



The International Institute for Sustainable Development (IISD) actively promotes change towards sustainable development. Ranked by sustainability experts as the most effective research organization of its kind in the world, our work protects and restores ecological systems as it enhances the well-being of people and improves economic efficiency.

The Institute engages decision-makers in business, government and non-government organizations (NGOs) and other sectors by creating and implementing policies to benefit the global economy, environment and social well-being. Through our dynamic and diverse portfolio of programs and projects, IISD has partnered with over 200 organizations worldwide.

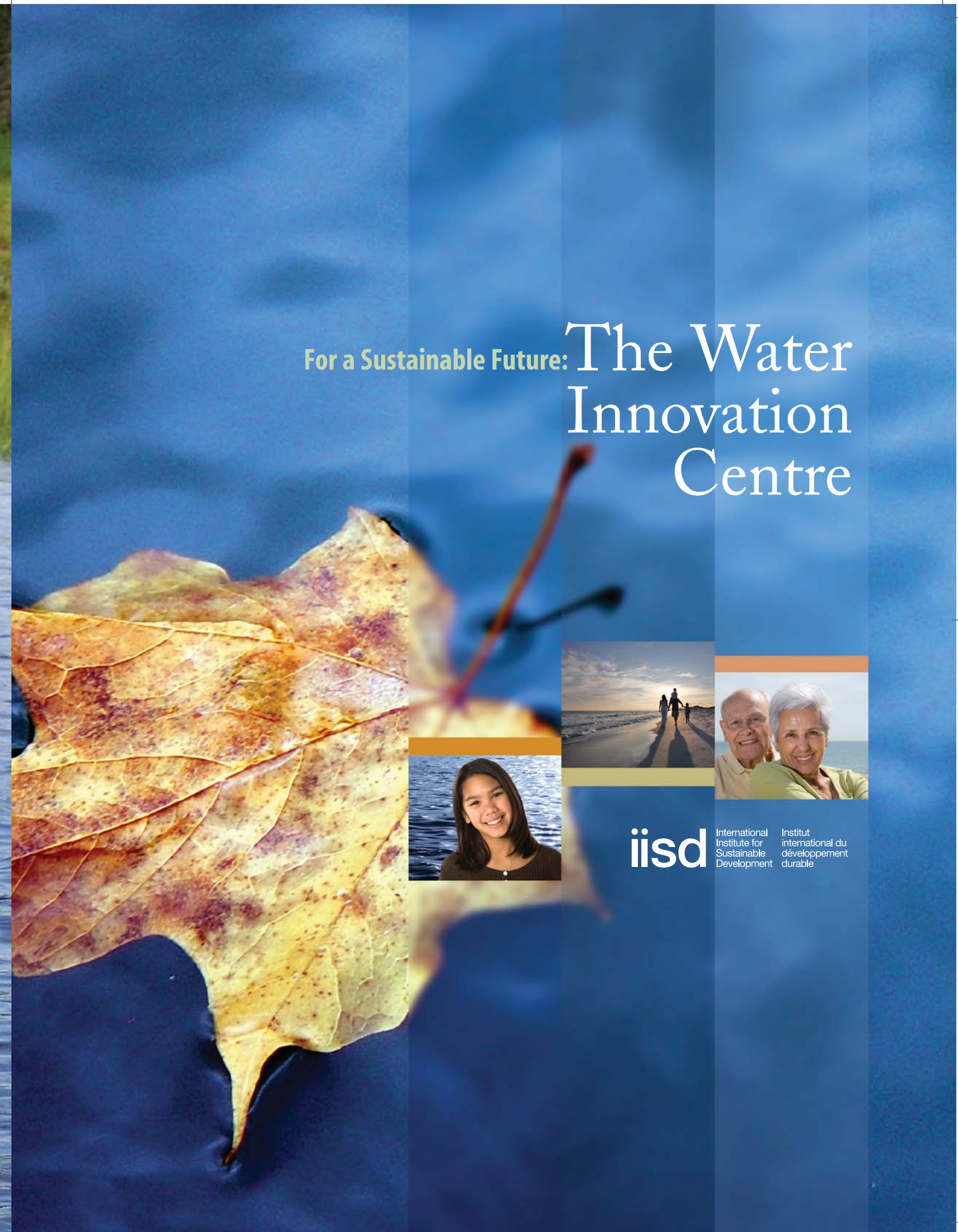
Established in 1990, IISD is a non-partisan, charitable organization specializing in research, analysis and information exchange. Through our offices in Winnipeg, Ottawa, New York and Geneva, we apply human ingenuity to improve the well-being of the world's environment, economy and society.

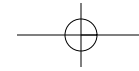
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For a Sustainable Future: **The Water Innovation Centre**





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Glossary of Water Management Terms

This proposal features terms used by water management experts which are explained below for the benefit of the layperson.

Ecological Engineering Technologies is the design sustainable ecosystems that integrate human society with its natural environment for the benefit of both humans and nature. Examples: habitat reconstruction, wetland creation and restoration for water treatment.

Ecosystem Goods and Services (EGS) or Natural Capital are benefits people obtain from ecosystems such as water filtration from riparian areas, soil erosion control from shelterbelts as well as flood and water retention from wetlands.

Integrated Water Resources Management is a process which promotes the coordinated development and management of water, land and related resources.

Market-Based or Economic Instruments are incentives, subsidies, taxes or payments designed to encourage sustainable stewardship of natural resources.

Payments for Ecosystem Services (PES) are economic instruments that promote maintenance of the natural landscape to ensure carbon sequestration, water filtration from wetlands, soil erosion control from grasslands, flood and water retention from forests. Means to achieve this include water quality trading and micro-financing to support community-based watershed management).

Riparian Areas are those where land and water form a transition from aquatic to terrestrial ecosystems; usually along streams, lakes, and open water wetlands.

Watershed Governance consists of structures and processes for the management of watersheds. A key principle: stakeholder participation.

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The essence of the Water Innovation Centre

The Water Innovation Centre's initial project will focus on the Lake Winnipeg Watershed since it is a prime example of a highly-stressed, water-based environment. The Centre's work in this watershed will serve as a proving ground that will demonstrate how such an area can benefit from the integration of markets, governance and eco-technology. In essence, the lessons IISD learns in this region of Canada will then, in turn, be successfully repeated throughout the world.

To be located in Winnipeg, the Water Innovation Centre will devise and provide solutions that integrate watershed governance, innovative water technologies and market-based instruments.

The Centre's key functions will be the coordination, dissemination and application of:

1. Research, Analysis and Design of Policy Instruments
2. Facilitation of Practical Solutions to Current Water Problems
3. Communications, Community Education and Professional Networking

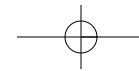
The Centre will provide expertise and examples of effective ecosystem management

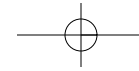
Starting with the Lake Winnipeg Watershed, the Centre's work will demonstrate sustainable solutions in Canada, the US and throughout the world. It will demonstrate how restoring natural environments while building local institutional capacity can provide cost-effective alternatives to hard infrastructure investments.

Result: society will learn how to safeguard the ecological goods and services of its landscapes. This way, we can ensure an abundance of vibrant marshes, ponds, native plants and wildlife along its lakes, rivers, and streams in the near future and for generations to come.

“There are no alternatives to water. It is the next liquid gold and soon will be more precious than oil.”

— Richard Coombe, Regional Chief, US Natural Resources Conservation





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“Recognize that there are no political and jurisdictional boundaries to our environment, and that there is ecological interdependence among provinces and nations.”

— Manitoba Hydro policy manual



The world’s need for water is as acute as the opportunities to protect, preserve and, in many cases, restore it.

Worldwide, 1 billion people lack access to drinkable water while 2.6 billion people lack adequate sanitation as reported by the World Business Council for Sustainable Development in 2007.

The Centre will provide solutions to protect and restore community watersheds worldwide

It will focus on disseminating best-practice approaches to harness the power of markets for the good of communities and the environment—the central goal of sustainable development.

Since Canada is home to IISD—the ecology, economics, geography and timing of this proposal are as fitting as they are vital. Here in our own back yard, we will demonstrate how sustainable development in the water sector can be achieved and, in turn, be duplicated the world over.

The Lake Winnipeg watershed is recognized by experts as Canada’s #1 water hot spot

It affects the lives and livelihoods of 7 million people and supports 17 million livestock. It also encompasses 90 per cent of the agricultural land in Western Canada. Environmentally and economically, this watershed impacts Canada’s provinces of Ontario, Manitoba, Saskatchewan and Alberta plus four US states: North Dakota, South Dakota, Minnesota and Montana.

Often compared to Lake Erie in the 1960s before its health improved, Lake Winnipeg is the 10th largest, freshwater lake in the world. Unfortunately, it is also the most environmentally-damaged or ‘eutrophic’ large lake in the world. Especially vulnerable to climate change due to its shallow depth, Lake Winnipeg is home to the largest freshwater fishery in Western Canada, and provides over \$100 million per year in economic benefits.

Lake Winnipeg’s health is determined, to a large extent, by agricultural activities in its vast watershed—worth tens of billions of dollars annually. Linking sustainable agriculture in the watershed to restoration of Lake Winnipeg is one expected outcome of the work of the Water Innovation Centre.

Our Vision: To protect and preserve the world’s most precious resource—water

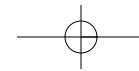
IISD will do this by advancing the water policy recommendation of the UN Millennium Ecosystem Assessment—that economic incentives can support community-based watershed management.

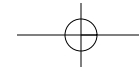
Our Aim: To promote sustainable development approaches for water worldwide

IISD will do this by linking Payments for Ecosystem Services to Integrated Water Resources Management starting with the Canadian prairies, and applying water engineering technologies to achieve nutrient removal, climate mitigation, bioenergy feedstock production and water supply regulation.



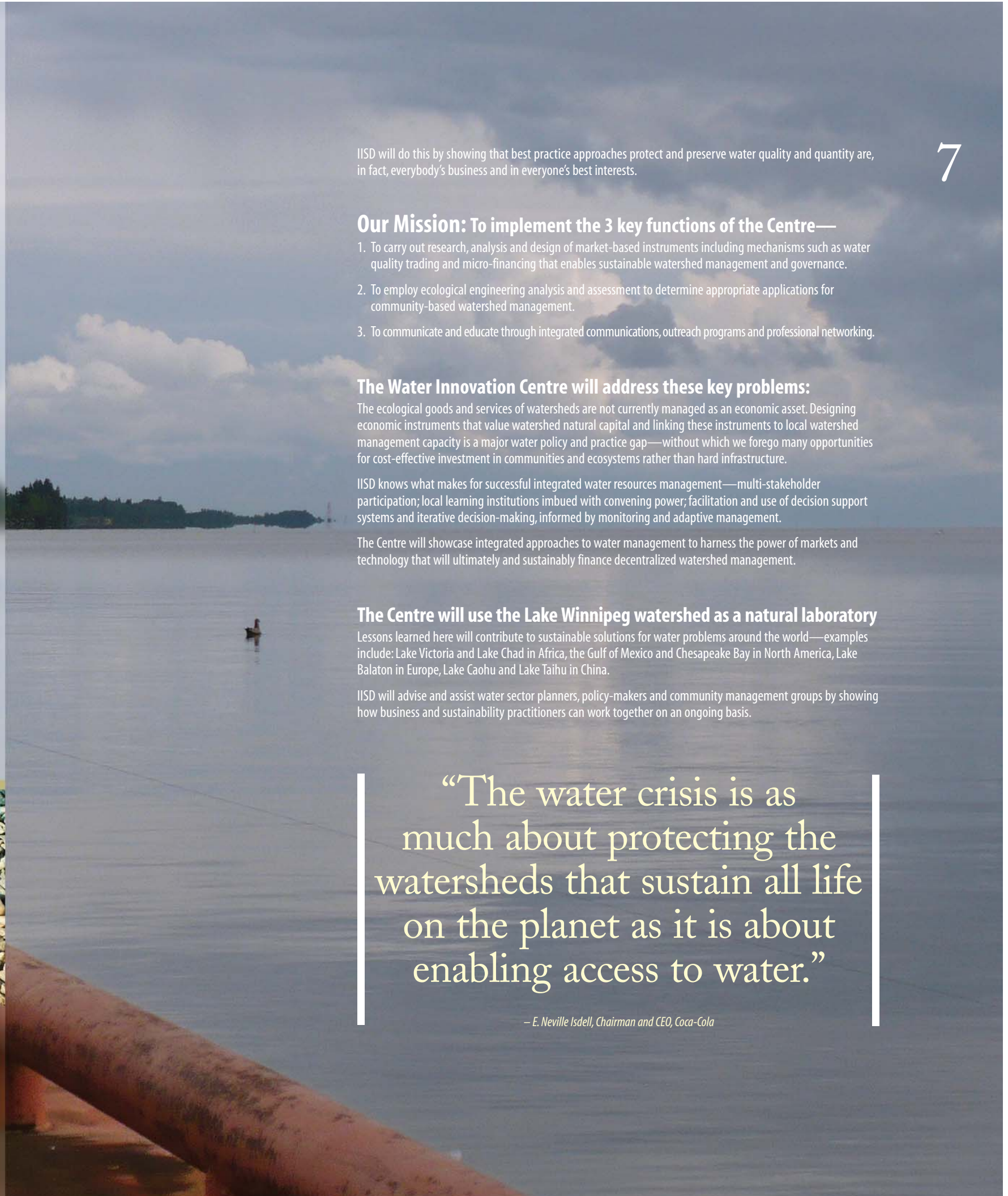
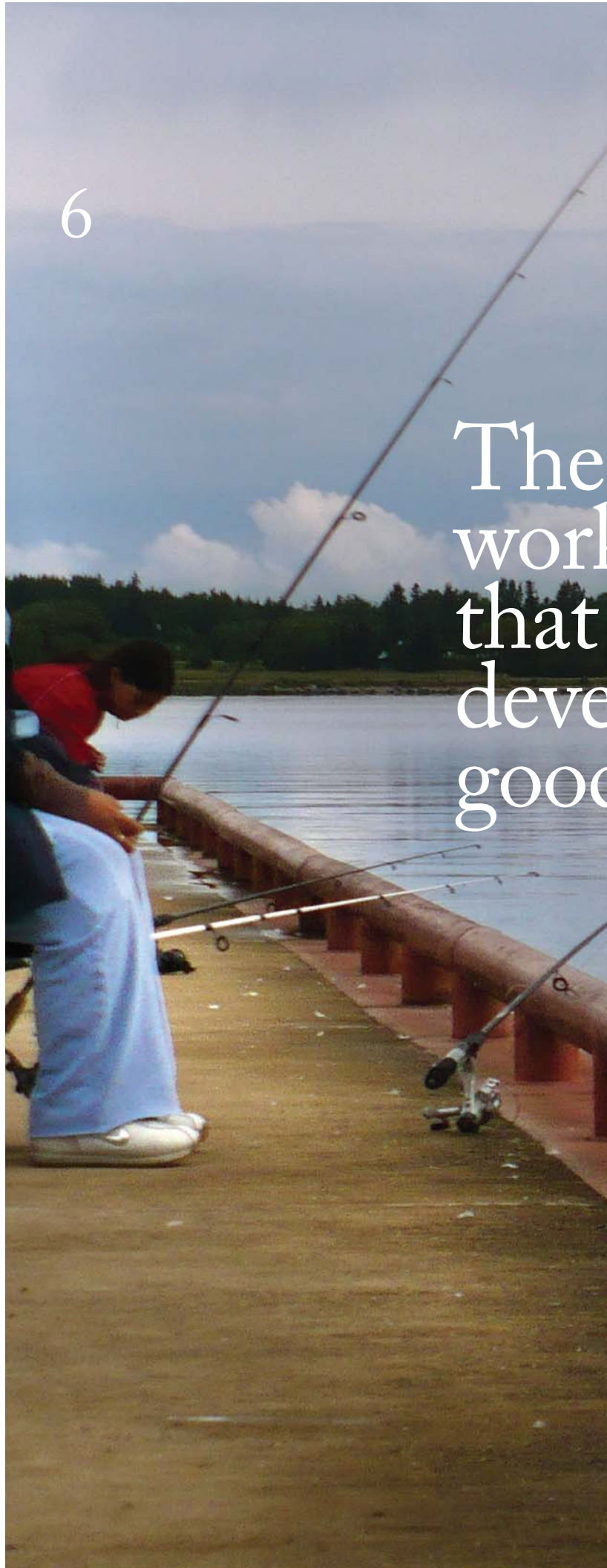
As highlighted above, the Lake Winnipeg Watershed affects Alberta, Saskatchewan, Manitoba and Ontario plus Montana, North Dakota, South Dakota and Minnesota.





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The Centre's work will show that sustainable development = good business



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IISD will do this by showing that best practice approaches protect and preserve water quality and quantity are, in fact, everybody's business and in everyone's best interests.

Our Mission: To implement the 3 key functions of the Centre—

1. To carry out research, analysis and design of market-based instruments including mechanisms such as water quality trading and micro-financing that enables sustainable watershed management and governance.
2. To employ ecological engineering analysis and assessment to determine appropriate applications for community-based watershed management.
3. To communicate and educate through integrated communications, outreach programs and professional networking.

The Water Innovation Centre will address these key problems:

The ecological goods and services of watersheds are not currently managed as an economic asset. Designing economic instruments that value watershed natural capital and linking these instruments to local watershed management capacity is a major water policy and practice gap—without which we forego many opportunities for cost-effective investment in communities and ecosystems rather than hard infrastructure.

IISD knows what makes for successful integrated water resources management—multi-stakeholder participation; local learning institutions imbued with convening power; facilitation and use of decision support systems and iterative decision-making, informed by monitoring and adaptive management.

The Centre will showcase integrated approaches to water management to harness the power of markets and technology that will ultimately and sustainably finance decentralized watershed management.

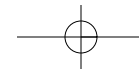
The Centre will use the Lake Winnipeg watershed as a natural laboratory

Lessons learned here will contribute to sustainable solutions for water problems around the world—examples include: Lake Victoria and Lake Chad in Africa, the Gulf of Mexico and Chesapeake Bay in North America, Lake Balaton in Europe, Lake Caohu and Lake Taihu in China.

IISD will advise and assist water sector planners, policy-makers and community management groups by showing how business and sustainability practitioners can work together on an ongoing basis.

“The water crisis is as much about protecting the watersheds that sustain all life on the planet as it is about enabling access to water.”

— E. Neville Isdell, Chairman and CEO, Coca-Cola



“As natural resources become scarcer, leaders are realizing that the best economic solutions are environmental solutions—and that environmental problems can be solved through innovative market mechanisms.”

—Michael Jenkins, CEO, Forest Trends



Just as society is learning to put limits on carbon emissions through carbon taxing systems, the Centre will show how we can use market mechanisms to protect water

Centre staff will explore water technologies that harness ecosystem functions to benefit humans and nature. Examples: habitat reconstruction, wetland creation and restoration for water treatment.

Ecological goods and services markets are exploding—trading will surpass \$100 billion in 2008

Bringing this market power to the issue of sustainable watershed management is a great opportunity—for business, community development and the environment. To be a true success story, what it now needs is a sustainable development perspective.

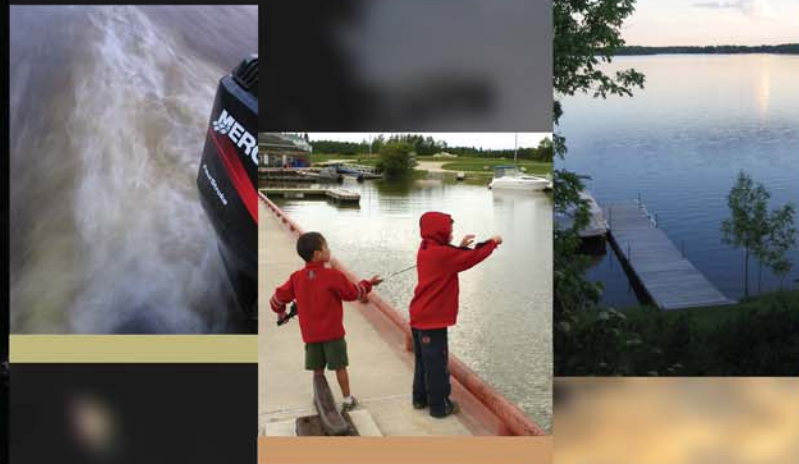
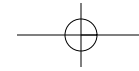
Ultimately, in collaboration with governments, ENGOs and universities, the Water Innovation Centre could become the foremost water knowledge resource in the world. Designed to link markets and eco-technology with community watershed management, the first tranche of investment for the Centre will provide seed funding for a multi-year, multi-million dollar undertaking.

Our Goals:

1. To promote sustainable development within the Lake Winnipeg watershed by linking markets and technology with community-based watershed management; to apply beneficial management practices to advance dry lands watershed management; and to share this knowledge worldwide.
2. To advance leading edge thinking on international ecosystem markets for water and climate mitigation services; to advance the business case for environmental technologies and ecological engineering as a vital component of holistic water resources management.
3. To create a water issues/outreach facility that will serve as the world's expert authority and advisor on socially responsible water sector investment.

Our Plans:

1. To create a long-term Business Plan for the Centre that draws support from socially responsible investment funds, international financial institutions, large foundations, corporate clients and governments.
2. To communicate the Water Innovation Centre brand through multi-media outreach.
3. To bring together key stake-holders to launch strategic talks on investment principles for the water sector among socially responsible venture capital community, major bilateral and multi-lateral donors and various United Nations agencies.
4. To produce research analyses of the multiple dimensions of the watershed problem, such as
 - Sustainable development water sector investment frameworks
 - Legislative frameworks to link market-based instruments to integrated water resources management
 - Best Practice approaches to link market-based approaches to watershed management
 - Ecosystem service inventories in the Lake Winnipeg watershed
 - Options for linking ecosystem services markets to watershed management in Western Canada
 - Assessments of the role for ecological goods and services within nested watershed management
5. To disseminate and apply the findings of Centre research through pilot environmental technology and watershed projects in collaboration with community partners



“The Water Innovation Centre will be the first of its kind to take an integrated approach to the world’s water issues. It will bring together a wide range of skills needed to create solutions that are as sustainable as they are cost-effective.”

Dr. Henry Venema, IISD

Today, there is no dedicated knowledge centre anywhere in the world devoted to linking markets and environmental technologies to community-based watershed management

The Water Innovation Centre will bridge this crucial gap by taking an integrated approach to the issues and by bringing together the full range of skills necessary to create effective, practical solutions to the globe’s water problems.

IISD will assemble a team of international experts from within its staff, its network of associates, and with new recruitments as part of the Centre’s long-term business plan.

For more information, please see Water Innovation Centre Team Biographies

IISD has been recognized by experts as the most effective sustainable development research organization in the world

The Institute has an unparalleled reputation among funding organizations for delivering top-quality results with impeccable professional and accounting standards. The premise behind IISD is that the economy, the environment and society should be understood as interconnected systems. Central to IISD’s mission is the fact that the large infrastructure deficits in the water sector and the gradual development of markets for ecological goods and services present an opportunity to demonstrate sustainable development in action.

The Water Innovation Centre is a natural evolution of the work IISD has done safeguarding planet’s resources since the Institute was created 18 years ago. Our Sustainable Natural Resources Management Program has a Board mandate to focus on water and agricultural issues in Western Canada and extend this knowledge internationally.

Since 2004, IISD has conducted seminal analyses on Prairie watershed issues, identifying the Lake Winnipeg watershed as ecologically vulnerable. Our work in ecosystem service and community management assessments, as well as our pioneering efforts in ecological engineering approaches to Lake Winnipeg Stewardship—paved the way for the Water Innovation Centre.

Regional stakeholders potentially include:

Manitoba Department of Water Stewardship, Manitoba Chamber of Commerce, Manitoba Conservation Districts Association, Lake Winnipeg Stewardship Board, Red River Basin Commission, Ducks Unlimited, Prairie Province Water Board, Environment Canada, Natural Resources Canada, Sustainable Development Technology Canada (SDTC), Centre for Sustainable Watersheds, Canadian Water Network, Pollution Probe, Governments of Ontario, Saskatchewan, Alberta, North Dakota, South Dakota, Minnesota and Montana.

International stakeholders potentially include:

World Business Council for Sustainable Development (WBCSD), Katoomba Group for Ecosystem Service Markets, Global Environmental Fund (GEF), Global Water Systems Partnership (GWSP), Food and Agriculture Organization (FAO), United Nations Environment Program (UNEP), United Nations Development Program (UNDP), UN-Water Program, Office for Economic Cooperation and Development (OECD), International Institute for Applied Systems Analysis (IIASA), International Water Management Institute (IWMI), International Ecological Engineering Society.

