



Environment  
Canada

Environnement  
Canada

“Beaches closed again this weekend. | Wetlands disappearing. | Boil water advisory in effect. Turn off the tap when you're brushing! | Algae blooms might kill our lake. | Record droughts for the Prairies. | Are oil sands a hazard to our waters? | Are these fish safe to eat? | Water shortages the biggest environmental concern on the planet: study. | Will we ever run out of water? | Conserving water and being environmentally friendly is not a fad. | What's your water footprint?”

Everyone's  
talking about  
**WATER**



It's time for action!

Canada 



### *Did you know?*

Canada has the best water quality ranking in the Americas, based on the Environmental Performance Index.

Over 8500 rivers and 2 million lakes cover 8.9% of Canada's total area.

The Great Lakes are the largest system of fresh surface water on Earth, containing approximately 18% of the world's fresh surface water.

We all play a role in protecting and conserving our water. From the highest levels of government policy to individual actions, every drop counts.

Let's talk about water. This brochure provides you with the basics about Canada's water resources and gives an overview of what the Government of Canada is doing to keep our water clean and safe.

## **Water, Water Everywhere?**

Canada is home to roughly 7% of the globe's renewable freshwater, making it the third-largest water supply in the world. So we might think there's an endless supply, but in reality our supply of clean, accessible water is limited. We have to learn to use it more wisely if we want to keep enjoying the social, economic and environmental benefits it provides.

We need to act now, and this is why the Government of Canada is taking a comprehensive approach to water that includes the Action Plan for Clean Water. The Action Plan helps address immediate environmental concerns, without losing sight of the longer-term goals for improved infrastructure, water-science research and monitoring of Canada's freshwater resources.

Together, we can ensure that we help conserve this precious natural resource for now and well into the future.

## Cleaning Up Our Waters

For too long, we have been treating our lakes and rivers without enough care: taking more than we need or releasing industrial pollutants, sewage, chemicals and agricultural runoff into these delicate ecosystems.

The Government of Canada is working hard to reduce pollution at the source, for example, by regulating municipal wastewater and specific industries such as pulp and paper mills and metal mines.

In 2010, Environment Canada spent more than \$140 million on water-related programs and science, including the clean-up of important water bodies such as Lake Winnipeg, the Great Lakes and the St. Lawrence. Working with partners, we have successfully restored environmental conditions in three Great Lakes Areas of Concern: Collingwood Harbour, Severn Sound and Wheatley Harbour.

Through the \$30-million, five-year Lake Simcoe Clean-Up Fund, the Government of Canada is helping local partners restore the health of Lake Simcoe through projects that reduce phosphorus inputs, rehabilitate habitats, restore the cold-water fishery, and enhance research and monitoring capacity. Since 2008, Environment Canada has approved 184 projects totalling nearly \$20 million.

### Spotlight: Lake Winnipeg Basin

The Government of Canada and the Province of Manitoba signed an agreement that provides the foundation for a long-term, collaborative and coordinated approach between the two governments to ensure the sustainability and health of Lake Winnipeg. The two governments will work closely in conducting scientific research and monitoring throughout the basin.

### Did you know?

The longest Canadian river is the Mackenzie River (Northwest Territories–Alberta–British Columbia), at 4241 kilometres.

At 614 metres deep, Canada's deepest lake—Great Slave Lake in the Northwest Territories—could easily submerge the CN Tower.

Lake Superior is the largest freshwater lake in the world by area.

Get involved with a community action project. Check out Environment Canada's funding programs that can help your organization get a clean-up project off the ground:

**[www.ec.gc.ca/pace-cape](http://www.ec.gc.ca/pace-cape)**

## Working Together

The Government of Canada is working with many partners, including grassroots organizations, universities, other levels of government and internationally to find ways to protect and conserve our water.

In Atlantic Canada, Environment Canada has signed an agreement on environmental cooperation with the four provincial governments including a water annex and work plan outlining how they will work together to protect and conserve our water resources. Additionally, Environment Canada's Atlantic Ecosystem Initiatives provides funding to community groups to carry out projects that are designed to have a positive impact on the entire ecosystem.

Across the country, our scientists collaborate with world-class researchers. For example, the University of Saskatchewan, which was recently awarded a Canada Excellence Research Chair in Water Security, has located its new water security institute at Environment Canada's National Hydrology Research Centre. At this centre, scientists are working using an interdisciplinary and integrated approach to addressing regional and national water issues.

Both Canada and the United States are affected by the other's actions in lake and river systems along the border. The two countries cooperate under the Boundary Waters Treaty to manage these waters. The government has in place a number of separate agreements, such as the Canada–U.S. Great Lakes Water Quality Agreement, to help restore and maintain the chemical, physical and biological integrity of the waters of the Great Lakes and the portion of the St. Lawrence River that straddles the Canada–U.S. border.

The Government of Canada is also making an important contribution on the international stage, through its more than 30 years of involvement and \$2.5-million investment in the United Nations Environment Programme's Global Environmental Monitoring System, GEMS/Water.

## Chemicals and Our Water

Human waste and industrial activities cause water pollution that can seriously harm fish and other wildlife. Each body of water is part of a delicately balanced ecosystem in continuous interaction with the surrounding air and land. Freshwater bodies have a great ability to break down some waste materials but not in the quantities discarded by today's society.

The result of this overload is pollution that eventually puts the ecosystem out of balance. Chemicals in aquatic ecosystems can harm fish and wildlife by reducing fertility and causing genetic deformities, immune system damage, tumours and death.

Through the Chemicals Management Plan, the Government of Canada is taking action to regulate chemicals that are harmful to the health of Canadians and our ecosystems. Federal regulations also restrict the level of phosphorus in household and industrial cleaning products such as laundry and dishwasher detergents. Phosphates released into the environment from these products can flow into waterways and cause algae, including blue-green algae, to grow in lakes and rivers.

## What You Can Do

- ♦ Use EcoLogo<sup>™</sup>-certified environmentally friendly products around the house. Visit [www.ec.gc.ca/education](http://www.ec.gc.ca/education) for more information.
- ♦ Use detergents that are phosphate-free.
- ♦ Never dump hazardous substances down storm drains because they flow directly into waterways.
- ♦ Dispose of paints, car fluids and other potentially dangerous substances properly—they can leach into groundwater. Call your municipality to learn about the disposal method in your region.



One drop of oil can render up to 25 litres of water unfit for drinking.



## Water Science that Benefits You

For 40 years, Environment Canada scientists have explored diverse areas that impact our water quality and quantity. For example, they have worked to understand and improve water quality in the Great Lakes–St. Lawrence ecosystem, to understand Prairie potholes, as well as the Arctic and our northern river basins.

Environment Canada has a large network of specialists collecting data about water quality and quantity. Together with other federal departments and provincial and territorial governments, our specialists monitor chemical and biological characteristics of Canada's watersheds at more than 460 sites. In partnership with the provinces and territories, we also measure water levels and provide flow estimates at an additional 2600 sites.

In addition to monitoring freshwater quality and quantity, Environment Canada has been monitoring marine shellfish waters since 1971 through the Canadian Shellfish Sanitation Program. Monitoring of water quality for pollution sources near shellfish-harvesting areas helps protect the public from the consumption of contaminated shellfish and ensures that Canada meets established international sanitary standards.

Current water-science research examines things such as harmful algal blooms and ways to reduce their impact, the oil sands and potential impacts on water quality, how air and ground water quality affect surface water quality, aquatic biodiversity, and impacts of agriculture and aquaculture. Our scientists have pioneered innovative technologies, their work has improved the storm water and wastewater treatment processes, they have brought ecotoxicological research to the forefront of international regulatory agendas and are creating new scientific knowledge for better managing aquatic resources.

Through the Canadian Environmental Sustainability Indicators (CESI) initiative, the federal government reports on environmental indicators that track the long-term trends for issues of key concern to Canadians. Water availability indicators track water levels over time and how humans affect water supply through land use, reservoir storage, water diversions and water withdrawals.

Environment Canada's scientists are generating the knowledge Canadians need to solve environmental problems and protect the aquatic environment now and for the future.

*Did you know?*

Every day over 600 scientific and technical professionals working for Environment Canada conduct leading-edge research to better understand environmental issues that affect Canada's water resources.

## Treating Our Water Right

Cleaning up our wastewater is a priority; it is simply not acceptable that untreated and undertreated sewage continues to be discharged into some of our waterways across the country.

Together, at all levels of government and through the Canadian Council of Ministers of the Environment (CCME), we have looked at this issue and agree that it is important to act. To tackle this challenge, Environment Canada has developed proposed Wastewater Systems Effluent Regulations.

Once in force, the proposed regulations would phase out the discharge of untreated and undertreated sewage, requiring wastewater facilities to move to at least secondary treatment or equivalent. This will ensure reduced risks to human and environmental health as well as the fishery resources. The proposed regulations would be phased in, using a risk-based approach to provide facilities with time to meet the new standards. In higher risk situations, facility operators will have until 2020, while those in lower to medium risk situations will have until 2030 or 2040. Coordination with provinces and territories would continue as the federal regulations are implemented.

**Per capita, water consumption in Canada is the second highest in the world, exceeded only by the United States.**

**The average Canadian uses 328 litres of water per day in his or her home in these ways:**

**35% Bathing**

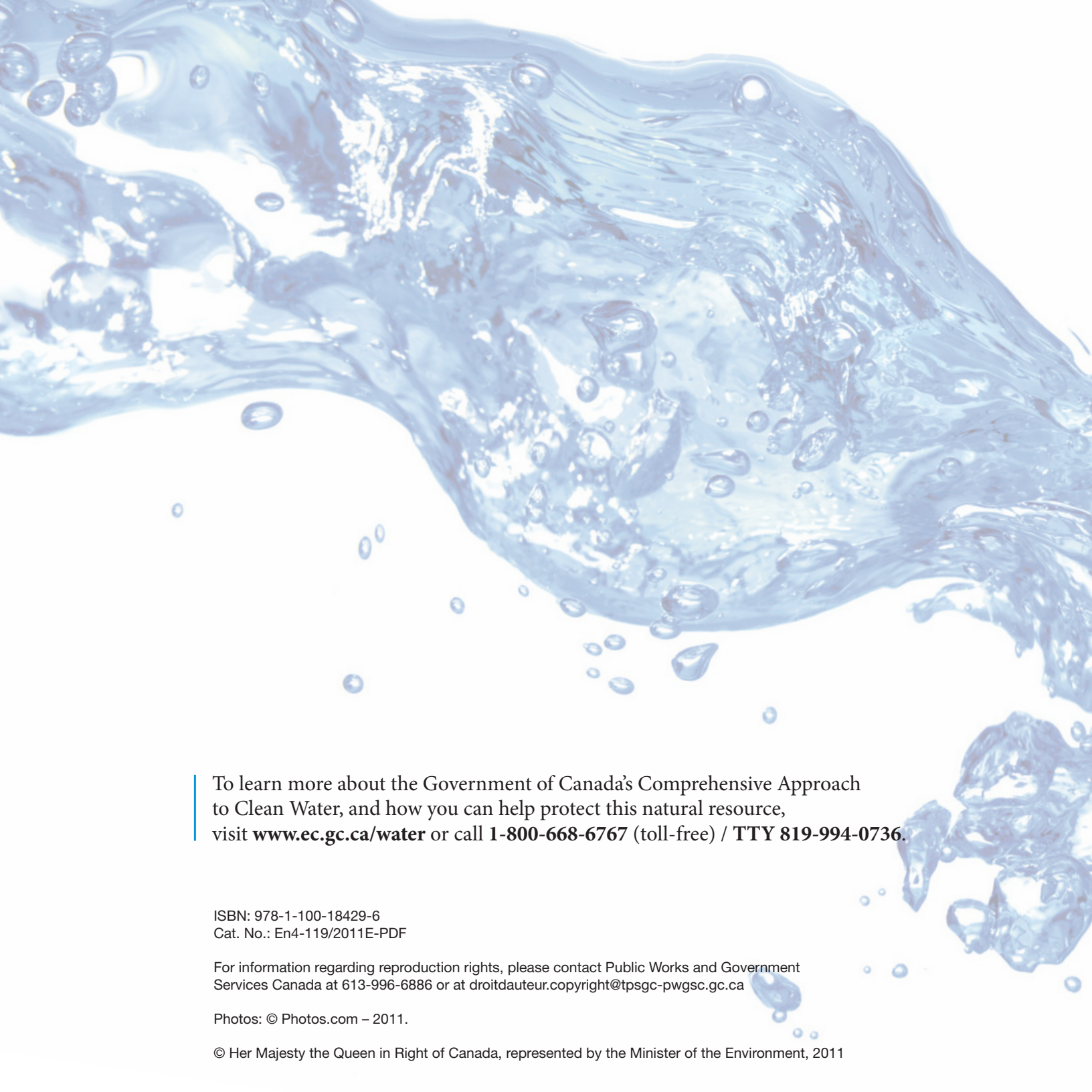
**30% Toilet flushing**

**25% Laundry and cleaning**

**10% Cooking and drinking**

**Cut household water use, by making small, simple changes in your everyday life, such as turning off the water while brushing your teeth or investing in water-efficient appliances.**





To learn more about the Government of Canada's Comprehensive Approach to Clean Water, and how you can help protect this natural resource, visit **[www.ec.gc.ca/water](http://www.ec.gc.ca/water)** or call **1-800-668-6767** (toll-free) / **TTY 819-994-0736**.

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