What we heard

A public feedback report

Towards a water resource management strategy for Nova Scotia

WATER *for* LIFE

NOVA SCOTIA
Environment

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Message from the Minister

The natural beauty of Nova Scotia's environment is a pivotal part of the quality of life enjoyed by Nova Scotians and admired by visitors to our province. We all play a role in protecting it. Our lakes, rivers, streams, wetlands, watersheds, and aquifers are vital water resources. They contribute to a strong environment which is important for human health, recreation, research, tourism, and economic prosperity. It is essential that we properly plan to protect and use our water resources in a strategic way, now and in the future.

I would like to thank all individuals, organizations, and governmental groups who contributed comments and suggestions for water resource management in Nova Scotia. Through public consultation workshops held across the province, and via comments submitted in other ways, we have heard what Nova Scotians have had to say. We will take these collected comments, summarized in this report, and work diligently to address them as best we can through the development of a water resource management strategy for the province. To all who contributed, your input is sincerely appreciated. The mandate of Nova Scotia's *Environmental Goals and Sustainable Prosperity Act* is to make Nova Scotia one of the cleanest and most sustainable environments in the world by 2020. Thank you for helping our province move in that direction.

Mark Parent

Honourable Mark Parent
Minister of Environment for Nova Scotia

Photo: NSE

Annapolis Royal workshop sharing ideas and concerns about water management. This was one of 14 workshops held across the province.

The consultation process

From January 31 to June 1, 2008, Nova Scotians were invited to comment on the best ways to protect, preserve, and use the province's water resources. Through written feedback and in person nearly 400 members of the public shared their visions for water resource management in Nova Scotia.

The majority of the written feedback was in direct response to the discussion paper *Towards a Water Resources Management Strategy for Nova Scotia*. This paper outlined a number of water issues and was available online through the Nova Scotia Environment website and in hard copy at various locations throughout the province.

Included with the discussion paper was a questionnaire about how we can best manage our water resources. The public was encouraged to fill out the questionnaire and return it to Nova Scotia Environment. The department also received formal written feedback from various non-governmental organizations, associations, municipalities, and government agencies.

In the questionnaire respondents were asked to comment on their attitudes toward the safety of our drinking water and the reliability of sewage disposal. The questionnaire also asked what the respondents' biggest concerns are when it comes to water and for comments on how we can ensure that the needs of the economy today can be met without compromising our water resources in the future. Respondents were also asked for their opinions on where the funding to protect our water resources should come from and how it should be used as well as what they are willing to do to conserve and protect water.

In addition to the questionnaire, 14 public workshops were held throughout the province in April and May of 2008. Locations were selected on the basis of public accessibility and population base. Workshop participants discussed how our water resources are currently managed, the key issues and priorities, and a vision of success for water resource management. All of the workshops were facilitated by a third party.

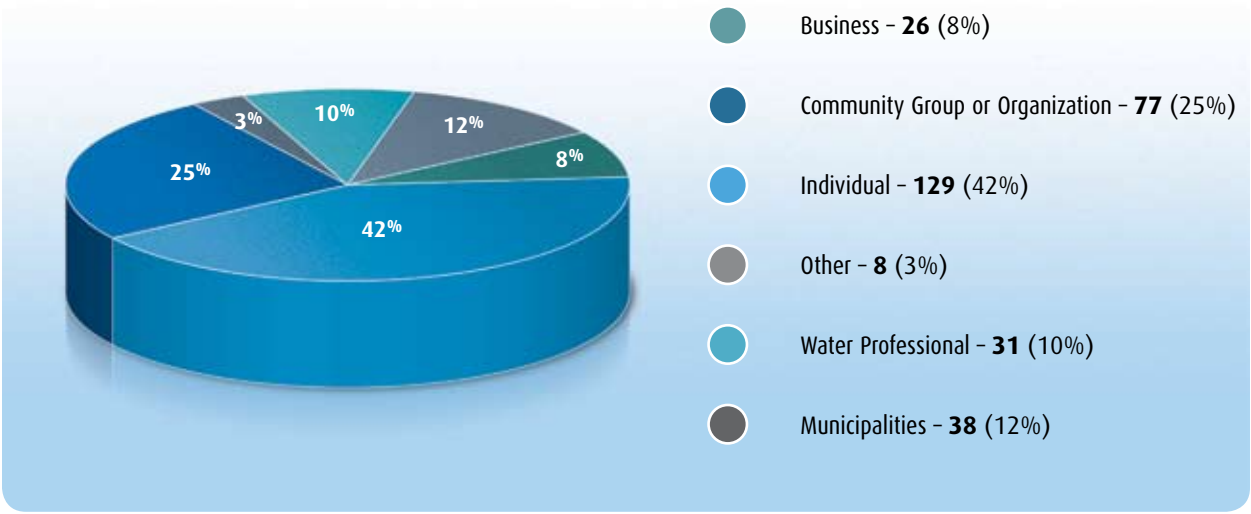
The responses received during the consultation are addressed in the following report. The information gathered will help us as we work toward developing a comprehensive water resource management strategy. Details on participation by municipalities, associations, and water professionals can be found in the report appendices, as can individual comments addressing each of the issues raised in the workshops and discussion paper.

The respondent profile

In order to understand the nature of the feedback received, respondents were asked to identify themselves from one of the following perspectives: individual, business, organization, or water professional. A large number of respondents and workshop participants were from municipalities, thereby creating another category.

People responding to the questionnaire were asked to identify which watershed they lived in. Of the more than 200 respondents, 128 did not know. Forty respondents were from the Sackville River watershed. A map of the primary watersheds in Nova Scotia can be found in Appendix 1 on page 17.

Feedback by Perspective



A public vision for water resource management

Workshop participants were asked what their preferred vision would be for water resource management in 2020. This vision, outlined below, will help us as we work toward a water resource management strategy.

Nova Scotians' vision for 2020:

- All Nova Scotians have access to a plentiful supply of safe, clean, affordable water for all uses. They also value water. The cost of it has been quantified and is understood, and water is appreciated intrinsically for the essential resource that it is.
- Nova Scotia has integrated water resource management and a long-term approach to management that considers the health of the entire ecosystem and balances competing interests. Land-use planning is based on watershed capacity.
- There is shared stewardship: Governments, communities, stakeholders, and the public all share responsibility for the protection and conservation of our water resources. Watershed-stewardship committees are in place. The public is well informed, and Nova Scotians know how best to protect and preserve our water resources.
- Nova Scotia has effective water resource governance. Decision making, policies, and programs are coordinated. Roles and responsibilities are clearly defined. Resources are in place to get the job done. Administrative burden is kept to a minimum. Regulations are in place and are well enforced.
- All Nova Scotians have adopted water conservation and protection measures and attitudes. Nova Scotia does not allow bulk export of its water resources. Innovative technologies are being used for water conservation at the household level. There are tight controls on sewage treatment. Best-practice approaches are employed. Ecosystems are healthy and diverse. Nova Scotians recognize that the health of the natural environment directly affects their own health. Lost wetlands have been reclaimed and restored, and water quality has improved.
- Nova Scotians know and understand how much water there is, where it is, and how it is being used. The capacity of the province's watersheds is understood. Information is easy to access, available in many forms, up-to-date, easy to understand, and widely communicated. Decisions are based on scientific evidence.

Why do we need a water resource management strategy?

In assessing why the province needs a water resource management strategy, respondents identified four key drivers: climate change, public health, security and emergency preparedness, and economic prosperity. Their opinions and recommendations on these key drivers are summarized below:

Climate change

Respondents told us that a successful water resource management strategy will prepare the province to handle the inevitable effects—some known and some unknown—of climate change. Contingency plans need to be in place in the event of extreme weather, and measures will be taken to ensure that the water supply is well protected.

Public health

Respondents would like to see a strategy addressing infrastructure concerns and strengthened regulations concerning drinking water, sewage treatment, and emergency preparedness. These measures would greatly reduce the risk to public health. We were also told that good education and information sharing will go a long way toward ensuring that the public understands what their role is when it comes to keeping the water supply safe.

Security and emergency preparedness

Respondents want to know that now and in the future they will have access to a secure and plentiful water supply for their needs, even in an emergency. They believe that a water resource management strategy that is properly implemented and enforced will ensure this.

Economic prosperity

Respondents told us that without a proper strategy in place the government cannot guarantee a safe water supply for all uses, putting everything from agriculture to recreation at economic risk. Respondents believe that Nova Scotia needs a water resource management strategy in place to protect and conserve our valuable water resources and to ensure a strong economy for generations to come.

What does the strategy need to address?

Nova Scotians want their government to lead—it is not enough to be just a regulator. The goal should be a strategy that is current and adaptable and easy to communicate to the public. Many respondents thought Nova Scotia Environment should be applauded for undertaking this important step.

The results of the public consultation pointed clearly to eight themes that need to be addressed by a water resource management strategy:

- management and responsibility
- human and financial resources
- the value of water
- education
- monitoring and information
- conservation
- land-use planning
- technology and tools

Ecosystem integrity runs through each and every one of the above themes. On numerous occasions we heard that we must ensure that the health of the ecosystem is our primary concern and that the needs of the economy do not compromise its integrity. We were also told that it is important to remember that water-, natural resources-, and coastal-management strategies cannot be addressed in isolation from each other.

Management and responsibility

What we heard

There is no water strategy in place at this time, and the current management system is reactive rather than proactive. The roles and responsibilities of federal, provincial, and municipal governments are confusing. Since watersheds are not confined to municipal boundaries, many are not managed holistically. There have been some good first steps made, such as the Drinking Water Strategy. Let's continue to build on those.

Federal, provincial, and municipal responsibility

Public feedback suggested that there is not enough inter-departmental and inter-municipal co-operation. Coordination must be improved across all sectors, with roles and responsibilities clearly identified. Many respondents expect the government to take the lead in implementing the water strategy and to be proactive in working with the municipalities and the federal government. Others want it to urge the federal government to implement a national strategy.

Some municipalities would like the government to designate water resource management zones and to resolve freshwater-dam-ownership issues. Clear distinctions should be made between rural and urban issues. One municipality called for greater control in rural areas where land-use planning does not exist. Municipalities also expect to be given an opportunity to provide feedback and input on any proposed municipal involvement before the strategy reaches the policy phase. They stated that they should not have to shoulder any of the infrastructure costs arising from a new strategy.

The privatization of water services should not be allowed.

Enforcement and regulation

It was the perception of many respondents that the current regulations are lax and are not being properly or consistently enforced. Workshop participants expressed concern that it appears that people who abuse the guidelines and break the rules are not always subject to penalty. Some participants admitted that they felt it would be easier to simply go ahead with their desired actions rather than navigate the rules and regulations. There was a general feeling among workshop participants that it is difficult to know what applies to their activity and when/who to ask for assistance. Respondents would like to see more inspectors on the ground, better communication of what the rules are, and enforcement that is more than just complaint-driven.

Feedback also indicated that water protection must be made a priority and that effective regulations must be set, implemented, and strictly enforced. There was particular concern about the need to regulate and enforce industrial and commercial uses of water. Many respondents would like to see a clear distinction made between guidelines and regulations. Others told us that the government should monitor and regulate the water used for agricultural purposes, restrict wasteful activities such as watering lawns and hosing down driveways, and review and enhance current water-protection strategies. More specifically, workshop participants would like to see improved regulations concerning such things as pesticide use, boating activities, groundwater recharge, clear-cutting, agricultural practices, riparian buffers (beyond forestry), and education.

When it comes to sewage disposal and drinking water, many respondents trust that everything is being properly taken care of by strict regulations. It is assumed that the proper controls are in place. At the same time, many of those using private wells are concerned that because there is no inspection system in place, there is no way of knowing whether everything is working as it should. However, many respondents commended the government for its improvements to sewage treatment, such as the opening of the treatment plant in Halifax.

Watershed management

Respondents see a current lack of planning and policy based on watershed issues and suggested that the government take a more holistic approach to development. The approach should also consider the impact on watersheds. Many respondents called for water resources to be managed at the watershed level, rather than at the municipal, provincial, or federal level. As one participant put it, a province-wide rule does not necessarily work for every watershed. Another participant suggested creating revenue-generating activities within watersheds to help offset management costs.

Protection

Municipalities would like to see the provincial government take an aggressive approach to water protection, apply stringent controls on things such as agricultural runoff, and make all water-related guidelines mandatory. The provincial *Environment Act* is a good starting point, but we must continue to advance the goals that it outlines.

The role of the community

Everyone needs to do their part to preserve and protect water resources. Respondents urged the government to support groups within the community who wish to participate in water management. Some suggested that the government should share responsibility and build partnerships by linking government efforts with community-based efforts. Some would like community groups and businesses to be given the power to be the guardians of protected areas. Others suggested that we find a champion agency and allow it to take the lead.

Public-workshop participants, in particular, pointed to the work that is currently being done by community groups, urging the government to consider working with these groups when implementing the strategy.

Human and financial resources

What we heard

There is neither the staff nor the money in place to properly manage our water resources. Expectations far exceed available resources.

Respondents cited too little on-the-ground expertise and a tendency to roll out initiatives without proper financial or personnel support in place as specific concerns. Suggestions included investing in qualified professionals (such as conservation and protection officers), expanding the Nova Scotia Environmental Home Assessment Program, and providing training for equipment operators and developers on best practices. Money must be invested in improving and building the necessary infrastructure.

Municipalities expect proper funding for what they are mandated to do. They do not want the government to download responsibility before ensuring that those who are tasked with managing water resources are fully equipped to do so.

When asked what is currently working well in water resource management, workshop participants pointed to a growing network of community-stewardship and advisory groups. Public engagement seems to be on the rise, with increasing recognition of the emerging issues and young people becoming more environmentally aware. Participants expect this trend to continue. The government would be wise to tap into and invest in these local resources.

Photo: NSE

Antigonish workshop sharing ideas and concerns about water management. This was one of 14 workshops held across the province.

The value of water

What it costs

What we heard

Water costs too much. Water costs too little. Industry is not paying enough.

Quality and quantity

Respondents expressed concern that the government has a history of making short-term economic decisions that damage our ability to ensure that we have an abundant water supply for the future. Many suggested that the strategy needs to provide incentives for conservation, such as retrofit grants, and should promote and fund consumption-reduction activities. Others suggested that the government should not only require industry to reduce its water consumption, but also improve the condition of the watersheds where they operate through restoration work. The water revenue could go toward funding protection activities.

Pricing

While some respondents believe that water is too expensive—and that everyone should have access to water within their means—the majority believe that water is not expensive enough and that pricing it too low encourages waste. Suggestions for pricing include:

- **creating a fee structure based on the quantity of water used**
- **charging a base rate for a set volume above which water is subject to a higher rate**
- **applying a water tax to energy producers and introducing cash penalties for abusers and polluters**
- **rewarding those who make efforts to reduce water consumption with lower fees**
- **charging for well licences**
- **levying development charges for all new lots**
- **charging more for and enforcing stricter regulations on bulk users**

The municipalities favour adopting incentive-based programs and enticing people to conserve through tax credits or rebates. They would also like to see mandatory metering across the province and pricing that truly reflects the cost of water. An additional concern is that a reduction in water consumption will leave municipalities with fewer funds available to maintain and improve current water infrastructure and service delivery.

Export

When it comes to export, many respondents expressed concern about shipping water out of the province. Most would like to see an outright ban on bulk exports. We were also told to put a stop to extraction of water for bottling until there is better monitoring in place and to prohibit the commercial sale of our water resources.

The intrinsic value

What we heard

Water is not valued as a natural resource.

Respondents see a lack of accountability and concern when it comes to the value we place on water. For many, this is tied directly to the lack of knowledge about our water resources. Respondents believe that when armed with knowledge we are better equipped to re-evaluate our needs, to take responsibility for the impact our actions have, and to value water as the essential resource that it is. Some respondents believe that water should be treated as a privilege, not a right. Others disagree, citing that water is a basic human right without which we cannot survive.

Education

What we heard

Though awareness is certainly on the rise and on the whole there seems to be a better understanding of global water issues now than in the past, Nova Scotians simply do not value water because they do not know enough about it.

Overwhelmingly, respondents were very clear about the need to know more and are asking the government to do the following to ensure that the members of the next generation are water stewards:

- **invest in education**
- **provide community-based education**
- **get the public involved in sharing information**
- **communicate that information widely so that people understand what impact their actions have and how to change their behaviour**
- **teach developers, planners, and equipment operators the best land-use practices and the value of wetlands**
- **build a strong ecology component into the grade-school curriculum**
- **assist community-based groups to increase public awareness about water protection and conservation**

In turn, respondents are willing to do the following:

- **learn more about what can be done on an individual basis**
- **educate friends and neighbours**
- **be trained and train others**
- **participate in community projects**
- **be an advocate for conservation**
- **provide community outreach**
- **become involved in water resource assessment and monitoring**

Monitoring and information

What we heard

Little is known about how much water the province actually has, and even less is known about the status of the resource. Without this information how can we know what to focus on when implementing a water resource strategy?

Feedback suggests that there is an information gap when it comes to water resource management in Nova Scotia. This lack of access to monitoring information is particularly evident when it comes to sewage disposal. Respondents shared concerns that sewage treatment plants are inefficient and/or inadequate, septic systems are not adequately maintained and that collection and treatment systems are unable to handle large storm events resulting in overflows and overloading.

Respondents were also concerned about the level of chemical application in agriculture, roadwork, and industrial development as well as the acidification and eutrophication of our lakes. There is a perceived lack of both proper assessment and sufficient monitoring of water resources. The information that is available is thought to be missing detail or untrue. We were told that buffer zones are not only inadequate, they are inadequately enforced. One respondent suggested that there are barriers to rural well water safety, including a lack of awareness that regular well testing is needed. Others told us that they felt the environmental assessment process is not working well for managing water quality.

Various respondents urged Nova Scotia Environment to to update its research practices and undertake a full inventory and thorough analysis of the province's water resources. More specifically, respondents would like the department to provide quantitative information on the interaction between surface water and groundwater and to introduce legislation that requires developers to submit hydro-technical studies. Additionally, we heard that the government should:

- **invest in comprehensive and ongoing assessment of on-site septic systems**
- **establish baseline data on current water use and make the results easy to access and understand**
- **ensure that experts have access to the latest technology, practices, and information**

Municipalities would also like to see an expanded monitoring network and a central database made available to anyone, for any and all data collected. Contributions from stakeholders should be encouraged.

When asked what is currently working well, the workshop participants pointed to the ease of having water tested, the Environmental Home Assessment Program, and the monitoring of local water resources as undertaken by community groups and some municipalities. A few participants also noted that government inspectors seem well informed and are making an effort to supply information on such things as septic tanks and private-well upkeep.

Conservation

What we heard

Nova Scotians do not value water; therefore, they waste it. Citizens would like access to a safe and plentiful supply of water, now and in the future, and for that to happen their habits must change. This is tied directly to the value of water: Proper pricing will encourage conservation.

Quality and quantity

Overall, respondents believe that all Nova Scotians should have access to a safe and plentiful supply of water for all purposes, including recreation. Keeping waterways clean and healthy to enable ecosystems to function properly should be a top priority. Respondents are concerned about the siltation of waterways; the filling in of marshlands; the deliberate manipulation of water bodies, watercourses, and wetlands; and the lack of restrictions on wasteful activities such as lawn watering and the number of taps in public spaces without automatic turnoffs. In Cape Breton, specifically, residents expressed a worry about further pumping of water from well fields.

Respondents are concerned that we are wasting our water resources, that the industry is using too much water, and that their children will not have enough water in the future. Many would like to see industry standards for water consumption set and enforced. Bulk users should be regulated. Water resources should not be just maintained, they should be improved. The use of grey water should be allowed.

Respondents are willing to reuse and recycle water in their home where possible, to ensure that systems are running as efficiently as possible, and to retrofit plumbing where recommended. Currently, many people limit their showers; water their gardens with rainwater; and use front-loading washers, low-flush toilets, and low-flow shower heads. Drinking bottled water is widely seen to be frivolous—something that should be neither necessary nor common. Bottling water for sale should be strictly regulated, if not banned altogether. Most pointed to the implementation of the *Drinking Water Strategy* as what is working best in current water resource management.

Contamination is also at the top of the list of concerns when it comes to water quality and quantity. There is a call to put an end to mining practices that pollute our water bodies. Some respondents are concerned that our lakes are not safe to swim in. Others are concerned that there is no protection for those in Halifax with lead supply lines as well as no protection against back flow.

Protection measures

When it comes to water-protection measures, concerns raised include:

- **too much salt on the roads**
- **a lack of greenbelts**
- **ATVs driving through watercourses**
- **a lack of protection along riparian zones**
- **deforestation and inadequate buffer zones**

- **uncontrolled development**
- **urban areas not making use of previously used paving materials**
- **the high toxic load on the land**
- **chemical spraying in forests**
- **pollution from recreational activities**
- **agricultural runoff and the destruction of habitats**

We also heard that there are no standards across the province for protecting the water supply and that we are under-prepared in the event of an emergency. Respondents would like to see the government be proactive in its approach to protection by investing in infrastructure, improving road maintenance to reduce silt and sediment pollution, and protecting areas that naturally buffer watersheds from urban developments and agricultural operations. They would also like wetlands to be restored (the efforts of Ducks Unlimited in wetland restoration were widely praised) and a tougher stance on polluters. Municipalities suggested a multi-barrier approach to protection.

Public workshop participants cited the implementation of sedimentation- and erosion-protection guidelines, as well as the attempts being made at setting buffer zones in forestry practices, as moves in the right direction. The designations of protected water areas, reforestation efforts, and source-water-protection plans were also on the list of recent improvements to water resource management in the province.

Export

Feedback suggests that the government should end the mass extraction of water for bottling and export by private companies.

Land-use planning

What we heard

There is no land-use planning. Development is out of control.

Federal, provincial, and municipal responsibility

Respondents would like to see land-use-planning standards set across the province. Some suggested that every municipality should be provided with guidelines to identify growth potential. Others would like municipalities to have the authority to restrict or prohibit development that does not comply with planned growth areas and environmental-protection requirements.

Protection

Many respondents called for a strategy that incorporates the best land-use-planning practices, with proper controls placed on development in fragile areas. Buffer zones should be required and development allowed to proceed only once the capacity of the watershed has been confirmed. There needs to be more control on

development in flood plains. Some suggested that the government should work with developers to help them incorporate wetlands as assets and to encourage the responsible development of water-supply infrastructure. All building codes need to include water-efficiency standards for plumbing features.

With regard to drinking water, there is some concern that upstream or neighbouring development has put the supply at risk. Whether this risk is real or not, some residents using drilled or dug wells are no longer sure that their present systems are adequate and so rely on bottled water. Many would like to see increased protection of areas that naturally buffer watersheds from urban development and agricultural operations; others would like development along lakes and watercourses stopped altogether.

Municipalities would like legislation that requires developers to submit hydro-technical studies.

Technology and tools

What we heard

We need to be innovative and forward-thinking. We need to invest in new tools and technology for water conservation.

A great number of respondents called on the government to make use of innovative technologies—for example, building living roofs or a network of vegetative surfaces in urban areas to minimize stormwater runoff or using streams for small-scale hydroelectric projects. One workshop participant pointed to the potential advantage of allowing domestic-sized micro-hydro power systems for people living in rural areas.

Most respondents expressed a willingness to invest in water-conservation technology for the home. There was some frustration that the government has not yet banned the commercial sale of outdated and wasteful equipment, such as 13-litre toilets.

Many respondents would like the strategy to legislate modern irrigation technology and to mandate the use of conservation technologies in all new construction. Feedback also suggested that the government should make investments to help ensure that water experts have access to the latest technology, practices, and information.

What happens next?

The information we received through this public-consultation process will go toward developing a draft water resource management strategy for Nova Scotia. The existing policy related to water management will be reviewed, along with the comments and concerns from respondents. In late 2009 the draft strategy will go through another consultation process to confirm the direction proposed. At this time, strategy development continues to be guided by the inter-departmental water-management committee, a committee led by Nova Scotia Environment, with participation from an additional 12 government departments.

For more information, please contact Nova Scotia Environment through one of the following ways: www.gov.ns.ca/nse/water

Mail

c/o Water Strategy Coordinator

Water and Wastewater Branch

Nova Scotia Environment

P.O. Box 442

5151 Terminal Road, 5th Floor

Halifax, NS B3J 2P8

Telephone

For more information or to request additional copies, please call:

Toll free: **1.877.9ENVIRO (936.8476)**

This number will direct you to the nearest local office.

Email

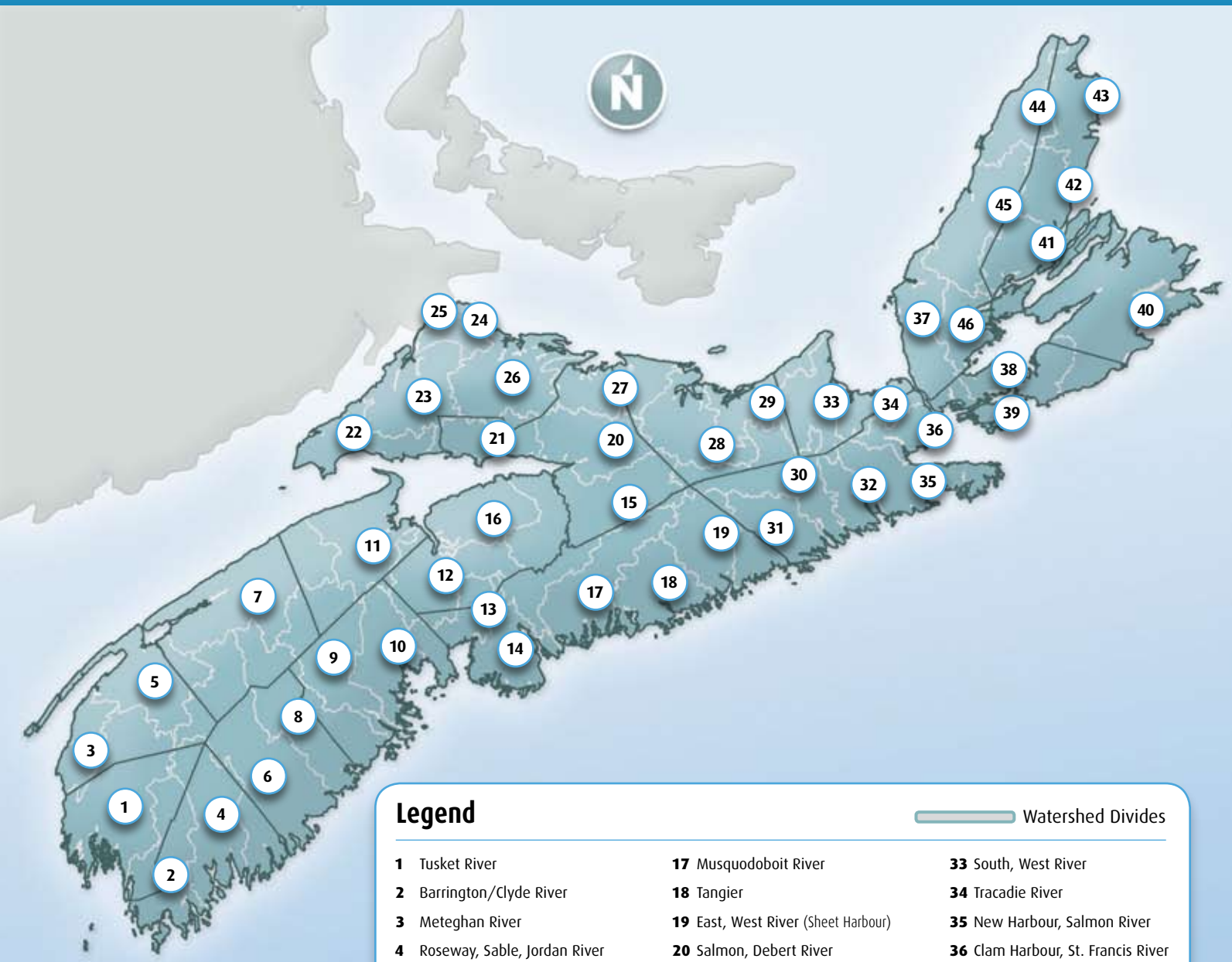
waterstrategy@gov.ns.ca

Fax

c/o Water Strategy Coordinator

902.424.0503

Appendix 1: **Primary Watersheds of Nova Scotia**



Legend

Watershed Divides

1 Tusket River
2 Barrington/Clyde River
3 Meteghan River
4 Roseway, Sable, Jordan River
5 Sissiboo, Bear River
6 Mersey River
7 Annapolis River
8 Herring Cove, Medway River
9 Lahave River
10 Gold River
11 Gaspereau River
12 St. Croix River
13 East, Indian River
14 Sackville River
15 Shubenacadie, Stewiacke River
16 Kennetcook River
17 Musquodoboit River
18 Tangier
19 East, West River (Sheet Harbour)
20 Salmon, Debert River
21 Economy River
22 Parrsboro River
23 Kelly, Maccan, Herbert River
24 Tidnish, Shinimicas River
25 Missaguash River
26 Philip, Wallace River
27 River John
28 East, Middle, West River (Pictou)
29 French River
30 St. Mary's River
31 Liscomb River
32 Country Harbour River
33 South, West River
34 Tracadie River
35 New Harbour, Salmon River
36 Clam Harbour, St. Francis River
37 River Inhabitants
38 Grand River
39 Isle Madame
40 Salmon, Mira River
41 North, Baddeck, Middle River
42 Indian River
43 Wreck Cove
44 Cheticamp River
45 Margaree River
46 River Denys, Big River

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Appendix 2: **Public workshops**

The following is a list of public workshops held throughout Nova Scotia in April and May of 2008:

Oxford

Tuesday April 1

Lion's Hall, 4627 Upper Main Street

Truro

Wednesday April 2

Best Western Glengarry, 50 Willow St.

Bridgewater

Thursday April 3

Wandlyn Inn, 50 North St.

Yarmouth

Tuesday April 15

Fire Hall, 221 Pleasant Street

Annapolis Royal

Wednesday April 16

Fire Hall, 5 Saint Anthony Street

Kentville

Thursday April 17

Fire Hall, 416 Main Street

Stellarton

Monday April 28

Museum of Industry, 147 North Ford Street

Antigonish

Tuesday April 29

Keating Millennium Centre, StFX Campus

Mabou

Wednesday April 30

Mabou Community Hall

Sydney

Thursday May 1

Delta Sydney, 300 Esplanade

Sheet Harbour

Monday May 12

Royal Canadian Legion, 23566 Hwy. #7

Lower Sackville

Tuesday May 13

Royal Canadian Legion, 45 Sackville Cross Road

Cole Harbour

Wednesday May 14

Cole Harbour Place, 51 Forest Hills Parkway

Halifax

Thursday May 15

St. Agnes Church, 5903 Mumford Road

Appendix 3: **Organizations that made formal submission to NSE**

Atlantic Salmon Conservation Organization

Aylesford and Loon Lake Property Owners Association

Cape Breton Regional Municipality Water Utility

Citizen Action to Protect the Environment

Clean Annapolis River Project

CUPE Atlantic Regional Office

Eastern Shore-Musquodoboit Community Health Board

Ecology Action Centre

Ikanawtiket

Kings County, Engineering & Public Works

Lake Cady Watershed

Lunenburg County Community Health Board

Mining Association of Nova Scotia

Municipality of the County of Colchester

Municipality of the District of Lunenburg

Municipality of East Hants

Nova Scotia Environmental Network

Nova Scotia Federation of Agriculture

Nova Scotia Ground Water Association

Nova Scotia Home Builders Association

Nova Scotia Power Incorporated

Nova Scotia Salmon Association Adopt-A-Stream

Pitu'paq Partnership Society

Queens County Fish & Game Association

R.H. Loucks Oceanology Ltd.

Sackville Rivers Association

Soil & Water Conservation Society of Metro Halifax

The South Shore Chapter of the Council of Canadians

South Shore Naturalists Club

Southwest Paddlers Association

Town of Amherst

Town of New Glasgow

Tusket River Environmental Protection Association

Union of Nova Scotia Municipalities

Appendix 4: **Selection of Feedback from municipalities, associations, and water professionals**

What the municipalities told us

Union of Nova Scotia Municipalities (UNSM)

The UNSM stated that the municipalities should be full participants in the strategy development throughout the entire process, as municipalities are the front line of communities and not just key stakeholders. It outlined the following as key issues that the strategy needs to address:

- Human resources capacity: Are there enough trained people to achieve standards? Does the training exist to ensure that staff have the right requirements?
- Water rates: The UNSM believes that the municipalities should have more control over how water rates are set. The Utility and Review Board can be costly and presents a management challenge due to inflexibility when it comes to addressing emergent issues.
- Water monitoring: How is monitoring information being used and acted upon? Municipalities would like to receive feedback from the government on reports made.
- Maintenance of rural-water infrastructure: The UNSM would like to see more support for municipalities in assisting landowners with system maintenance.
- Management approaches: The municipalities are interested in a move to a demand-side management approach rather than supply management. The government needs to support regional co-operation.
- Public engagement and education: Opportunities for education programs that recognize individual responsibility should be identified. The Environmental Home Assessment Program is successful because the educator is not an inspector.

Municipality of the County of Colchester

The management of water resources on a watershed basis requires an integrated approach and a champion. Colchester County asked what new requirements will be placed on local government and at what cost. It suggested that businesses extracting water in bulk should pay a royalty and pointed out that while education and promotion are important, we cannot talk conservation while continuing to offer inefficient equipment in the marketplace.

Municipality of the District of Lunenburg

The Municipality of the District of Lunenburg recommended exploring the benefits of on-site sewer systems versus central sewer systems in rural areas and suggested that the government needs to provide financial incentives to encourage property owners to install functioning septic systems. It would like to see a surcharge on water export, the funds from which could be used to fund protection efforts. It is imperative that adequate resources be made available for implementation, that the responsibility is clearly defined, and that new regulations be enforced by the government, because municipalities simply do not have the resources. The lack of resources has impacted the municipality's ability to adequately protect its three water-supply watersheds.

Municipality of East Hants

Municipalities must develop planning strategies that designate important water resource management zones that would include wetlands and shorelines. The *Building Code Act* should be strengthened to ensure that new home construction uses water-conservation technology. Permit fees or taxes should be increased for those not making use of conservation practices. The use of rainwater cisterns should be encouraged.

The municipality also recommended that the government consider implementing an auditing system and require that businesses using water for operations become water-quality managers. Good mapping and data would allow for a proactive approach to water protection. It is important that municipalities educate residents, lead by example, and embrace strategies and recommendations under the *Environmental Goals and Sustainable Prosperity Act*.

There were also specific Avon Peninsula concerns about mining activity and the possible expansion of Fundy Gypsum's activities, with an expressed fear of the potential damage to wells during blasting.

Cape Breton Regional Municipality Water Utility (CBRM)

The CBRM would like to see greater public consultation and education, the elimination of overlapping policies, and the preservation of wetlands. It calls for the government to not download responsibility. Land-use planning must address the issues of development along/near watercourses.

Kings County, Engineering & Public Works

Kings County would like to see more focus on protection, enforcement, planning regulations, and conservation. There should be no export of water resources allowed. We need to map and identify areas where groundwater is poor, conduct a regional evaluation of groundwater aquifers at a provincial level and ensure adequate water quality and quantity before issuing building permits. Natural functions should be integrated into development planning and risk assessments conducted for vulnerable areas. All water uses should be metered. Money should come from developers, the government, businesses, enforcement fines, individuals, and revenue from utilities and be distributed by the municipalities. The government needs to be proactive and invest in new technologies.

Municipality of East Hants, Engineering Department

(It should be noted that these comments reflect the thoughts of the Engineering Department.)

Currently, developers are not required to assess the availability of groundwater. The government should allow municipalities to require them to conduct hydrogeological studies. Property owners should be better informed about water issues in their area and about the rebates offered to those who conserve. All water uses should be metered, with large users requiring water-withdrawal approval. Money should be put back into watershed-management programs. The fees collected should remain in the watershed from which they came and be used to employ watershed managers or stewards.

Water-quantity data is essential to good management. The government needs to monitor hydrometric stations to better document and log the total volume withdrawn from any water supply. All watersheds should be protected and monitored by the government. Managers could work with municipalities, landowners, and the industry to eliminate cross-governmental jurisdictional issues. We need a more holistic approach to development.

Town of Amherst

Full water-source protection strategies should be put in place. In order to do that, conflicts with landowners and neighbouring municipalities need to be resolved. At the very least, the water utility should own the inner zone of protection (such as the containing reservoir and deep wells). The *Nova Scotia Municipal Government Act* needs to be updated and enhanced to assist water utilities. The government must also help utilities deal with resistance from neighbouring municipalities when a watershed/groundwater source is in an adjacent municipality and to find ways to deal with stubborn landowners.

Town of New Glasgow, Town Engineer

Within the Forbes Lake watershed there is concern about the extent to which activity-based control will be adequate to manage this important watershed. The Town of New Glasgow urges the government to allow greater control in rural areas where land-use planning does not exist so that utilities can place higher controls on potable watershed areas. The utility currently employs a multi-barrier approach to protection and recommends that it be adopted across the province.

There is concern about the overall quantity and quality of water, and the town suggests that restrictions be placed on forestry activity as well as controls on agricultural runoff and on-site sewage systems. It would also like to see the promotion of water-conservation techniques and the mandatory use of water metering and leak detection.

What the associations told us

Nova Scotia Ground Water Association

Currently, there are no regulations in place to control the use or application of ground source energy systems, the demand for which is on the increase. These are necessary to protect aquifers and to ensure the equitable sharing of resources. In the absence of regulation the growth in demand and the number of suppliers could result in a significant amount of damage to our groundwater resources. We must gather the scientific data needed to properly assess the issues and to help improve overall designs and efficiencies.

Ikanawtiket Maritime Aboriginal Peoples Council

Ikanawtiket identified five desired areas of focus: regulations that are too broad based, outdated, and confusing; an inventory of water resources; strategic environmental assessments for individual watersheds; public education; and future planning. The strategy cannot be a static document.

It was also suggested that the *Environment Act* needs to be strengthened. The government should implement stricter water-use regulations, and the onus should be on the developer to prove that projects will not strain surrounding water resources. We need more knowledgeable compliance officers, technicians, and officials; continued public education; and strategic education programs that focus on wetlands for landowners. The government should help in the creation of community watershed groups, help municipalities meet environmental standards, and strengthen land trust programs. More land should be formally protected.

In the event of an emergency Nova Scotia needs to have an updated, publicly available response plan. There needs to be more information about the benefits of using water wisely, more data on well-water supplies, and clear regulations on export. Money should come from tax and usage charges and be spent on strengthening and enforcing regulations, restoration, education, and emergency response plans.

Nova Scotia Environmental Network (NSEN)

The NSEN would like to see a focus on conservation and pollution prevention and the creation of a watershed-management board. There should be a distinction made between urban and rural issues. Ecological integrity must be assessed through monitoring programs. The strategy should outline clear timelines and frameworks and clarify roles and responsibilities by identifying overlap, conflicts, and gaps.

The NSEN would like the government to

- maximize protection through land-use planning and implement specific land-use guidelines
- communicate effectively and educate land-use planners
- establish buffer zones of a minimum of six metres (20 feet) and ensure increased resources for management in all sectors as well as information collection
- make use of local community groups and increase education for all local-level decision makers and stakeholders
- reduce vulnerability to emergencies and take a look at international best practices

Pitu'paq Partnership Society

The Pitu'paq Partnership Society was primarily concerned with water inventory and protection, especially in those sensitive areas where fresh water meets salt water. The government should tap into traditional Mi'kmaw knowledge and legends when teaching about managing water resources.

The society would like to see stronger policies on protection, including legislation concerning wetland protection, and a full inventory of what water resources we have. Treaty rights need to be built into the legislative process. The society is willing to sacrifice development to protect water sources, to comply with regulations, and to assist in engaging the public in the consultation process. The cost of implementing the strategy should be shared across all levels of government.

Citizen Action to Protect the Environment, Hants County

The government needs to be proactive and find a way to protect watersheds. We should direct more silviculture incentives toward selection harvesting and uneven-aged forest management. We must also limit exposure to chemical contaminants and ensure that we're not allowing mining effluent into our waterways.

Ecology Action Centre (EAC)

The EAC asked the government to show leadership and take action on existing programs and regulations. Nova Scotia needs to prepare for climate change and assess its ecosystem integrity, not just water quality. The EAC also recommended managing resources by watershed, incorporating land-use-planning best practices into policies and regulations and developing a self-contained provincial wetlands policy. Government efforts should be linked with community-based efforts, and monitoring protocols should be developed and linked with community involvement. More research is needed to close knowledge gaps. Finally, the strategy should set and enforce regulations.

South Shore Naturalists Club

In order to move forward we must have a solid scientific understanding of the nature and extent of our water resources. We should encourage and support responsible agricultural and forestry practices and strictly enforce regulations protecting watercourses. A suggested remedial action for those caught abusing the regulations includes planting, for the inappropriate removal of vegetation. The infrastructure should be upgraded and repaired.

Nova Scotia Federation of Agriculture

Climate change demands that an adaptive approach be taken. Conservation practices produce the best results when they are clearly understood by all and are implemented with incentives. The federation's goal is to protect and improve water quality through research, education, and extension efforts and to facilitate communication between the sectors. The federation faces challenges including increased demand, low priority for agricultural use in allocations, limited knowledge, limited resources, the mitigating impacts of climate change, and the increased costs of wastewater management.

The federation would like to see a safe and reliable water supply. Management should be watershed based and employ best practices. Water policy must consider security, drought management, and regulation. Current industry initiatives being undertaken include nutrient-management planning, environmental farm planning, the development of an integrated approach to watershed management (e.g., the Thomas Brook project), the employment of a water resource management coordinator, the riparian health assessment pilot and strategic planning initiative, the agricultural water resources education website, and communications.

Finally, there is a fundamental link between food security and water security. Any future discussions must include the farm community.

Clean Annapolis River Project (CARP)

CARP called for the integration of watershed-scale decision making across multiple levels of government as well as the adoption of a community-based approach to management. There are more than 40 community groups active at various levels in water monitoring, conservation, and stewardship, representing a tremendous resource. Core ecosystem services and riparian buffers need to be protected, and a "soft water paths" approach to conservation is recommended.

Tusket River Environmental Protection Association (TREPA)

TREPA recommended a watershed-based approach to management, suggesting that concerns can only be properly addressed by effective watershed-management boards or committees with a clear mandate and regulatory authority. It believes that the primary source of ecosystem degradation lies in improper land use and development without proper regulation and calls for monitoring programs to be established, implemented, and strictly enforced. Overall, the best solution is simply not to allow development in wetlands. Any withdrawal of these allowances must consider the potential ecological as well as socio-economic effects.

Eastern Shore Musquodoboit Community Health Board

The Halifax Harbour Solutions system must be upgraded to meet the Federal Government's recently announced municipal sewage treatment legislation. Inconsistencies and gaps in responsibilities must be addressed. New legislation must consider ecosystem integrity, water-source protection, user participation, efficiency, conservation, precautionary management, and legal rights. The government should employ soft water paths management, which relies on a number of supplies that are small-scale and renewable.

Pricing systems must support the costs of water services. Scientific capacity should be enhanced, with full data monitoring taking place. The board recommends looking at the following approaches to management: watershed planning, precautionary principles, pollution prevention, conservation, and the use of soft water paths methods. The further use of water storage tanks and grey water should be implemented. The government needs to make information more easily accessible.

Sackville Rivers Association

The top three issues affecting the Sackville River watershed include the lack of watershed management; acid precipitation; and siltation, sedimentation, and erosion.

The association recommended that the strategy regulate that all watercourses and wetlands in Nova Scotia be protected by natural buffers. Flood plains should be identified and mapped out, and legislation should restrict development within these areas. It has a long list of suggestions for storm water management in new development and construction and for areas undergoing redevelopment, such as ensuring no net increase in runoff, sedimentation- and erosion-control plans, incentives, the certification of workers, and the use of green technology.

The association would like to see mandatory provincial standards and water-quality limits set in the use and development of land. With regard to forestry operations, it makes recommendations on clear-cutting, road construction, stream disturbance, and siltation. It also suggests that emission controls need to be more stringent and that a program of liming all acid-stressed rivers be introduced. Cold-water refuges need to be identified and protected. When it comes to the eutrophication of waterways, mitigation techniques should be developed for all lakes found to be above the natural background levels.

Further concerns included a lack of funding for enforcement, protection, and restoration and excessive withdrawal by agricultural, municipal, and commercial users. Usage should be metered, and all watercourse flow rates must be quantified and measurable. There was also concern about jurisdictional conflicts. The association recommends that regulations be streamlined and responses coordinated. The use of pesticides, herbicides, and fertilizer should be restricted, and there should be no sewage effluent entering natural watercourses.

The association also asked that the strategy apply a no-net-loss policy—destroyed or damaged wetlands should be replaced. Obsolete or inactive man-made obstructions and obstacles must be removed, and the use of off-highway vehicles that cause erosion, sedimentation, and habitat disturbance must be strictly regulated. Furthermore, it recommended that a full spectrum of baseline data be established, endangered streams identified, and all large projects made to undergo a full environmental-impact assessment. Finally, the strategy should be kept current.

Southwest Paddlers Association

The Southwest Paddlers Association would like to see watersheds provide the basic context for all water issues and watershed-management groups established throughout the province. Public access to water must be maintained or re-established, and clean water for personal use must precede commercial demands, though a balance is preferred. We must promote clean, eco-friendly water-based tourism while ensuring that our watersheds and ecosystems are protected.

Forestry setbacks should be increased, riverbeds restored where dams or mills have been removed, and rivers affected by mining operations restored. The association encourages inter-governmental co-operation when it comes to enforcement and information, with roles and responsibilities clearly defined.

What the water professionals told us

Professor, Dalhousie University

We need to define common values and be clear about them. It is our shared future that is at stake—we need to reduce the demand on our water resources. With regard to development, we need to ensure that it does not affect the headwaters of key water-related systems. Developments that obliterate key hydrologic features (such as the gypsum-quarry expansion) should be prohibited. Potentially polluting activities should be restricted and riparian zones restored.

When it comes to the economy, we need to ensure that our "needs" are really needs. We should prioritize uses that focus on providing society with basic necessities, and in some cases conservation should be mandated. Money should be used to build local capacity for integrated water resource management, to protect water-source areas, and to implement more efficient technologies as well as for restoration efforts.

A participatory approach to management is needed. The community should be engaged in all stages of decision making, with communication increased and adequate information and resources available at all levels. We need multi-stakeholder involvement, clearly defined roles and responsibilities, and the integration of multiple land- and water-use policies.

Hydrogeologist, Private Consultant

A hydrogeologist from the HRM would like to see the areas susceptible to rising sea levels mapped out and appropriate controls on development put in place. In the event of an emergency, centres with supplies compatible with the population of the area and with sufficient quantity and suitable quality should be set up. Contingency plans must be in place—the government should perform a risk evaluation to identify vulnerable supplies.

The public should have access to real-time data that has been analysed and interpreted. We need more quantitative information on wetlands and a refinement of the parameters of the hydrologic budget. Approvals should be readily available on the web. We need mapping and associated detailed information, with aquifers compromised by natural sources of contamination clearly identified. Information and the locations of municipal and registered public-water-supply locations should be available on the web, as well as water-quality data.

We need a water-quality database for surface water and groundwater. The current well-water database needs further upgrades and a rethinking with regard to privacy legislation. We need to identify abandoned wells—too many have not been properly abandoned. We need geothermal/heat pump well guidelines or regulations concerning installation, construction, testing, contingency for leaks, etc. With regard to aquifer yield testing, the government should reinstate previous regulations for a 72-hour testing of all non-domestic wells, as the lack of testing in the current gap represents a big loss of information necessary for groundwater-resources evaluation and management purposes.

There should be either a minimum casing length and grouting and/or the delineation of special management areas or zones to reduce the risk of a public health issue. In addition to this, we need to identify the areas that require more stringent well construction. Homeowners should not be allowed to construct and do work on their own wells. Not only is this detrimental to aquifer management and protection, it is impossible to ensure that the public is following regulations.

Owner of a small farm (agricultural and forestry)

The owner of a 200-acre woodlot told us that she would like to see watersheds and wetlands better protected, with adequate buffer zones established and monitoring in place. We must bring back lost wetlands. Flood plains should also be protected and an incentive program established that would allow woodlot owners to set aside timber in wet areas and along waterways to improve waterway quality. Any private land lost to buffer zones should be compensated.

Nova Scotia Power Incorporated (NSPI)

The NSPI believes that a successful water resource management strategy for Nova Scotia will address stakeholder consultation, environmental-monitoring programs, surface–water-management models, a risk-management approach, climate change and renewable energy, and water-strategy funding.

Annapolis Royal workshop sharing ideas and concerns about water management. This was one of 14 workshops held across the province.

NOVA SCOTIA
Environment

WATER *for* LIFE