



The Canada Water Act

Annual Report

1992-1993

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The Canada Water Act

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Deputy Prime Minister
and Minister of the Environment



Vice-première ministre et
ministre de l'Environnement

Hull, Canada K1A 0H3

His Excellency
The Right Honourable Ramon J. Hnatyshyn, P.C.,
C.C., C.M.M., C.D., Q.C.
Governor General of Canada
Rideau Hall
Ottawa, Ontario
K1A 0A1

Your Excellency:

I respectfully submit to Your Excellency and to
the Parliament of Canada the annual report on operations
under the Canada Water Act for the fiscal year 1992-1993.

I have the honour to be, Sir, Your Excellency's
obedient servant.

A handwritten signature in cursive script, reading "Sheila Copps".

Sheila Copps

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B. HIGHLIGHTS, 1992-1993

B-1. REPORT ON PART I OF THE LEGISLATION: COMPREHENSIVE WATER RESOURCE MANAGEMENT

1. Federal-Provincial-Territorial Cooperation

Mackenzie River Basin

Discussions reached an advanced stage for the proposed Mackenzie River Basin transboundary waters master agreement, under negotiation among the governments of Canada, Alberta, British Columbia, Northwest Territories, Saskatchewan and Yukon Territory.

The agreement, which had not been concluded by year-end, would respond to a recommendation of the 1978-1982 Mackenzie River Basin Study which was conducted by the same governments. The recommendation called for the negotiation of an interjurisdictional agreement to address water management issues such as minimum flows, flow regulation and water quality at boundary crossing points.

The proposed agreement would also provide an umbrella for up to seven bilateral water management agreements under negotiation among the jurisdictions. It would commit the signatories to principles for managing the water resources, for example, providing for early consultation on developments that might affect the ecological integrity of the aquatic ecosystem in another jurisdiction. In addition, it would establish a mechanism for resolving issues in a cooperative and harmonious manner.

2. Interdepartmental Committee on Water

The release of the second progress report on the *Federal Water Policy* was postponed until early 1994.

3. Federal-Provincial Water Resource Management Programs

3.1 Regulation, Apportionment, Monitoring and Survey Programs

Prairie Provinces Water Board

An Amending Agreement to the Master Agreement on Apportionment was concluded with Manitoba, Saskatchewan and Alberta on April 2, 1992. The primary purpose of the amending agreement was to define

A. INTRODUCTION

The *Canada Water Act*, proclaimed on September 30, 1970, provides the framework for joint federal-provincial management of Canada's water resources. Section 38 (*Revised Statutes of Canada, 1985*) of the Act requires that a report on operations under the Act be laid before Parliament after the end of each fiscal year. This, the twenty-first report, covers operations to March 31, 1993.

In addition to joint federal-provincial undertakings, this report describes other federal activities under the Act, including water research, water conservation and public information programs. A notable highlight was the holding of Canada's First National Conference and Trade Show on Water Conservation in Winnipeg in February 1993.

The fiscal year 1991-1992 served as the base year for the updating of this annual report. This report is much shorter, reporting only on significant changes from the base year. Future reports will follow a similar format.

Provisions of the *Canada Water Act*

Part I of the Act provides for the establishment of federal-provincial consultative arrangements for water resource matters (Section 4) and for cooperative agreements with the provinces to develop and implement plans for the management of water resources (Sections 5, 6 and 8). Section 7 enables the Minister, directly, or in cooperation with any provincial government, institution, or person, to conduct research, collect data, and establish inventories associated with water resources.

Part II envisages federal-provincial management agreements where water quality has become a matter of urgent national concern. It permits the joint establishment and use of federal or provincial incorporated agencies to plan and implement approved water quality management programs.

Part III, which provides for regulating the concentration of nutrients in cleaning agents and water conditioners, was incorporated into the *Canadian Environmental Protection Act* (CEPA) by a proclamation on June 30, 1988. Information concerning the regulation of nutrients will be reported in the CEPA annual report to Parliament.

Part IV contains provisions for the general administration of the Act. In addition, Part IV provides for inspection and enforcement, allows the Minister to establish advisory committees and permits the Minister, either directly or in cooperation with any government, institution or person, to undertake public information programs.

the role of the Board in interprovincial water quality management. For this purpose, the Parties signed Schedule E (Agreement on Water Quality) which provides for water quality objectives at eleven interprovincial boundary reaches. The Parties also agreed to consider groundwater matters that have implications for transboundary waters.

Water Quantity Data Collection

Work under Project 2000, the initiative for hydrometric modernization, continued during 1992-1993. The 100-station pilot study being carried out in Alberta was reconfigured to 56 stations, and a second pilot study of 20 stations was established in Saskatchewan. New field technology was developed and evaluated with participation from the private sector. The three Direct Readout Ground Stations were shut down and replaced by satellite receiving stations of the Meteorologic Information Service of the Atmospheric Environment Service.

Water Quality Monitoring Agreements

No new agreements were signed during the year. Water quality monitoring agreements were actively under negotiation with Nova Scotia, Yukon and the Northwest Territories. Negotiations with Alberta, Saskatchewan and Ontario were on hold.

3.2 Water Management Programs

Work Sharing Arrangement: Studies on Water Resource Management for Economic Development in New Brunswick

Projects conducted during the second year of the studies covered a wide range of water resource issues relating to the economy. Highlights include a multi-partner project to explore the sustainable use of groundwater from local aquifers for the storage and recovery of thermal energy for both heating and cooling; the completion of a study to develop software for assessing the integration of potential aquaculture development with traditional coastal resource uses without harmful effects on natural estuaries; and the initiation of a demonstration municipal rate study in Newcastle, New Brunswick.

Agreement for Developmental Flood Forecasting in New Brunswick

In March 1993 Environment Canada concluded a four-year Contribution Agreement for Developmental Flood Forecasting with New Brunswick.

Under this agreement the support for development of flood forecasting in the Saint John River Basin and the Kennebecasis River Basin will continue. The federal contribution will be up to \$50,000 per year from 1992-1993 to 1995-1996 inclusive.

Great Lakes Water Quality Agreement

During the year the Canada-Ontario Agreement was extended to March 31, 1993 with Canada and Ontario each providing up to \$1.87 million annually for the monitoring of point and nonpoint sources of pollution. At year-end a new agreement was under negotiation.

Northern River Basins Study Agreement

The purpose of this Agreement, signed by Canada, Alberta and the Northwest Territories in 1991, was to assess the cumulative effects of industrial development on the Peace, Athabasca and Slave river systems. The second year of the study focused on the development and coordination of a work plan for scientific research. Accomplishments included the initiation of research on traditional knowledge; examination of the effects of ice on effluents; research on nutrients introduced from municipal, industrial and natural sources; compilation and analysis of data on the contamination of biota and bottom sediments; and the initiation of food web investigations.

Agreement Respecting the Fraser Basin Management Program

In support of the Fraser River Action Plan under Canada's Green Plan, an Agreement Respecting the Fraser Basin Management Program was signed on May 26, 1992 by Canada (represented by Environment Canada and Fisheries and Oceans Canada), British Columbia, and representatives of local government. The purpose of the agreement was to provide for sustainable development in the Fraser basin by guiding the development of the management program and establishing a multi-stakeholder process to oversee its preparation and implementation.

Agreement Respecting Water Resource Management and Information Exchange in the Yukon and Alsek River Basins

The Canada - British Columbia - Yukon Territory committee established under the Agreement created a working group to identify all program activities related to water resources to be undertaken under the Agreement. Joint program activities were identified and the working

group will be exploring opportunities for the signatories to become more cost effective through additional cooperation in program activities.

3.3 Flood Damage Reduction Program

During the year, the Flood Damage Reduction Program was active throughout most of Canada.

A major Environment Canada policy review of the Flood Damage Reduction Program was conducted. Although highly successful, the program was approaching maturity with about 90% of priority mapping completed. The review resulted in a decision to accelerate the completion of flood-risk mapping agreements, and to make the transition to low-cost maintenance activities by 1996. Maintenance activities include updating existing maps and public information as necessary, and continuing the policies of the Program which discourage new undertakings vulnerable to flood damages in designated flood-risk areas.

No new flood-risk mapping agreements were signed during 1992-1993. However, agreements to renew the Canada - Quebec, Canada - British Columbia and Canada - Newfoundland mapping agreements, to extend the Canada - Saskatchewan mapping agreement and to undertake maintenance activities with Ontario and New Brunswick were under negotiation.

During 1992-1993 an additional 142 communities were covered under some 34 newly designated flood-risk areas. These designations brought the total coverage to over 703 communities in 258 designated areas since the inception of the program in 1975.

The mapping of flood risks on Indian Lands also continued during the year in Ontario, Manitoba and British Columbia under the 1990 Memorandum of Understanding between Environment Canada and Indian and Northern Affairs Canada.

4. Other Cooperative Arrangements

Traditional Knowledge Study in the Hudson Bay Bioregion

In March 1993 Environment Canada concluded a two-year agreement with the Environmental Committee of Sanikiluaq (Belcher Islands, Northwest Territories) to support a study of traditional ecological knowledge and management

systems in the Hudson Bay bioregion. With federal contributions of up to \$50,000 annually approved for 1992-1993 and 1993-1994, the purpose of the study was to add a new dimension to existing and ongoing scientific research in the Hudson Bay bioregion with the information obtained from aboriginal ecological knowledge. The Environmental Committee was formed by the Municipal Council of Sanikiluaq in 1990 to address the issue of hydroelectric projects in the region.

5. Water Research and Socioeconomic Activities

5.1 National Water Research Institute

The following research highlights were identified:

- Under the Great Lakes Action Plan, sources and pathways of certain volatile organic compounds were investigated as part of the development of Lakewide Management Plans (LAMPS), and a nutrient and contaminants model was developed for application in the Lake Ontario LAMP.
- Investigations were conducted on the impacts, factors controlling the distribution and methods of mitigation of zebra mussels in the Great Lakes area.
- In support of the St. Lawrence River Action Plan, investigations of the volumes of sediments contaminated with various metals and persistent organics were completed, and studies of currents, suspended sediment and sediment transport were conducted.
- Aspects of the mobility and impacts of metals were investigated in northern Ontario, and in British Columbia as part of research activities under the Fraser River Action Plan.
- Development of an expert system (EXPRES) for assessing the risk of groundwater contamination from pesticide use was completed and field tests were initiated in a number of agricultural areas across Canada.
- A progress report was prepared on a project to investigate UV-B impacts on freshwater ecosystems. Initial results and recommendations reflected an emerging concern that effects would be most felt in shallow waters such as estuaries which

serve as important sites for the reproduction and feeding of desirable species.

- In partnership with Fisheries and Oceans Canada, the possible causes of the decline of the St. Lawrence eel fishery were examined, including altered ocean climate.

5.2 National Hydrology Research Institute

Under the institute's ongoing ecosystem-based research program, the following activities were initiated during 1992-1993:

- **Cold Regions Hydrology and Ecology** - an examination of the role played by undisturbed forest ecosystems in regulating water flow and microclimate in the southern boreal forest of Canada (Prince Albert Model Forest Research Project under the Green Plan).
- **Sustainable Groundwater Resources** - an investigation of sources of nitrate contamination of groundwater in the Fraser lowlands of British Columbia, believed to stem from long-term agricultural practices.
- **Ecosystem Health and Cumulative Effects** - the identification and assessment of ecological and hydrological stressors on river, lake and terrestrial ecosystems and development of indicators of ecosystem integrity (for the Northern River Basins Study and the Fraser River Action Plan).
- **Sustainable Ecosystems in Semi-arid Regions** - a collaborative investigation of the impacts of environmental stressors such as contaminants, droughts, and land-use activities on the biodiversity and ecosystem integrity of prairie wetlands.

Significant progress in ongoing research included the installation of an Image Analysis/Geographic Information System at the institute to enhance research on hydrological models, which can be used in the effective management of water resources under climate variability.

5.3 Water Conservation Conference

Canada's First National Conference and Trade Show on Water Conservation, arranged by Environment Canada and partner organizations, was held in Winnipeg in February 1993. The conference

was well received by over 400 delegates representing all three levels of government, industry, associations, institutions, manufacturers and distributors. The proceedings of the conference will be published during 1993-1994.

The Interdepartmental Advisory Group on Water Conservation at Federal Facilities released *A Water Conservation Plan for Federal Government Facilities* (and an accompanying manual) at the conference. This plan will be presented to all federal departments and agencies coast to coast during 1993-1994.

A new water rate setting manual for Canadian municipalities, produced by the Canadian Water and Wastewater Association and the Rawson Academy of Aquatic Sciences under contract to Environment Canada, was also released at the conference. A series of training workshops was planned to promote its application throughout Canada.

B-2. REPORT ON PART II OF THE LEGISLATION: WATER QUALITY MANAGEMENT

There were no activities conducted during the year pursuant to Part II of the *Canada Water Act*.

B-3. REPORT ON PART IV OF THE LEGISLATION: PUBLIC INFORMATION PROGRAM

Educating the Canadian public on water issues is an ongoing process and one that requires considerable effort in updating and revising materials so that they remain credible and accurate. Furthermore, much time and effort is devoted to reaching the many interested individuals and groups through workshops, conferences, displays, and direct response to innumerable inquiries.

This past year several publications were updated and new ones were added.

1. Freshwater Series

Four new titles were added to the series of general fact sheets on water issues. The new fact sheets deal with water conservation; water, art and the Canadian identity; water's role in sediment transport; and the effect of climate change on Canada's water resources.

2. Primer

A Primer on Fresh Water, which provides questions and answers relating to Canada's fresh water and how it is managed, was revised and reprinted. As well as the original content, the second edition contains additional answers to questions on water conservation and water in Canada's North. The publication was also translated and made available in Inuktitut - a language used by more than 32,000 Inuit in Canada's North.

3. From the Mountains to the Sea: A Journey in Environmental Citizenship

This activity booklet, designed for 9 to 12 year old students, was reprinted and distributed nationally. It takes an ecosystem approach to resource management and traces the flow of a river from its headwaters to its outflow into the sea.

To obtain free copies of these publications, contact:

Enquiry Centre
Environment Canada
Ottawa, Ontario K1A 0H3
Toll free: 1-800-668-6767
Fax: (819) 953-2225

C. TABLE: STATUS OF WATER MANAGEMENT AGREEMENTS
(Federal or Federal-Provincial unless otherwise indicated)

Regulation, Apportionment, Monitoring and Survey Programs		
Under Negotiation	New in 1992-1993	Ongoing in 1992-1993
<ul style="list-style-type: none"> • Water quality monitoring agreements with Saskatchewan, Nova Scotia, Ontario, Alberta, Yukon Territory and the Northwest Territories. 	<ul style="list-style-type: none"> • Amending Agreement to Master Agreement on Apportionment with Manitoba, Saskatchewan and Alberta (Prairie Provinces Water Board). 	<ul style="list-style-type: none"> • Water quantity surveys with all provinces. • Prairie Provinces Water Board. • Mackenzie River Basin Committee. • Water quality monitoring agreements with Quebec, British Columbia, Newfoundland, New Brunswick, Manitoba and Prince Edward Island. • Ottawa River Regulation Planning Board.
Water Management Programs		
Under Negotiation	New in 1992-1993	Ongoing in 1992-1993
<ul style="list-style-type: none"> • Mackenzie River Basin Transboundary Waters Master Agreement. • Agreement Respecting Water Resource Management with Newfoundland. • New Agreement Respecting Great Lakes Water Quality with Ontario. • Water/Economy Agreement with Nova Scotia. 	<ul style="list-style-type: none"> • Extension of the Canada-Ontario Agreement on Great Lakes Water Quality. • Agreement Respecting the Fraser Basin Management Program. • Developmental Flood Forecasting in New Brunswick. • Traditional Knowledge Study: Hudson Bay Bioregion *. 	<ul style="list-style-type: none"> • Studies on Water Resource Management for Economic Development in New Brunswick. • Northern River Basins Study Agreement. • Fraser River Estuary Management Agreement. • Mackenzie River Basin General Agreement. • Fraser Flood Control. • Yukon and Alsek River Basins.
Flood Damage Reduction Program		
Under Negotiation	New in 1992-1993	Ongoing in 1992-1993
<ul style="list-style-type: none"> • Renewed Mapping/General Agreement with Newfoundland and Quebec. • Extension of General and Mapping Agreements with Saskatchewan and British Columbia. • Maintenance Agreement and new General Agreement with New Brunswick. • Maintenance Agreement with Ontario. • Extension of Community Measures Agreement with Saskatchewan. 		<ul style="list-style-type: none"> • Agreement on policies with Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland, Northwest Territories, Nova Scotia, Ontario, Quebec and Saskatchewan. • Mapping Agreement with British Columbia, Alberta and Manitoba. • Maintenance Agreement with Nova Scotia. • Study Agreement with Manitoba. • Memorandum of Understanding on Indian Lands.

* Contribution agreement with the Environmental Committee of Sanikiluaq, Belcher Islands, Northwest Territories.

Notes

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