs
- Wetland preservation or rehabilitation

Two guiding principles for SWP planning processes are *integration* and *collaboration*. Because of the diverse array of actors who are affected by SWP decisions, it is necessary that decision-making processes (especially planning) be as inclusive and representative as possible. Collaboration is one of the many forms of governance that can be used in the implementation of SWP. The purpose, benefits and limitations of collaborative approaches to water governance will be discussed in a future brief.

“Governance” is a word that entered the language of water management relatively recently. In simplest terms, it refers to the ways in which societies make decisions that affect water. Thus, it is concerned with how decisions are made, who is involved in making those decisions, and how we decide who is involved. Historically in Canada, water governance primarily involved government agencies, which used top-down approaches. Contemporary water governance in Canada is very different. While there has not been any change in the constitutional powers held by the provincial/territorial governments and the federal government, there is a very strong emphasis on the creation of partnerships, multi-stakeholder councils and other forms of distributed governance. The distribution of responsibility among government and non-government actors at different scales can contribute to more responsive and adaptive decision-making. It also can increase the diversity of knowledge and values that are considered and create opportunities for innovation.

Although these approaches can provide a greater sense of legitimacy and have strong democratic appeal, they also can be very complicated. Considerable negotiation is needed around how *power and authority will be shared*, and the capacity and resolve of a much larger range of

players is an important concern. Establishing an appropriate *balance of regulatory and non-regulatory measures* with respect to planning procedures or enforcement protocols can also be difficult; both over-regulation and poor accountability can be problematic. A further governance challenge is the *integration of the SWP mandate into already numerous and complex water management arrangements*. It is critical to aspire toward integration so that fragmentation and overlap can be avoided, but linking SWP with existing water allocation, land-use or waste management arrangements can be highly complex. Dealing with persistent governance challenges such as these can be costly, frustrating and detrimental to the achievement of environmental outcomes such as the timely and consistent protection of source waters. Finding ways to achieve functional and productive governance for SWP is essential.

Three Critical Governance Challenges:

- Sharing power and authority among diverse government and non-government actors
- Balancing regulatory and non-regulatory measures
- Integrating new mandates into already complex institutional environments

Different approaches are developing throughout Canada. For instance, New Brunswick has implemented a designation order to control land-use and water-use in certain protected watersheds. In Saskatchewan, source protection plans have been developed for six watersheds and one priority aquifer area within the province under the guidance of the Saskatchewan Watershed Authority. In Ontario, Source Protection Committees (SPCs), working under the authority of the Source Protection Authorities (SPAs), are in the early stages of developing source protection plans. As the SPCs move into the Assessment Report phase, many lessons will be learned. The first attempt at any new system requires assessment, feedback and adaptation. This will require the willingness on the part of the province to listen to the SPAs and to discuss ways to make the process more effective,

manageable and successful.

Many technical challenges to SWP also exist, including the development of effective wastewater treatment technology and the creation of efficient water infrastructure. More complete understandings of physical and chemical systems, such as hydrogeology and pathogen transport, are important. However, it is absolutely critical to recognize and address the governance challenges that arise in SWP. Our sources of drinking water are greatly impacted by the choices that are made in decision-making processes. Balancing the values, interests and needs of society with respect to the protection of source water is both a science and an art.

Useful Resources

Ontario Ministry of the Environment

- Watershed-Based Source Protection Planning
- Water Publications

<http://www.ene.gov.on.ca/envision/water/spp.htm>

<http://www.ene.gov.on.ca/en/publications/water/index.php>

Lake Erie Source Protection Region

<http://www.sourcewater.ca/>

The Waterhole

<http://www.thewaterhole.ca/>

US Environmental Protection Agency

<http://cfpub.epa.gov/safewater/sourcewater/index.cfm>

POLIS Project

<http://www.polisproject.org/researchareas/watersustainability>

Saskatchewan Watershed Authority

<http://www.swa.ca/>

New Brunswick Watershed Protection Program

<http://www.gnb.ca/0009/0371/0004/0001-e.asp>