

First Nations Integrated Watershed Planning

Getting Started



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Acknowledgements:

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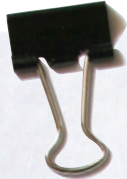
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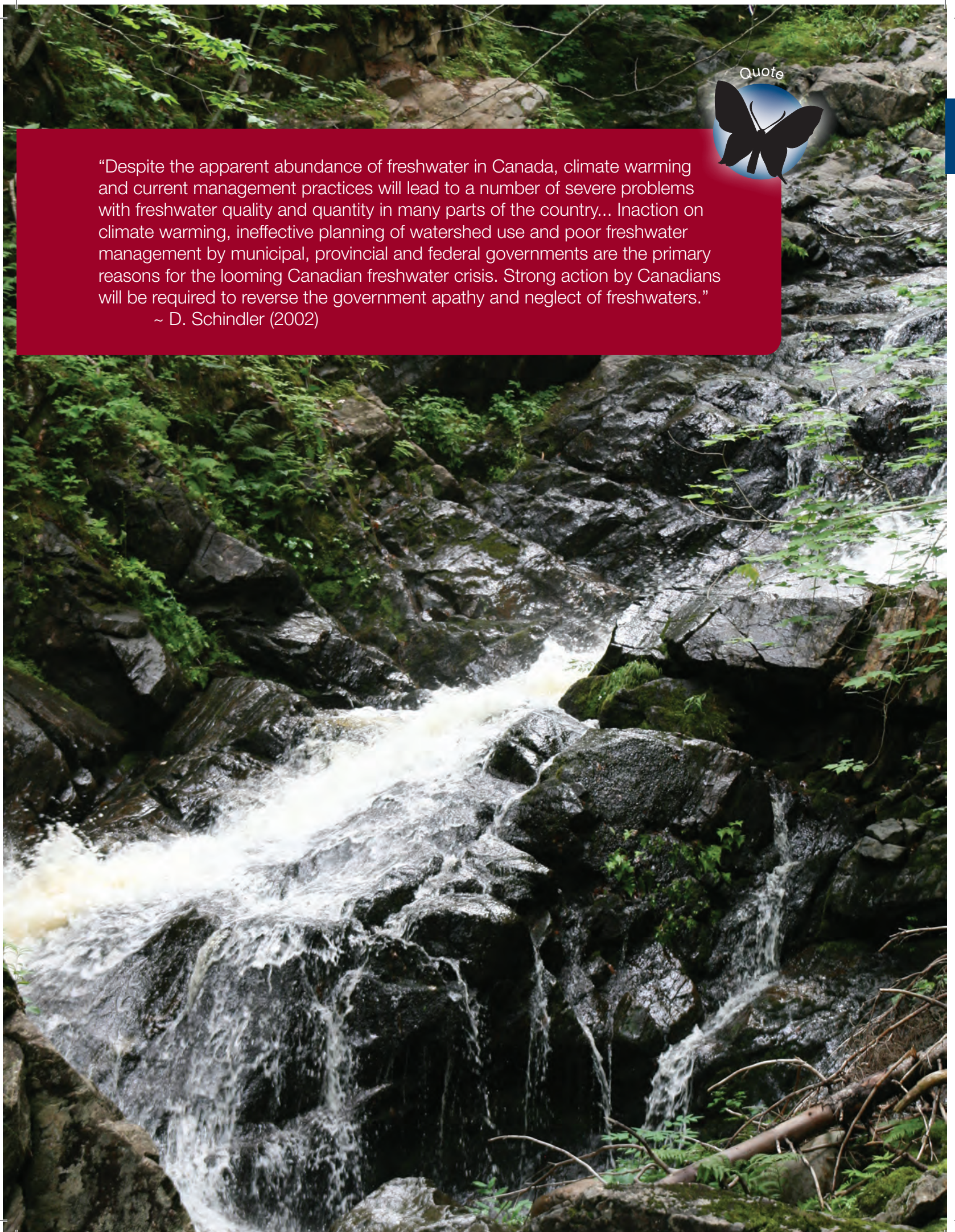
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Quote



“Despite the apparent abundance of freshwater in Canada, climate warming and current management practices will lead to a number of severe problems with freshwater quality and quantity in many parts of the country.. Inaction on climate warming, ineffective planning of watershed use and poor freshwater management by municipal, provincial and federal governments are the primary reasons for the looming Canadian freshwater crisis. Strong action by Canadians will be required to reverse the government apathy and neglect of freshwaters.”

~ D. Schindler (2002)



INTRODUCTION

The Need

CIER created this watershed planning tool for First Nations for three reasons. The first is that water is a vital, irreplaceable life-giving substance. It forms the basis of the structure, location and development of our societies. It links the past and the present to our collective future, because how we use water today will without a doubt affect the essence of the quality of our lives tomorrow. All people rely upon water to live and its significance is affirmed through its special status in many traditions as a gift given to the earth from the Creator or God. Water is critical to the future of people and nature, and so it merits the best of our collective efforts to ensure its health and vitality.

Second, First Nations have a unique, complex relationship with water that extends beyond using water for their personal or community needs or as the life-support system for the foods they harvest and consume. First Nations' relationships with water include cultural, spiritual, economic, stewardship, governance and rights-based aspects. Many First Nations indicate that water also has responsibilities given by the Creator to provide for people and nature. Ensuring that these relationships can continue is critical to our future.

Finally, in recent years there has been increasing awareness that many Canadians believe a 'water myth'...the idea that Canada has an abundance of water that will supply all our human and environmental needs into the future. A second aspect of this myth is that we tend to manage water very well in Canada. In fact, neither of these myths is accurate. We are some of the worst water managers in the world, despite water being in ever-increasing demand, supplies becoming more polluted and costs increasing. Climate change impacts on water supplies will increase these challenges. If we do not take the steps to protect our water and better manage it, our water security may be at risk.



What is water security?

Water security is "...the long-term sustainable access to sufficient supplies of water of acceptable quality for humans and the environment."

~ K. Bakker (2009, p.16)

"Water security involves the sustainable use and protection of water systems, the protection against water related hazards (floods and droughts), the sustainable development of water resources and the safeguarding of (access to) water functions and services for humans and the environment."

~ B. Schultz and S. Uhlenbrook (2007, p.1)

How we use water must change in many ways, from the personal choices we make each day to the decisions of our governments. One of the most exciting changes in recent years is the creation of regional watershed planning processes taking place across the country, involving governments, local citizens, industry and others. Often, these processes are attempting to find positive ways to meet

the long-term needs of people and nature. Unfortunately, First Nations' involvement in these regional planning processes is usually limited. This often results in decisions (such as plans, frameworks, or approaches) that do not incorporate First Nation perspectives. These decisions are of concern to First Nations because of their potential, through deciding on current and future uses of water, to impact the rights, goals, and plans of First Nation people and their governments.

What is a watershed?

A watershed is the physical area within which underground and aboveground creeks, streams and rivers drain to one larger body of water such as a lake, bay or ocean. The quality and quantity of the water in a watershed has a big impact on the quality of life of its human, animal, fish and plant inhabitants. What happens in one part of a watershed can significantly affect other parts of the watershed.

Why is watershed planning important?

People often say that 'everyone is downstream of someone else'. This means that everyone can be affected by the actions of others, and everyone can affect others with their actions. If someone upstream pollutes their water, communities and ecosystems downstream will feel the effects. It is a sound approach to begin with water when addressing ecosystem health since everything that happens in a watershed is interconnected through the movement of water through the watershed – and everyone needs a source of healthy water.

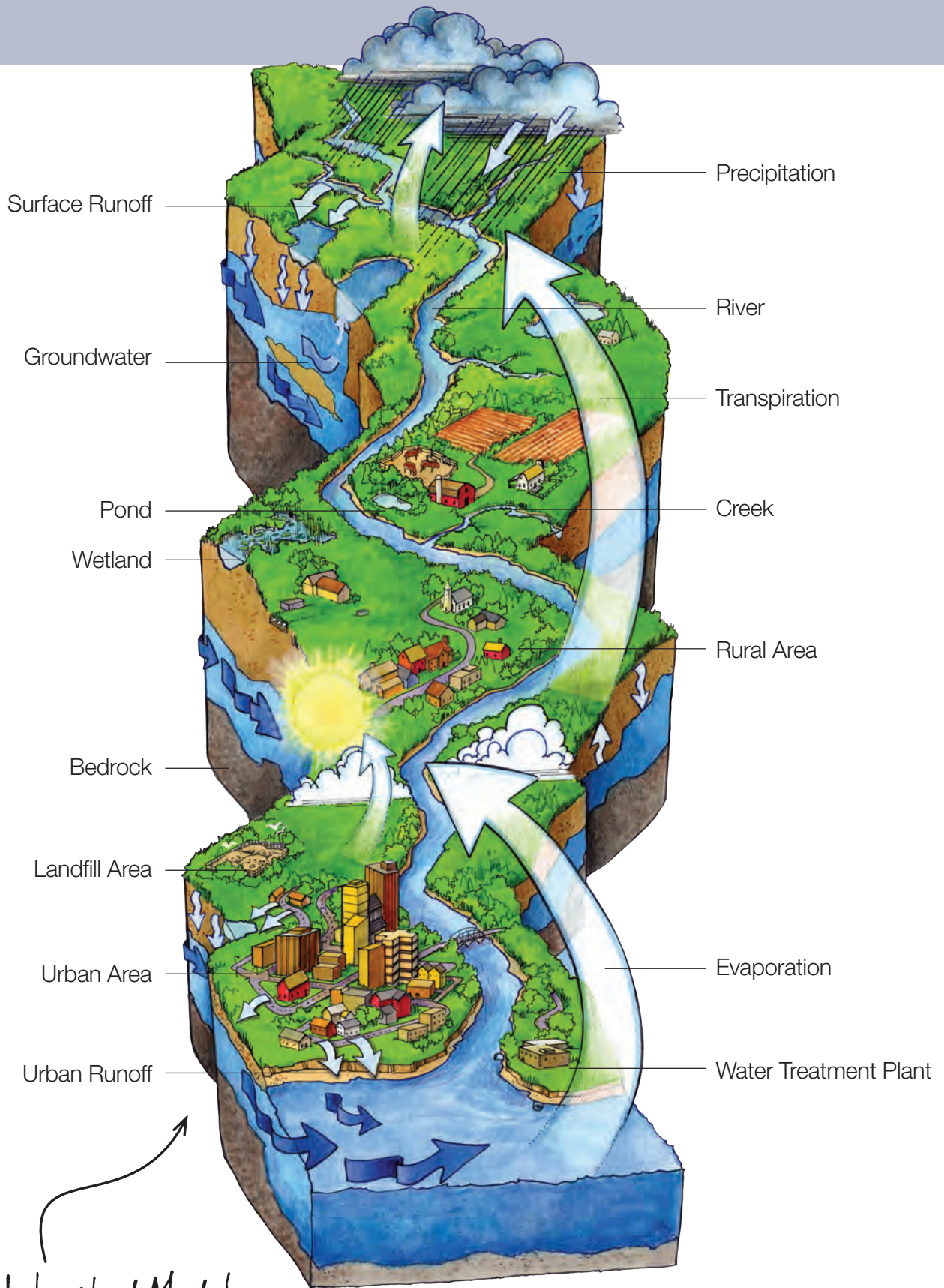


Image: Conservation Ontario

What is watershed planning?

The best way to ensure that good decisions are made throughout the watershed is to bring all the people whose actions can affect the watershed together to plan their activities in a cooperative, organised way. This approach to planning, where people focus upon the needs of a whole region in addition to the needs of specific town or community, provides an opportunity to work together to connect the many activities occurring within natural areas and human settlements. These connections can help to maximise the benefits for everyone and everything while minimizing the negative impacts. There will undoubtedly be differences of opinion, but sharing values, concerns, and priorities for the watershed will bring people together to develop a strong, comprehensive vision and plan for the long-term health of the watershed.

There are many words that describe the watershed planning process: integrated water resource management, watershed management, water resources planning, to name a few. However, the common element of all these terms is that they are 'integrated', meaning that they bring together all of those people and groups that could be impacted by (and so should be involved in creating) the watershed plan – federal, provincial, territorial, municipal and First Nations governments, as well as industry, local organisations and non-governmental organisations.

In the best planning processes, these people and groups work together to identify and address the priorities and needs of all inhabitants of the watershed. The result of integrated watershed planning is a management plan that can protect the health of all aspects of the watershed (e.g. human activities, natural systems, habitat needs) for future generations.

In these guidebooks, we use the term *watershed planning* to incorporate all of the above – to mean thinking about, talking about, and making and implementing decisions regarding our current and future relationship with the waters, lands and resources, and everyone and everything that is dependent upon them, for the best long term management of the watershed.



These guidebooks propose a model of watershed planning that is led by First Nations and that creates the opportunity to address unique First Nation needs, relationships, and rights. How is First Nation watershed planning different from other watershed planning processes? Primarily, the difference in First Nations' views and values related to water sets First Nations-led watershed planning and management on a different path than is typically taken by most watershed planning processes – a path that can, at the very minimum, enhance current values, practices and outcomes.

Indigenous people around the world commonly hold the view that water is not only a source of life for all living things and essential to both physical and cultural survival, but it is alive and is spirit. This viewpoint fundamentally changes the very nature of the planning process, as the goal is no longer about management of a 'resource', it is about the protection and use of another spirited life.

Because of this, First Nation planning processes might ask different questions, including, if water is alive and represents life – if we are all connected and embody an ethic of reciprocity in our decisions and daily lives – what would be the different outcomes of a watershed planning process? It would have to be a process that represents the highest standards of collaboration to determine shared values and vision, that uses the highest calibre of information available from Indigenous and Western scientists, and that forges trusting partnerships that strive to achieve consensus on the plan and the resulting actions. Would this level of effort take more time and resources? Perhaps, but respecting our water, ourselves, and our watershed's co-inhabitants for now and forever is certainly worth our efforts.

In these guidebooks we talk about First Nations leading the watershed planning process. By this we mean First Nations initiating the need for and focus of the watershed planning process, reaching out to other people to get involved, and/or ensuring that the First Nation's voice and Indigenous Knowledge is included throughout the planning process, the plan itself and implementation. In a complex regional process like watershed planning, significant human and financial resources are required and many different people and groups need to be involved to make it happen.



The Action

CIER has developed a tool (includes framework, guidebooks and training, detailed on page 10) that provides guidance for First Nations who want to take action on watershed planning. First Nations have understood and worked reciprocally with water since long before the creation of Canada. First Nations have learned to work together in times of success and hardship for the betterment of the whole. There is much that Canada, through its people and its governments, could learn from First Nations' knowledge of water systems and of human systems. First Nations can be leaders in showing the world that there are ways of working together to protect our water and our land in the interest of all our children.

Perhaps you want to create a plan to protect the rivers or lakes in your community, or maybe a watershed planning process is already underway and you want to get involved. CIER's First Nations Watershed Planning Tool is intended to support First Nations in doing just these things – leading and/or participating in watershed planning processes. The First Nations Watershed Planning Tool offers activities, suggested topics for discussion, and other aids to develop such a plan. It provides suggestions for including First Nation perspectives in the plan as well as the planning process, whether it is a First Nation-led process or an existing planning process. The tool outlines the steps in the watershed planning process, including what information you need, who you should talk to, and how to go about developing your planning process as well as ways to involve your community.





Tip

Planning happens all the time and everywhere, whether First Nations get involved or not. Watershed planning is very important and has wide-reaching implications – don't let it happen without you!

These First Nations Watershed Planning Guidebooks have been written for First Nations, their staff, and community members. You may already be involved in watershed planning, or have heard people in your area talking about water-related planning, or maybe you and your First Nation want to initiate watershed planning – wherever you are in the watershed planning process, the information and stories in these guidebooks will give you examples, ideas and tools as you move forward in your process.





ABOUT THE GUIDEBOOKS

The First Nations Watershed Planning Guidebooks are plain language guides that introduce the watershed planning process, with a focus on community engagement and use of Indigenous Knowledge. These guidebooks are the component of the First Nations Watershed Planning Tool that CIER has developed with four Partner First Nations/First Nation organisations from across Canada – The Union of Nova Scotia Indians, the Unama'ki Institute of Natural Resources, Mikisew Cree First Nation and Hupacasath First Nation.

The guidebooks present examples of First Nations' perspectives on water, including examples from our First Nation partners' own experiences. They are broad enough to apply to watershed planning in any region of Canada and may be used at any stage in the watershed planning process. The guidebooks do not include the technical research required to develop a watershed plan; First Nations will need access to relevant expertise in Indigenous Knowledge and western science to secure the necessary technical information. Rather, these guidebooks present and explore key tasks you need to consider for your planning process.

Goals of the Guidebooks

The First Nations Watershed Planning Guidebooks are intended to assist First Nations in becoming engaged in watershed planning. The guidebooks:

- Explain the watershed planning process developed through our work with our First Nation project partners
- Provide activities to assist First Nations with doing watershed planning and implementing their watershed plans
- Provide ideas for building community engagement in watershed planning
- Give examples on application and use of Indigenous Knowledge relating to water that can be incorporated into the watershed planning process.



Overview of the Tool

The guidebooks are one component of the First Nations Watershed Planning Tool, which is composed of the First Nations Watershed Planning Framework, the First Nations Watershed Planning Guidebooks, and training for First Nation communities and organisations in how to use the guidebooks. The guidebooks are based on the framework, which CIER and the four partner First Nations/First Nation organisations worked together to develop and refine, and the training builds on the framework and guidebooks to support First Nations that are interested in developing and implementing watershed planning.



Overview of the First Nations Watershed Planning Framework

The First Nations Watershed Planning Framework (see below) forms the conceptual basis of the tool. The illustration shows a planning approach that stretches, tests and challenges current planning methods to strive for a better process and a better outcome. The process itself is flexible, and while it can be implemented in a fairly linear step-by-step fashion, the steps, activities and dialogues can cycle back and forth, build and grow, and can be repeated as is often needed in your planning process.

There are five elements to the framework:

- Describing Your Approach: Know Yourself
- Building Partnerships: Create Collaborative Working Relationships
- Knowing Your Watershed: All Our Relations
- Achieving Consensus on the Plan: Design the Plan, and
- Bringing the Plan to Life: Follow Through.

Each element builds on the ones before it but, recognising that planning rarely follows a direct path from A to B, allows for variations as a First Nation works through each stage.



The Root of Engagement

The plant in the framework is a symbol of community engagement, which is a critical part of any planning process. Just as a plant is nourished and strengthened through its roots, so will the planning process be enriched through input from community members. Talking with community members about their values, priorities and concerns about water and watershed planning will ensure that they are aware of the process, and will increase support for the process as well. It will also enable you (or your First Nation's representative) to speak more comfortably on behalf of your community in watershed meetings with the broader community.

Community engagement ideally begins at the describing your approach stage and continues and grows into all other stages of watershed planning. Ways of engaging community include increasing awareness in people about the process and the state of the watershed, asking people their opinions about goals and priorities and sharing and gathering information on a regular basis to develop community understanding and support for the watershed planning process, vision and actions. The watershed plan can be a means of developing a collective vision for the future of your water and land.



Describing Your Approach: Know Yourself

This stage of the watershed planning process addresses the first stage of planning, where the primary purpose is to articulate your values, identify your goals, and determine how they will be explained to others. This first guidebook helps you to start with your truths about water. It explains how to develop the key messages your community will bring to the planning process. Some of the questions that you will ask yourself at this stage are:

- What are your community's vision and values, cultural protocols, traditional laws related to water/land use?
- How do knowledge, stories and language related to water inform your values and your approach to watershed planning?

Your community and your ability to engage in a regional planning process and to explain your community's vision to others, will be stronger by making this step an early priority.

Building Partnerships: Create Collaborative Working Relationships

Having a goal of managing ourselves better to protect our water provides an opportunity to think about our collective future and to create collaborative working relationships. The second guidebook guides the process to help bring new partnerships closer together by suggesting ways to gather and share stories with the people who live, work and play in the watershed. It explores how to facilitate wider community engagement to share ideas, and to gather input on the plan and peoples concerns and priorities. Developing consensus on the process, whatever it looks like, is key at this stage. Good partnerships and the participation of decision makers are critical to ensure success in later stages.

Knowing Your Watershed: All Our Relations

Good decisions first require good information. This guidebook assists with determining the current state of the watershed – including all our relations (people, plants, animals) living in and connected with the watershed. It will help you to bring together information on the environment, economy, social elements, cultural elements and relationships to understand the history and the current health of the area. Some of the questions that are important at this level are are:

- Who works, plays, or uses the area in any way?
- What is the level of water quality?
- Are the lands and waters currently being managed, if so, by whom and what are the management practices being employed?

Indigenous Knowledge is a critical source of information in understanding all aspects of your watershed – document this knowledge to share in your planning process.

Achieving Consensus on the Plan: Design the Plan

This element of the framework explains how to use the developed partnerships, your First Nations approach to watershed planning and knowledge of the current state of the watershed to develop the formal watershed plan. Here we set goals and objectives – together, identify issues, solutions and priorities – together, come up with an action plan and identify linkages – together, and decide what success looks like and how you will measure and evaluate it – together. The fourth guidebook offers suggestions on how your watershed planning group can carry out these tasks.

Bringing the Plan to Life: Follow Through

And now, make it happen! This guidebook reviews how the planning document provides the path forward toward the vision and reminds people how and why these decisions and priorities were achieved. Building momentum, energy and support by taking action on some of the ‘early wins’ or ‘low-hanging fruit’ is important at this stage, as it helps to prepare for the more challenging actions that will surely arise later on. The guidebook also discusses the development of a strategy to implement the plan, and building a core team of people who meet regularly to monitor the plan. The final aspect of this guidebook explores how to draw on earlier decisions about indicators for success to review and adapt the plan where necessary.

The Training

The training element of the First Nation Watershed Planning Tool reviews the watershed planning process described in the guidebooks, and builds the capacity of trainees to implement the guidebooks with their First Nation or organisation. CIER also has a ‘webinar’ (web-seminar) which reviews the guidebook materials in an online participatory format. The webinar is archived online so that those who are interested can access it if they did not participate in the live seminar.



How to Use the Guidebooks

CIER has written the First Nations Watershed Planning Guidebooks for First Nations to use, to build on and to adapt. There is no one perfect process to develop a watershed plan, but there are process steps, linkages between different stages of the process, and ways that each step can inform the others to help make your process smoother. The five guidebooks provide suggestions about how you might structure a process that best fits your First Nation's needs and goals, as well as activities and community engagement opportunities that can meet your needs... and even be fun!

We have included information, ideas and suggestions that other resources do not, in order to make these tools more relevant to

First Nations and more considerate of First Nations' cultural and spiritual relationships with water. The experiences and stories of the four partner First Nations/First Nation organisations are included throughout the guidebooks to enrich and further explain the 'how to' process of watershed planning. We also include materials developed by other First Nations that provide additional ideas and inspiration. Indigenous people around the world say that they have a sacred relationship with water and traditionally have taken a long and wide-ranging view when making water-related decisions. First Nations in Canada have an opportunity to take a leadership role in watershed planning, and these guidebooks are intended to support First Nations in doing so.

Each of the guidebooks looks at one of the five elements in the First Nations Watershed Planning Framework. The information in the guidebooks is presented in a variety of ways. Look for the following icons as you read and work through the guidebooks:

As well, there are number of activities throughout the guidebooks that will help you to gather and organise information about your watershed and the planning process. Since community members hold a great deal of knowledge and ideas about water and the watershed, many of these activities offer ways of engaging community members and encouraging them to participate in the process. These activities are marked with the 'root of engagement', an icon that indicates the importance of grounding watershed planning processes in community priorities and concerns.

More Details



More information that provide more detail about specific areas

Story



Stories and examples of what other communities have done

Tip



Tips to help smooth the planning path

Quote



Quotes to inspire and support your work.

Activity



Activities to help you gather and organise information about your watershed and planning process





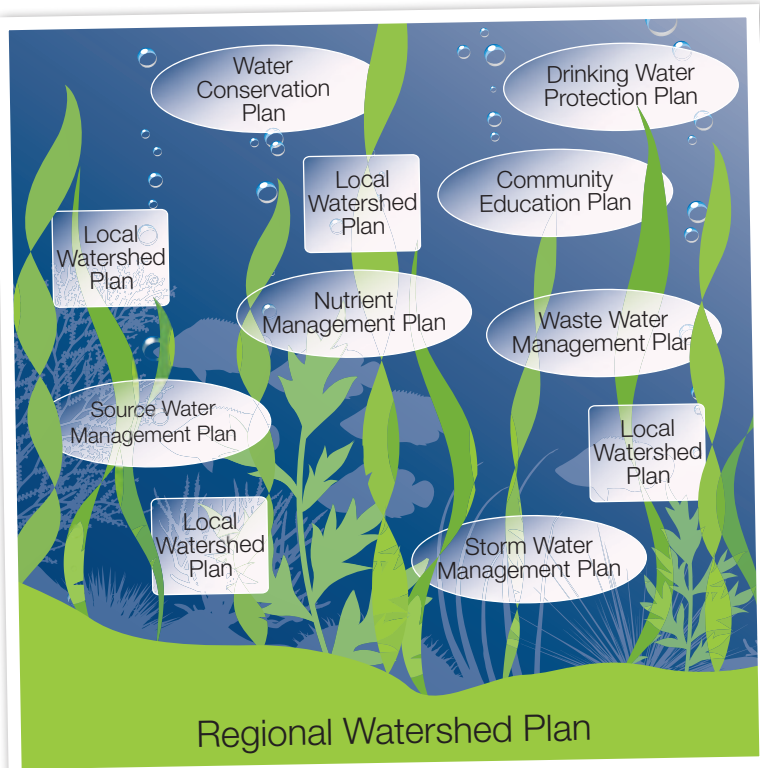
Locating your First Nation in the Watershed Planning Process

There could be many different processes or plans in place in your region that relate to watershed planning. Here are some examples of planning processes that your First Nation may already be a part of or may be interested in:

- Regional watershed planning (larger watershed)
- Local watershed planning (smaller watershed)
- Source water protection planning
- Water conservation/water demand management/water efficiency planning
- Storm water management planning
- Nutrient management planning
- Wastewater management planning
- Community education on water issues.

In an ideal situation, if all of these plans were being developed in one region, local watershed plans would 'fit' within the regional planning process and have aligned vision, values, and goals. Also, all the water-related plans listed here would be a part of a (comprehensive) watershed plan (i.e. source water protection, water conservation, nutrient management and community education should all be components of a watershed plan).

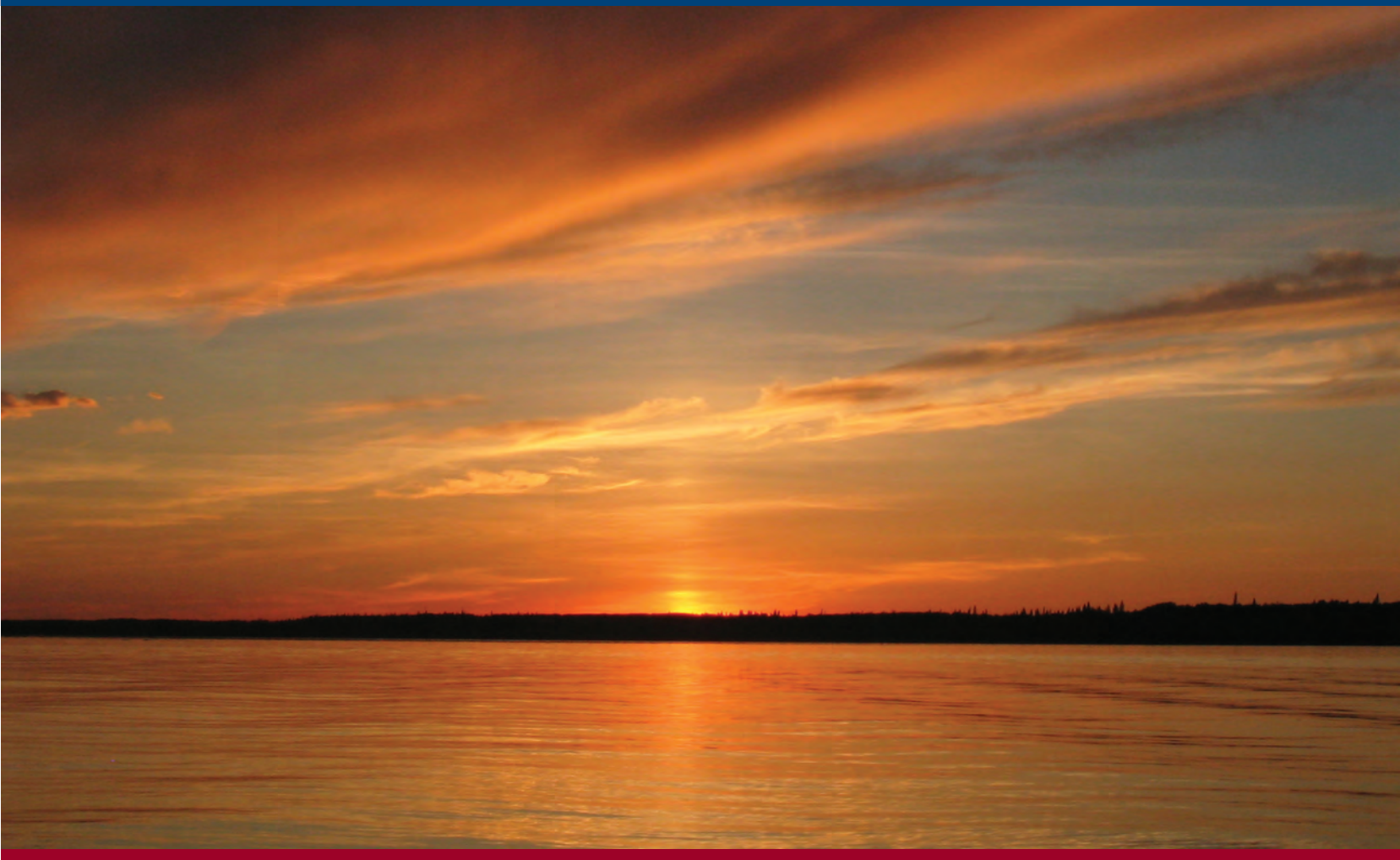
It might be good for your First Nation to 'locate' itself in all the water related work, to determine what its already happening and where to go from here. Make a flowchart that shows all the water related initiatives happening in your region and how your First Nation is connected to them.



Eelgrass is a marine plant. A bed of eelgrass is made up of many, many distinct plants, but the plant roots grow together, supporting each other and nourishing each other. In the same way, the plans in a larger watershed are interconnected to support each other in protecting the water within the watershed.



A FINAL WORD



The guidebooks focus on the processes of watershed planning to address the needs and concerns faced by First Nations. There are many other excellent resources available for watershed planning, many of which focus on technical aspects of watershed planning. These guidebooks do not duplicate those resources. However, since good watershed planning requires a balance of process and technical analysis, we suggest resources and other places to look for more information.

Also, chances are that this isn't the first time someone in your watershed has engaged in water-related planning. You may be drawing

on past studies to conduct a relatively independent watershed planning process, or (more likely) drawing on recent or current planning efforts and technical studies as you begin the process. Look at what has been done already and what is underway as you choose where to put, and how to maximise, your time and effort.

Finally, we hope these guidebooks support you in your efforts to take your message, knowledge and vision of water into your community and beyond so that all of our grandchildren will enjoy a world with healthy and abundant water.



PLAIN-LANGUAGE GLOSSARY

Aboriginal Knowledge – See *Indigenous Knowledge*.

Aboriginal Rights

Rights held by Aboriginal peoples (i.e. First Nations, Inuit and Métis) that have been recognised and affirmed by s.35 of the 1982 Canadian Constitution.

Adaptive Management

Adaptive management involves ‘iterative decision-making’, where results from the current management approach are reviewed and then later actions are adjusted based on what was learned from these results.

Aquifer

An underground layer of water-filled permeable rock or gravel that water can be drawn from (e.g. from a well). See also *Groundwater*.

Artesian Well

A type of well that uses water that flows by itself, without the use of a pump.

Baseline Information

A set of data (i.e. measurements imparting information) which can be compared with future data to see what changes have taken place over time.

Benthic Invertebrates

Organisms that do not have backbones and that live in the sediment or on the bottom of a water body.

Biodiversity

The variety or diversity of species within an ecosystem or area.

Biomes

Major ecological regions that are identified by the vegetation (i.e. plants) that commonly grow there; it is the landscape and climate qualities of these regions that determine which plants will grow and stay in these areas over long periods of time.

Blue Water

The water that flows over the land into streams, rivers and lakes and recharges groundwater. See also *Green Water*.

Canopy Interception – See *Interception*.

Chair/Chairperson

The person who leads a meeting, prepares an agenda, ensures that the meeting discussion stays on track and that everyone at the meeting has a chance to speak and be heard.

PLAIN-LANGUAGE GLOSSARY

Champion

Someone who promotes a particular idea, who motivates others and keeps momentum going.

Climate

The long term averaged and extreme weather conditions of a region. Climate is different from *Weather*.

Community Engagement

A process of talking with community members about important issues. Meetings, workshops, interviews, surveys, and community gatherings are examples of ways of engaging the community.

Community Planning

A process of planning with and for a community, which takes into account all elements of community health. It usually begins with a holistic vision for the community, and then may address specific priority areas.

Conservation District

An association of rural municipalities, usually based on watershed boundaries, that work with a province to manage the natural resources in their area. Usually, each conservation district has a board with representatives from the member rural municipalities, and may also have paid staff.

Conservation

An approach to managing the environment that protects the health and diversity of the natural world.

Consultation

A constitutional duty of the Crown to understand and accommodate the concerns of Aboriginal Peoples, required whenever Aboriginal peoples' potential or actual rights may be affected by decisions being proposed by Canadian governments.

Contamination

The presence of unwanted substances (e.g. chemicals, microorganisms) in the environment, which, if in great enough concentration, can negatively affect living things. See also *Pollution*.

Cultural protocol – See *Protocol*.

Culvert

A passage (a pipe or tunnel) used to enclose a flowing body of water, often used to allow water to pass underneath a road or railway.

Dams

An artificial barrier on a waterbody (usually a river) that controls or diverts water.

Decision-makers

The representatives of organisations and governments who have decision-making authority; for example, these individuals can approve a watershed plan on behalf of their organisation or government.

Deliverable – See *Output*.

Dot-mocracy

A tool for community engagement. Participants ‘vote’ by placing dots to show their priorities, agreement, or disagreement on posters with statements or questions.

Downstream

Following the path or current of a river or stream, away from the water source.

Dyke – See *Levee*.

Ecosystem Services

Services provided by ecosystems for the humans, animals, plants, birds and fish that live within them (e.g. regulation of water, climate moderation, wildlife habitat and biodiversity, a source of cultural and spiritual expression, recreation and tourism, a method of transportation).

Ecosystem

All the plants, animals, insects, birds and fish within a particular area, and their interconnections, along with the soil, water and other physical components.

Environmental Flows

The quantity, timing, and quality of water flows required to sustain freshwater and estuarine ecosystems and the human livelihoods and well-being that depend on these ecosystems.

Eutrophication

The usual result of an increase in nutrients to the waterways in an ecosystem to the extent that it changes the primary productivity of the system. It can lead to algal blooms, decreased availability of dissolved oxygen, and severe reductions in water quality, fish, and other animal populations.

Evaluation

The process of determining the impact and effectiveness of a plan when it is put into action.

PLAIN-LANGUAGE GLOSSARY

Evaporation

The process by which water becomes a vapour.

Evapotranspiration

Water that is transferred from the Earth's land surface to the atmosphere through evaporation and transpiration. Evaporation includes water lost to the atmosphere from sources such as soil, plants (i.e. interception), and waterbodies. See also *Transpiration*.

Facilitator – A person who leads or coordinates the work of a group, which includes ensuring the discussion stays on track. The facilitator remains impartial or neutral.

Floodplain

The flat land next to a waterbody that is covered by water (i.e. flooded) during times of high water flow.

Freshwater

Water found in lakes, rivers, streams or wetlands, that has low levels of dissolved salt (i.e. not ocean or sea water).

Governance

The processes used by governments or governing bodies, such as creating policy, making decisions, and administration.

Green Water

The water that is held in soil and plant material. See also *Blue Water*.

Groundwater

Water held underground in porous rocks and in spaces between rocks (e.g. in gravel). Groundwater is recharged as surface water seeps through the ground; it also rises to the surface in wetlands and springs. See also *Aquifer*.

Guiding Principles

The concepts that will steer the planning process. These principles may include foundational ideas about the relationship of the team/committee to the watershed, and may also include 'ground rules' for how the steering committee members will behave toward one another.

Habitat

The environment or area in which a particular species (i.e. animal, bird, or plant) lives.

Hydrologic Cycle

The process of constantly recycling water through an ecosystem. When clouds cool, the air becomes saturated with water, and the water falls as rain, snow, etc. It is then taken up by the soil and plants or flows over the surface of the land. It can also soak into the soil and become groundwater. It then evaporates back into the air, eventually condensing and forming clouds again. Also called the *Water Cycle*.

Hydromodification

Changing the hydrologic characteristics (e.g. volume, speed, or timing of high and low flows of waters) of a waterbody for a number of reasons (e.g. to manage the water resources, to protect against flooding or to make passage along or across rivers easier) but which may have unintended consequences, including deterioration of water resources.

Indicators

Measurable changes that show a result or *Outcome* has happened. In a planning context it means the signs or measures of success of a particular action, activity, or plan. Indicators can also refer to particular measures tracked over time that demonstrate an overall change in the health of the watershed.

Indigenous Knowledge

The knowledge gathered over eons by Indigenous people about their communities, the plants and wildlife, and water and landscapes in their territories, and the relationships between all things. Each community may have a different definition of what constitutes Indigenous Knowledge, and may manage and share this knowledge in different ways. Also called *Traditional Knowledge*, *Traditional Ecological Knowledge*, or *Aboriginal Knowledge*.

Inherent Rights

Rights held by First Nations that flow from the Creator.

Instream Flow Needs

The amount of water needed in a stream to adequately provide for downstream uses taking place in the stream. The flow of water is measured by volume of water per unit of time (usually cubic feet per second, or cfs).

Integrated Watershed Management Planning

A process of bringing together area residents, stakeholders and government representatives to collectively plan and manage human behaviours regarding water resources.

Interception

Precipitation that does not reach the soil, and instead is intercepted, or caught, by the leaves and branches of plants. Also called canopy interception.

PLAIN-LANGUAGE GLOSSARY

Invasive Species

Animals, fish, insects or plants that move or are moved into an area and have a negative effect on the ecosystem, often taking over and making it hard or impossible for indigenous species to survive.

Knowledge Holder

Someone who holds a body of knowledge within an Indigenous community. Each community will have its own way of defining and identifying knowledge holders.

Land Subsidence

The lowering of an area of natural land surface relative to another measure (e.g. sea level). It can be caused naturally or due to human activity.

Law

The body of rules and principles governing the affairs of a community and enforced by a political authority, a society, or a legal system.

Leachate

The liquid that seeps out of garbage dumps. If the material in the dump is toxic, the leachate can contaminate the soil, groundwater, and river systems of a watershed. Also known as 'garbage juice'.

Levee

A slope or wall that runs parallel to a waterbody that regulates water levels. It can be natural, such as an earthen embankment made of deposits of river sediment, or it can be an artificial structure built to reduce flood risk. Also referred to as a *Dyke*.

Logic Model

A way of setting out a predicted relationship between the objectives or actions to be undertaken and the eventual *Outcomes* that should result.

Monitoring

Observing and tracking changes in specific factors of the watershed.

Non-point Source Pollution

Pollution which can't be traced back to a single origin or source such as stormwater runoff, water runoff from urban areas and failed septic systems.

Nutrient Uptake

Occurs when plants take in nutrients (such as nitrogen or phosphorus) in the environment. This can keep the nutrients from ending up in the water system.

Nutrient

Substances (e.g. Nitrogen and phosphorous) consumed by living beings in order to live and grow.

Outcome

The change that results because of an action or activity. Outcomes are short to long-term changes that can be traced to the *Outputs*.

Output

The direct result of an action or activity. Outputs are usually physical products such as reports, data or infrastructure. Also called *Deliverable*.

Plan

A strategic outline of actions that will be undertaken to achieve a goal.

Point Source Pollution

Pollution that can be traced to a single point, such as a sewer line, discharge pipe or industrial smoke stack.

Pollution

Unwanted contamination of an ecosystem by chemical substances, noise, light or other substances. Pollution has negative effects on the ecosystem. See also *Point Source Pollution* and *Non-point Source Pollution*.

Precipitation

The quantity of water (a product of the condensation of atmospheric water vapour) falling (by gravity) to a specific area on the earth's surface within a specific period of time.

Primary Productivity

The measure of the total production of organic compounds from carbon dioxide, which is mainly through the process of photosynthesis in plants.

Protocol

Rules about appropriate behaviour or actions. Some protocols regulate expected and acceptable behaviour for particular occasions, activities or relationships with people. Others relate to how community decision-making happens or how the First Nation relates to other governments or to organisations. Still others may relate to the land or the waters. A protocol may also be called a *Cultural Protocol* or a *Traditional Law*.

PLAIN-LANGUAGE GLOSSARY

Quorum

The minimum number of people required to be present at a meeting in order to be able to make decisions.

Rights – See *Aboriginal Rights, Inherent Rights, or Treaty Rights*.

Rightsholder

A stakeholder who also has particular rights, such as inherent, Aboriginal, and Treaty rights, that are related to the area affected by the watershed plan. It may also include land title and land use rights.

Riparian Areas

Lands right next to water bodies, which form transitional areas from water to land (i.e. more wet than the land, more dry than the waterbody).

Runoff

Rain, melted snow or ice, or other water that is not absorbed by the surface and instead travels over the surface of the soil to streams, rivers, etc. Runoff may carry non-point source pollutants to rivers, streams, and lakes. Also called *Surface Runoff*.

Saltwater

Water that contains a high amount of dissolved salts, such as seawater or ocean water.

Science

Comes from the Latin word ‘scientia’, which means “knowledge”. A more narrow definition is the systematic study of humans and their environment, in which information is gathered using the *Scientific Method*. Sometimes also referred to as *Western Science*.

Scientific Method

A form of experimentation and observation to address scientific questions, or hypotheses. Experiments using the scientific method must be repeatable and must gather observable and measurable evidence.

Sediment

Fine-grained material that is transported by water or air and deposited on a surface (such as a river or lake bottom, or on land). Sediment can be made up of gravel, sand or even finer particulates.

Sink Services

The capacity of healthy freshwater systems to absorb and neutralise pollution.

Source Water

In its most narrow sense, untreated water (i.e., raw water) that is collected and treated for use as drinking water. It is also known as the location of the headwaters of any given body of water.

Stakeholder

Someone who has an interest in, and might be affected by, an issue. Stakeholders may be individuals, communities, businesses, organisations, or government.

Stewardship

The responsibility or action of taking care of the land, water, or ecosystem in a way that is concerned with its health and long-term sustainability.

Sublimation

To change state from a solid to a gas (or from a gas to a solid) without becoming a liquid in between.

Subwatershed

Smaller areas within a watershed, usually around a river or creek, to which the water drains.

Surface Runoff – See *Runoff*.

Surface Water

Water at ground level (e.g. in a river or lake).

Sustainable Development

Development that meets the needs of the present population without compromising the ability of future generations to meet their own needs.

Terms of Reference

A document outlining the purpose and structure of a group; it includes protocols for how a group will work together.

Topography

The shape and features of the land (e.g. mountains and valleys).

Traditional Ecological Knowledge – See *Indigenous Knowledge*.

Traditional Knowledge – See *Indigenous Knowledge*.

PLAIN-LANGUAGE GLOSSARY

Traditional Law

Rules of expected and acceptable behaviour; they can be rules about how people interact with each other, how community decision-making happens, how a First Nation relates to other governments or to organisations, or people's relationship to and use of the land or the waters. These are termed 'traditional' as they refer to the rules of practice followed by Nations in the past and in numerous cases still today.

Transpiration

In plants, it is where the water that has been absorbed by plants evaporates into the atmosphere. This mainly happens through stomates (pores on a leaf or stem), where plants take in carbon dioxide, release oxygen and lose water in the process.

Treaty Rights

Rights held by First Nations that have been affirmed or granted through a treaty-making process. These rights may be found in both the written text of the treaty as well as oral or written understandings or accounts of agreements made in addition to those contained within the written treaty document.

Upstream

The part of the river that is upriver; toward the source or against the current.

Values

Guidelines, principles or beliefs of an individual or group that identify how to live in a good way.

Vegetation

The plants, especially ground cover, in an area.

Vision

An imagined idea about what the future might look like. Useful for guiding the development of a *Plan*.

Water Cycle – See *Hydrologic Cycle*.

Water Diversion

Changing the natural flow of water (e.g. moving the flow of water from one course to another, or directing the flow of water draining from one area) through the use of dams, canals, or pipes. A form of hydromodification.

Water Yield

The amount of surface and subsurface water available at a given location after evapotranspiration and human use.

Waterbody

Any area that has surface water in a normal year (e.g. a lake, river, pond, or ocean).

Watershed

The area within which creeks, streams and rivers drain to one larger body of water such as a lake or a bay. Also known as a basin, catchment area, drainage basin, or river basin.

Watershed Boundary

The line marking the edge of the watershed. The watershed boundary changes depending on the size of the watershed (e.g. a watershed may be made up of many smaller watersheds, which may in turn be made up of even smaller watersheds).

Watershed Management

The process of managing human activities within a watershed area. Watershed plans are implemented through the process of watershed management.

Watershed Planning

The process of thinking about our current and future relationship with the waters, lands and resources in the watershed, and developing a plan to manage the watershed. Watershed planning allows all the jurisdictions within a region to work together to identify and address priorities and concerns from all areas of the watershed, for the benefit of everyone who lives there.

Watershed Vision

The idea an individual or community has for the watershed in the future, one that a watershed management plan seeks to achieve.

Wave Uprush

Occurs when waves on a lake or bay cause water levels to rise so much that the water backs up into rivers that drain into the lake.

Weather

Day to day climatic conditions (e.g. rain, sunshine). Weather is different from climate.

Western Science – *See Science.*

Wetland

A lowland area where the soil is saturated (i.e. cannot hold any more water) with water, either at all times or in certain seasons. Wetlands also may be partially or completely covered by shallow pools of water. Examples of wetlands include marshes, swamps, or bogs. Plants in wetlands can help absorb nutrients that might otherwise have a negative effect on nearby water bodies.

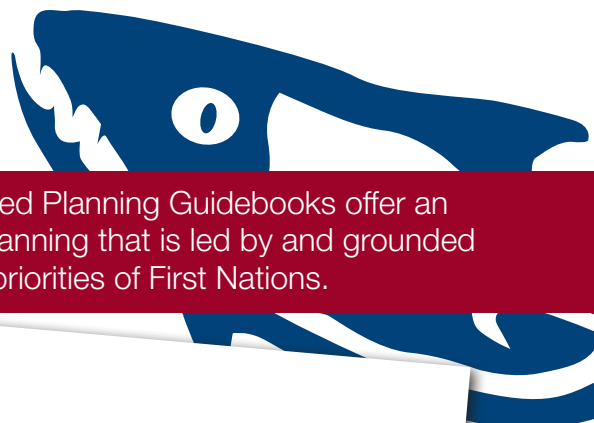


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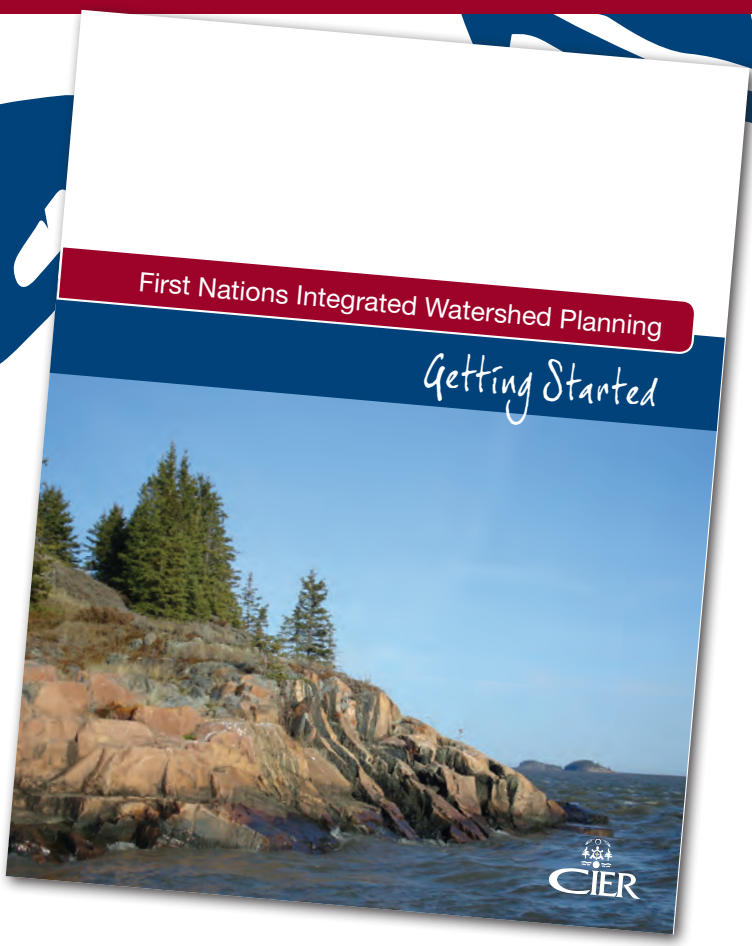
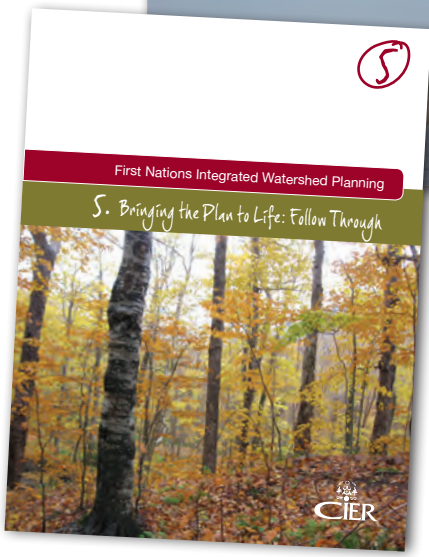
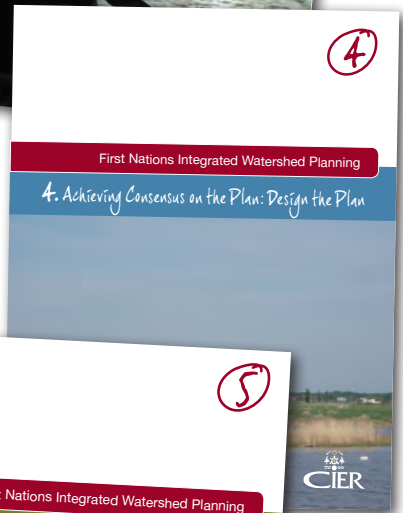
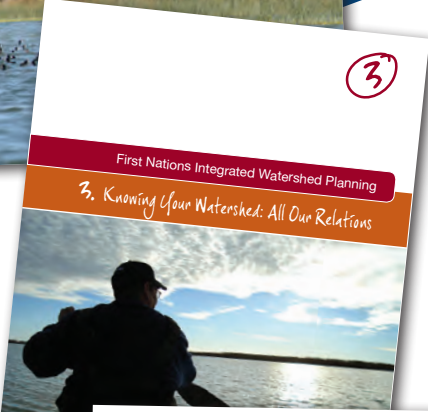
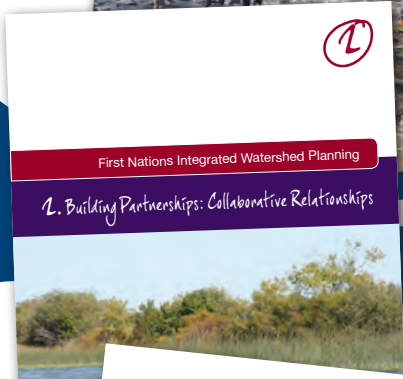
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The First Nations Watershed Planning Guidebooks offer an approach to watershed planning that is led by and grounded in the voices, values and priorities of First Nations.



This guidebook discusses:
The Need
The Action
Goals of the Guidebooks
How to Use the Guidebooks