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The Canada Water Act
Annual Report

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Minister
Environment Canada

Ministre
Environnement Canada

His Excellency,
The Right Honourable Jules Léger,
Governor General and Commander-in-Chief of Canada.

May it Please Your Excellency:

I have the honour herewith, for the information of Your Excellency and the Parliament of Canada, to present the Annual Report on the Canada Water Act for the fiscal year ended March 31, 1976.

Respectfully submitted,

Roméo LeBlanc
Acting Minister

Deputy Minister
Environment Canada

Sous-ministre
Environnement Canada

The Honourable Roméo LeBlanc,
Acting Minister of the Environment,
Ottawa, Canada.

Sir:

I have the honour to submit the Annual Report on the Canada Water Act for the fiscal year ended March 31, 1976.

Respectfully submitted,

J.B. Seaborn

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INTRODUCTION

The Canada Water Act, proclaimed on September 30, 1970, provides the framework for joint federal-provincial management of Canada's water resources. Section 36 of the Act requires that a report on operations under the Act be laid before Parliament as soon as possible after the end of each fiscal year. This, the fourth annual report, covers operations to March 31, 1976.

During 1975-76, Treasury Board undertook to establish a ceiling for Canada Water Act cost-shared programs. For 1976-77, this ceiling has been set at $17.9 million. While the ceiling is intended to integrate many categories of Canada Water Act financing, specific Treasury Board approval is still required for all new or amended cost-shared projects.

Essentially the same information is presented herein as in previous annual reports, that is, the provisions of the Act are first stated, followed by a brief report on activities under the Act. However, as shown in the Table of Contents, the grouping of the information has been changed in order to present the various activities in terms of the four main parts of the Act. Details on the principal federal-provincial agreements under the Canada Water Act are given later in the report.

PROVISIONS OF THE CANADA WATER ACT

Part I of the Act provides for the establishment of formal federal-provincial consultative arrangements for water resources matters (Section 3); and for cooperative agreements with the provinces for the development and implementation of comprehensive plans for the management of water resources (Sections 4 - 7). This part also enables the Minister, directly, or in cooperation with any provincial government, institution or person, to conduct research, collect data and establish inventories associated with the water resources.

Part II envisages federal-provincial agreements where water quality has become a matter of urgent national concern. This part permits the establishment of joint federal-provincial incorporated agencies (although existing federal and provincial corporations might alternatively be used) to plan and implement approved water quality management programs. In carrying out these programs, a variety of tools may be employed, such as the setting of standards backed by the prospect of a heavy fine; effluent discharge fees designed to attach a cost to the discharge of non-toxic wastes, thereby providing an incentive to a discharger to take steps to reduce or eliminate the wastes he discharges; and user fees for wastes treated by facilities owned and operated by the agency.

Part III of the Act provides for the passing of regulations banning the manufacture or import for use or sale in Canada of any cleaning agent or water conditioner that contains a proscribed nutrient in a greater concentration than that prescribed by regulations. By providing for regulations to control phosphates in detergents, the Act provides one of the principal means of reducing the rate of eutrophication of water bodies.

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

ACTIVITIES UNDER THE CANADA WATER ACT: PART I

Federal-Provincial Consultative Committees

To overcome the difficulties created by shared jurisdictional responsibilities for water resource planning and management in Canada, the Canada Water Act provides for the establishment of formal federal-provincial consultative arrangements on water resource matters. Specifically, these arrangements are met through federal-provincial consultative committees which are to maintain continuing consultation on water resource matters and to provide advice on priorities for research, planning, conservation, development and utilization; and to both advise on the formulation of, and facilitate the coordination and implementation of, water policies and programs.

Ontario formally entered into consultative arrangements with the federal government on March 6, 1976, the last of the provinces to do so.

Federal-Provincial Agreements

In practice, when agreement has been reached on the need for a specific water resource program, the participating governments contribute funding, information and expertise in agreed ratios. It is usual for the federal government to meet half the costs and the provincial government(s), the other half. Thereafter, an agency is established to carry out the program. That agency may be a Task Force, Study Board, Implementation Board, Committee or other agency. Table 1 shows a breakdown of current agreements and other cooperative arrangements under the Canada Water Act, and indicates the stage each has reached. Tabulations appearing later in this report provide further details on current activities.

Progress in Basin Planning and Management

Implementation Programs: During 1975-76, work on one federal-provincial implementation agreement was virtually completed, two joint agreements were initiated, two others were under negotiation and several agreements were continued.

An implementation program to remedy the low water problems of the Peace-Athabasca Delta was virtually completed during 1975-76. This stage of the program involved the installation of two structures - a submerged weir on the Rivière des Rochers and an earth dam on Revillon Coupé - and

Table 1 Status of Principal Implementation Agreements, Planning Studies and Other Cooperative Arrangements Under the Canada Water Act

IMPLEMENTATION AGREEMENTS

Under Negotiation	New during 1975-76	Ongoing during 1975-76	Completed
Saint John basin Lake Winnipeg, Churchill and Nelson Rivers	Okanagan basin Qu'Appelle basin	Lower Fraser Valley Flood Control Program Southwestern Ontario Dyking Metropolitan Toronto(CWCAA)* Upper Thames Agreement(CWCAA)*	Peace-Athabasca Delta (1976)

PLANNING STUDIES

Under Negotiation	New during 1975-76	Ongoing during 1975-76	Completed
Lake Winnipeg Mackenzie Basin	Shubenacadie-Stewiacke basin	Souris basin Flow Regulation-Montreal region Fraser River Upstream Storage St.Lawrence River Water Quality Canada-Ontario Agreement on Lower Great Lakes Water Quality Churchill River (Saskatchewan) Northern Ontario Water Resources	Peace-Athabasca Delta (1972) Saskatchewan-Nelson basin (1973) Okanagan basin (1974) Qu'Appelle basin (1972) Saint John basin (1975) Lake Winnipeg, Churchill, and Nelson Rivers (1975)

OTHER COOPERATIVE ARRANGEMENTS

Under Negotiation	New during 1975-76	Ongoing during 1975-76	Completed
Flood Damage Reduction Agreements with each province	Canada-New Brunswick Flood Damage Reduction Agreement,with associated Flood Risk Mapping Agreement and Studies Agreement	Prairie Provinces Master Agreement on Apportionment Mackenzie Basin Intergovernmental Liaison Committee Lower Saskatchewan Basin Task Force (pre-planning) Water Quantity Survey Agreements	Canada-Ontario Great Lakes Shore Damage Survey (1975)

* Canada Water Conservation Assistance Act

removal of a temporary dam on Chenal des Quatre Fourches.

Planning studies providing blueprints for joint comprehensive water resource management have been conducted in the Saint John basin in New Brunswick (1970-75), the Okanagan basin in British Columbia (1969-74) and the Qu'Appelle basin in Saskatchewan (1970-72). These studies involved evaluation of current uses and future supplies needed by municipal, industrial, agricultural and other water users. Matters affecting water quality, water quantity and preservation or restoration of aquatic ecosystems were also studied, along with any international implications. Plans for water use took account of ecological and aesthetic values and the needs and desires of the people affected. In order to fulfil the recommendations arrived at during these major studies, joint implementation agreements were negotiated and the formal signing took place in 1975 for the Qu'Appelle and in early 1976 for the Okanagan. An implementation agreement for the Saint John River basin remained under negotiation.

Manitoba Hydro and various Manitoba Departments are implementing some of the recommendations contained in the final report arising from the Lake Winnipeg, Churchill and Nelson Rivers study. Federal-provincial discussions are being held to implement recommendations requiring joint action.

Construction programs were under way to reduce damages due to floods in the lower Fraser valley of British Columbia and in southwestern Ontario. In the Fraser valley, work continued at a slower pace as both the funding and duration of time required to complete the Lower Fraser Valley Flood Control Program came under review. However, the program in southwestern Ontario continued apace to protect agricultural land from storm damage and abnormally high water levels on Lake Erie and Lake St. Clair. In the year under review, a report "An Economic Assessment of the Lake St. Clair, Thames River, Sydenham River Dyking Project" was prepared to report on flood damages, rates of return on investments in dykes and other economic considerations.

Because the Canada Water Conservation Assistance Act was repealed when the Canada Water Act came into force, the Metropolitan Toronto Flood Control Agreement and the Upper Thames Flood Control Agreement, both entered into under the former Act, are also mentioned here. Both agreements had been scheduled to expire earlier, but were extended to June 14, 1976, and January 24, 1977 respectively, to permit completion of the work to the extent possible within authorized funding.

Planning Studies: During 1975-76, a total of eleven planning studies were under way or under negotiation. Of this total, one study was completed, another was initiated during the year and two others were under negotiation. The rest were ongoing from 1974-75.

The Lake Winnipeg, Churchill and Nelson Rivers Study was completed and a report released during the year containing recommendations for enhancing overall benefits of this power development scheme in northern Manitoba. The report also contains recommendations aimed at protecting the rights and way-of-life of native people in the area, as well as measures for protecting environmental values.

An agreement between Canada and Nova Scotia was signed in April 1975 to develop a comprehensive framework plan focussing on water quality and water quantity objectives, and complementary development and resource use strategies in the Shubenacadie-Stewiacke basin.

Although water quality has been an important consideration in most planning studies, it is the paramount consideration in the case of the Canada-Ontario Great Lakes Water Quality Agreement and also the Canada-Quebec Agreement on the St. Lawrence River. The St. Lawrence Agreement was initiated in 1972 to prepare a comprehensive water quality plan for the St. Lawrence River from the end of the international section near Cornwall down to the Gulf of St. Lawrence; that plan is projected for completion in 1978. The Canada-Ontario Great Lakes Water Quality Agreement was signed in 1971 in support of a similar agreement between Canada and the United States to improve the quality of the water in the Great Lakes; a revised Canada-Ontario Agreement was signed in 1976. The earlier agreement provided funds through CMHC to accelerate municipal waste treatment programs including nutrient removal from wastes reaching the lower Great Lakes; this part of the agreement has since become the subject of a separate agreement with CMHC under the National Housing Act. Completion of research efforts initiated under the 1971 agreement are retained in the latest agreement. As well, cost sharing of surveillance activities has been augmented and the scope of the surveillance now extends to include the upper Great Lakes.

An agreement between Canada, Saskatchewan and Manitoba to formulate a framework plan for managing the waters and related resources of the Souris River basin was ongoing during the year.

A Flow Regulation Study of the Montreal region was extended by three months to June 1976 to provide sufficient time to examine alternative means

of reducing the frequency and magnitude of flooding at Montreal. The agreement, between Canada and Quebec, also calls upon the study staff to examine extreme low water conditions.

Field work was completed in 1975 by Canada, Saskatchewan and Manitoba, to assess the social, economic and environmental impacts of developing a hydroelectric site (the Wintego site) on the Churchill River in Saskatchewan. However, the duration of the study had to be extended beyond December 1975 to facilitate preparation of the final report.

Canada's share of the Northern Ontario Water Resources Studies was completed and reported on in the early 1970's. Ontario's share of the studies is now scheduled for completion in 1976.

A Task Force completed a review of the requirements, costs and scheduling of a program to carry out a water quality study of Lake Winnipeg, and an agreement between Canada and Manitoba, including cost sharing arrangements, was under negotiation.

Other Cooperative Arrangements: This category includes programs which cannot be characterized entirely as implementation programs or planning studies. Such programs are generally of a continuous or long-term nature.

A Canada-Ontario Great Lakes Shore Damage Survey was largely completed in October 1975 with the release of a Technical report. The joint survey of the shoreline from Port Severn on Georgian Bay to Gananoque on Lake Ontario was in response to the flooding and erosion damage caused by high water levels during the autumn of 1972 and the spring of 1973.

Formal recognition was given to federal and provincial responsibilities for water quantity surveys in 1975-76 when each province signed an agreement with Canada to provide for joint planning of water quantity survey networks and for sharing of operating and construction costs.

Another new thrust during the year saw Canada and New Brunswick sign an agreement and two sub-agreements to promote flood damage reduction in New Brunswick; negotiations were proceeding for the purpose of reaching similar joint undertakings with other provinces.

Two programs ongoing from 1974-75 are the Prairie Provinces Master Agreement on Apportionment and the program of the Mackenzie Basin Intergovernmental Liaison Committee. The former, an agreement between the federal government and the three Prairie Provinces, marks a milestone in the administration of water resources of the prairie region by setting forth the principles

for apportionment of water between the three provinces and by providing for the resolution of disputes. The latter, involving Alberta, British Columbia, Saskatchewan, and the two territories, was formed to gather information on the Mackenzie River basin, with the intent of determining what further studies should be undertaken. The Mackenzie Liaison Committee took initial steps in 1975 towards a more formal study agreement.

A pre-planning study by Canada, Saskatchewan and the Lower Saskatchewan Basin Association has been under way since September 1974 to identify water management concerns needing further study in the lower Saskatchewan River basin. The target date for completion of this assignment has had to be extended to the end of 1976.

Water Research

Water Resources Research Support: The Department of the Environment, on the recommendation of the Water Resources Research Support Program Review Group provided a total of $1,000,000 for water-related environmental research during 1975-76 to 21 Canadian universities. The Water Resources Research Support Program provides for innovative research relevant to departmental concerns and responsibilities for water resources research in the natural and social sciences, with emphasis on water management issues. By fostering the interests of university researchers, the program uses their knowledge and expertise in solving water research problems.

Canada Centre for Inland Waters: The Centre is a multi-disciplinary water studies institute concerned with Canada's fresh water resources. Its main program began as an endeavour to improve the quality of water in the Great Lakes, but this activity has broadened to cover the study of all aspects of lakes, water and wastewater treatment research, hydraulic problems, and toxic substances. Research conducted during 1975-76 included: an investigation of the nature and distribution of asbestos fibres in Lakes Huron and Superior, in both bottom sediments and in the overlying water, and an associated project (in cooperation with the Ontario Ministry of the Environment) to develop methods of removing asbestos from drinking water by coagulation; bacteriological studies directed towards the isolation of bacteria capable of rapidly degrading PCBs; and hydraulic studies directed towards the development of booms capable of containing oil and ice. Considerable effort was devoted to the development of analytical techniques sensitive enough to measure the minute amounts of pollutants in water which are capable of becoming concentrated to dangerous levels within the food chain. At the

same time, CCIW is studying the pathways through which such pollutants enter the ecosystem.

Water Resources Branch: Other fresh-water resource studies are conducted by the Ottawa-based research divisions of the Water Resources Branch. Areas of interest include groundwater, glaciology, and the development of improved hydrologic models to describe the precipitation-runoff process and to predict future events. In 1975, research was initiated into the physical and chemical processes that influence the subsurface migration of contaminants and it is expected that an even greater proportion of the research effort will be channelled into subsurface contamination in future years. Studies and research are also under way with respect to permanent and transient ice covers, the hydrology of Arctic regions, hydrologic implications of resource development including pipeline and highway construction in the North, and climatic variations. Plans for the future also call for the research divisions to be incorporated into a National Hydrologic Research Institute to be established in western Canada close to many of the major hydrologic problems confronting Canada at the present time.

Water Quality Branch: The Branch's program has been dominated by the need to develop water quality objectives for Canada as a whole as well as specific objectives for rivers and basins. To this end, the Branch has initiated a new program of assessing and reporting on trends and changes in water quality conditions in Canada.

Socio-Economic Studies

The Canada Water Act sets out a comprehensive planning strategy for the management of water resources. Comprehensive planning reflects not only economic considerations, but also non-economic objectives such as maintaining or improving the quality of the environment and preserving and enhancing social values associated with water uses. A comprehensive strategy also considers a full range of alternatives, both structural and non-structural, to achieve this range of objectives, taking into account views expressed by the public affected.

Within the philosophy of the Act, there lies the responsibility to develop the socio-economic tools necessary to carry out studies, and to provide technical advice, in support of water management in Canada. Complementary to the development of a departmental socio-economic water resource planning capability is the preparation of contributions for related inter-departmental and international programs.

During the year, efforts were continued to define planning and research techniques, and to collect essential background data on water uses in Canada. In particular, work continued on a manual on River Basin Guidelines outlining the options available to personnel undertaking joint federal-provincial water management studies.

The integration of public information and public participation techniques with the water planning process were further explored with a view to establishing guidelines for their use in river basin studies. Methodologies for forecasting water requirements by use have been formulated as an essential input to the planning process. A federal-provincial survey of municipal water use, water supply and treatment, and waste treatment and disposal was continuing and a survey of industrial water use for 1972 was essentially completed.

Ongoing river basin planning studies and implementation programs, and the development of a national Flood Damage Reduction Program, provided a number of opportunities to apply these techniques during the year. For example, the Canada-Manitoba-Saskatchewan Souris Basin Study necessitated the conducting of economic studies and the formulation of study methodology, project evaluation procedures, and guidelines for public information and involvement. Also, results from the industrial water use survey are being integrated with developed forecasting methodologies to formulate a study proposal for the federal-provincial Prairie Provinces Water Demand Study. The Demand Study is designed to assess past, present, and future water uses for each major prairie basin.

Water Data

Data Collection: Programs for the systematic collection and compilation of data on streamflow, water levels, sediment transport, groundwater, water quality, and related information on glaciers, snow and ice predated the Canada Water Act but have continued to expand in support of water management basin studies and implementation programs.

Because of the vast distances in Canada, and the remoteness of many data collection stations, new methods and techniques are being explored to record data automatically, to be more selective in the data collected, to improve upon the quality of the data, to employ more sophisticated systems such as earth satellites to retransmit data signalled from remote areas, and to reduce the time between collecting field data and making it available to the user.

The principal water resource data collection agency is the Water Survey of Canada. Through a system of seven main offices and a multitude of sub-offices, the Water Survey currently reports on 2,600 water quantity stations maintained throughout the country for the collection of data on streamflow, water levels and sediment transport in rivers. Some 250 of these stations serve as part of the 500 national water quality stations which monitor the quality of water mainly in the Atlantic, Western and Pacific Regions. During the year, the water quality surveys were being re-examined with a view to implementing special investigations of regional and local water quality problems.

Surveillance of the water quality in the Great Lakes and connecting channels continued to be a major activity. Staff at the Canada Centre for Inland Waters played a major role in this data gathering operation in support of the Canada-U.S. Great Lakes Water Quality Agreement.

Data Base Systems: The major data systems and reference systems developed in support of water resource activities, are as follows:
Document Reference Centre (WATDOC): Containing references to numerical data and document literature in the water resource field, published and unpublished, WATDOC is being developed as a national document reference centre on economics, technical and sociological research, management reports, political and news issues, and legislation, to provide planners, researchers, and managers in federal and provincial governments, universities and industry, with support in water research and in water resource planning and management functions. In addition to expansion of the data base itself, activities in the centre are directed towards establishing effective communications between the various government and university water research centres. Participants, who come from every level of government, from universities, research laboratories and private enterprise, are encouraged to contribute information in their field of specialization.

As well as developing its own unique Canadian data bases, WATDOC also provides access to other environment-related files produced by U.S. commercial tape services. The system has also been integrated with various legal data bases of the Canada Department of Justice and the British Columbia Attorney General's Office. From coast to coast, all data bases are accessed directly over standard telephone lines.

To provide participants with international coverage, exchange agreements for information and related services have been negotiated with the

U.S. Department of Interior and the Environmental Protection Agency, and with the Delft Hydraulics Laboratory in the Netherlands, and are now being implemented.

National Water Quality Data Bank (NAQUADAT): This system, a data storage and processing system for water quality data, has been operational since 1970. It has been designed to accept chemical, physical, bacteriological, biological and hydrometric data relevant to water quality for surface waters, groundwaters, wastewaters and sediments.

The system stores data collected since 1961 by various federal government agencies and is also used by provincial water agencies in Alberta, Manitoba and New Brunswick. A program is now available which permits the transfer of data from the Canada Centre For Inland Waters' Star data system to the NAQUADAT system. The Government of the State of Sao Paulo, Brazil, and the Government of Mexico have adopted NAQUADAT for their use in the water quality pollution control field.

Surface Water Data: This system contains all streamflow, water level and sediment transport data collected across Canada, except for Quebec data which have been similarly automated by a provincial agency. Increased automation of the data has improved the scheduling of computation and publishing of data to the extent that processing time has been reduced from about three years to less than one year. The data are now more readily accessible to users either in published form or on magnetic tape for computer processing.

Groundwater Data Storage, Processing and Retrieval (GOWN): This is a computerized system developed to enlarge the scope and flexibility of the retrieval functions and to develop capability to deal with interconnected groundwater and surface water systems. Some data are stored in the system, but they are there simply as working material for the development of the system's capabilities for data processing and presentation. The system has been adopted in part by Environment Alberta and in its entirety by the New Brunswick Department of Fisheries and Environment.

PART II: Water Quality Management

No water quality management areas, as defined under Part II of the Canada Water Act, have been set up. However, there are a number of implementation programs by federal-provincial agreements under the Act, where water quality management programs are being implemented. These include programs in the Great Lakes basin and in the Okanagan and Qu'Appelle basins. While these agreements do not provide for the establishment of water quality management agencies under Part II of the Act, they nevertheless have the same basic objectives of maintaining and improving water quality and are managed by joint federal-provincial Boards. Moreover, the federal government, in concert with provincial governments, has also completed the development of comprehensive water resources management plans, including water quality management strategies, for several major Canadian river systems including the St. Lawrence (Quebec), the Souris (Manitoba-Saskatchewan) and the Shubenacadie-Stewiacke (Nova Scotia).

PART III: Regulating Nutrient Inputs

The federal government first launched a program for the control of phosphorus in laundry detergents when phosphates from this source were identified as a significant contributor to the degradation of Canadian water resources.

The first regulations to control phosphorus in laundry detergents were written under the nutrient control provisions of the Canada Water Act and came into force in 1970. Initially, laundry detergent phosphorus content was limited to a maximum of 8.7% elemental phosphorus by weight, expressed as 20% phosphorus pentoxide (P_2O_5). During this period, an inspection program began under which laundry detergent manufacturers and importers were visited and samples of their products were taken for analysis.

Estimates reveal that the initial 20% P_2O_5 limitation resulted in a 22% reduction in the amount of phosphate discharged from all detergent sources (from 57,200,000 pounds to 44,000,000 pounds per annum).

On January 1, 1973, a further reduction in the maximum amount of phosphorus permitted in laundry detergents came into effect. On that date, the maximum permissible amount of phosphorus was lowered to 2.2% by weight, expressed as 5% P_2O_5. The impact of this further limitation on phosphorus content, when combined with the earlier restriction, is estimated to have reduced the annual amount of detergent phosphate discharged by 80% (from 57,200,000 pounds to 11,000,000 pounds).

In 1973, the inventory of detergent manufacturers and importers was updated and a new round of sample collection visits began. At that time, the inspection and sample collection program was reorganized through the formation of a network of regionally-based Canada Water Act Inspectors. The new network was designed not only to improve the national collection of samples and update the inventory of manufacturers and importers but also to provide more direct day-to-day contact with regional manufacturers, importers and the public. Under the new regional system, a complete national sampling round has been carried out annually since 1973.

When the new sampling system was introduced, a number of violations of the new regulations were detected. These initial violations were committed by small manufacturers who were apparently unaware of, or misinterpreted some aspects of the new regulations and, technically, became violators as a result. In some instances Canada Water Act Inspectors formally seized quantities of suspected products; in all instances, whether seizures were involved or not, the companies concerned quickly rectified the situation and remained in compliance thereafter. Consequently no prosecutions were recommended or undertaken as a result of these initial violations.

Since that time, any indicated violations which have occurred have generally been classified as "technical" violations where improper mixing or analysis procedures have resulted in small batches exceeding the 5% limit by fractional amounts. These occurrences have been quickly corrected once discovered. It should be noted that none of the larger Canadian manufacturers or nationally advertised laundry detergent brands which make up the bulk of the Canadian retail sales have been involved in any of the above incidents.

During 1975, decentralization of laboratory detergent analysis was begun. When this decentralization is completed, each Region will be responsible for analysing the detergents collected by its Inspectors. This will significantly improve the speed with which official analysis results are available to the Inspectors and to the manufacturers and importers.

In addition to the analysis of laundry detergents, a variety of cleaning compounds, which are not presently regulated, have been analysed for informational purposes. During 1975-76 automatic dishwater detergents were of primary interest in this regard. It is anticipated that a report on the phosphate content of these high-phosphate substances will be available by the summer of 1976.

Reformulation of laundry detergents to comply with the phosphorus limit has resulted in the use of large quantities of alternative builders. By far the most common substitute is nitrilotriacetic acid (NTA). The resulting presence of this synthetic substance in the Canadian environment, and more specifically in drinking water, is the subject of a continuing nationwide monitoring program to ensure that NTA concentrations in the environment stay as low as predicted. A fourth round of sampling was completed in 1975 and the concentrations of NTA and of certain metals in the water supplies of about 200 municipalities were measured.

Rapid biodegradation of NTA in the environment has been demonstrated by the many samples taken from drinking water supplies and from lake, river, marine and ground waters. To date 2,200 samples have been analysed. In most samples, NTA concentrations were below the normal detection level of 10 parts per billion (ppb), though a few groundwater samples, also highly contaminated by other substances, produced readings up to 50 ppb. The latter level is still several orders of magnitude less than concentrations which had earlier raised concerns for public health though the evident contamination of these groundwater wells with untreated sewage raises other public health concerns.

The search for acceptable substitutes for phosphates is continuing, with the object of finding clean and effective materials consisting only of carbon, hydrogen and oxygen, which are readily biodegradable. Several promising substances are undergoing appraisal.

PART IV: Public Information Programs

Public information programs have been carried out to provide information on numerous activities under the Canada Water Act. During the 1975-76 fiscal year, special public information programs dealt with cost-sharing agreements with all provinces for water quantity surveys, and Canada's new flood damage reduction policy.

Information components have been included in federal-provincial implementation programs for the Okanagan River basin, the Peace-Athabasca Delta, and the Qu'Appelle River basin.

Several planning studies received public information back-up, including river basin studies of the Shubenacadie-Stewiacke basin (Nova Scotia); a study of water quality in the St. Lawrence River; and the study of impacts resulting from water resource development in the Churchill River basin in Saskatchewan and in the Lake Winnipeg, Churchill and Nelson Rivers area of Manitoba.

On the international scene, a Garrison Information project supplied factual material on the potential effects of the Garrison Diversion in North Dakota on waters in Manitoba.

Two films dealing with programs related to the Canada Water Act are nearing completion. One deals with the Saskatchewan-Nelson basin, the other with Great Lakes water quality.

The first of a series of Canada Water Year Books was launched in August 1975 dealing with Canada's fresh water resources and water management activities affecting them. The 1976 issue, which will give emphasis to river basin planning and management, was under preparation.

PRINCIPAL FEDERAL-PROVINCIAL COOPERATIVE ARRANGEMENTS UNDER THE CANADA WATER ACT

IMPLEMENTATION AGREEMENTS

PLANNING STUDIES

OTHER COOPERATIVE ARRANGEMENTS

PRINCIPAL FEDERAL-PROVINCIAL COOPERATIVE ARRANGEMENTS UNDER THE CANADA WATER ACT

IMPLEMENTATION AGREEMENTS

1. PEACE-ATHABASCA DELTA

Entities: CANADA
ALBERTA
SASKATCHEWAN

Objective: To remedy the low water problems of the Peace-Athabasca Delta by constructing a submerged rock weir on the Rivière des Rochers, and an earth dam on Revillon Coupé and by removing the temporary structure on Chenal des Quatre Fourches.

Prior Action: During the period January 1971-July 1972, a study group was established to investigate and report on the extent of low water levels in Lake Athabasca, the causes of the low water conditions, and the resulting effect on the delta and the local inhabitants. The study group completed its investigation in eighteen months. A summary report was published in 1972 and a technical report was published in 1973. As a result of the study, remedial action for preservation of the delta was taken in 1971 with the construction of a temporary rock-fill dam on the western arm of the Quatre Fourches to improve water levels in the park portion of the delta. Further remedial action, consisting of a short diversion of the Athabasca River to prevent it from joining the Embarras River and thus flowing directly into the delta during floods, was undertaken in 1972. A more permanent remedy to the problems of the delta, a submerged rock weir on the Rivière des Rochers and a permanent earth plug in the Revillon Coupé,were recommended in the technical report. An implementation board was established, site investigation and design were completed, and a contract awarded for the Rivière des Rochers weir.

Status: During 1975-76, construction of the Rivière des Rochers weir was completed and the temporary plug in the Quatre Fourches Channel was removed. A design for a modified Revillon Coupé structure was approved and a contract awarded. Construction of the structure was virtually completed.

2. LOWER FRASER VALLEY FLOOD CONTROL PROGRAM

Duration of Program: 1968 to 1978 (under review)

Entities and Funding: CANADA.....50% (Study costs and
BRITISH COLUMBIA.....50% construction costs)

The federal government has increased its contribution to the Flood Control Program and Storage Studies from $18,000,000 to $30,500,000 and B.C. has agreed to increase

its share by the same amount. The total funding is currently under review.

Objective: To provide protection from flooding of land in the lower reaches of the Fraser River Valley and other areas upstream by rehabilitating existing dykes, constructing new dykes, increasing river bank protection, and improving internal drainage facilities.

Status: Three flood control projects were virtually completed (Kent, Oak Hills, Matsqui) and three others (Delta, Richmond, Chilliwack) were under construction; the design of several other projects was well advanced. Federal expenditures to 31 March 1976 totalled $14.7 million.

3. SOUTHWESTERN ONTARIO DYKING

Duration of Program: March 1974 to March 1977 (revised)

Entities and Funding:

CANADA	Department of the Environment Department of Agriculture	45%
ONTARIO		45%
Municipalities and/or Conservation Authorities		10%

(Total contribution by Canada not to exceed $7,312,500.)

Objective: To provide for the construction and reconstruction of dykes and associated control works for protection of agricultural lands in the southwestern Ontario Counties of Essex and Kent, and the Regional Municipality of Niagara.

Prior Commitment: For purposes of this agreement, the program shall include the cost of completing the work in excess of $2,700,000 undertaken pursuant to the Agreement made on 30 May 1973 between Canada (The Minister of Regional Economic Expansion) and Ontario for the repair and construction of dykes protecting agricultural land in the Townships of Harwick, Pelee and Mersea.

Status: Some $5,000,000 has been paid to date for work completed in Pelee, Mersea and Harwick Townships and in the Regional Municipality of Niagara. Work in East Tilbury and Dover Townships was partially completed.

4. CANADA WATER CONSERVATION ASSISTANCE ACT - CWCAA (Repealed)

Pursuant to the CWCAA agreements, Canada has contributed financially towards the construction of major flood control and water conservation projects. During the year the Upper Thames Agreement was extended to January 24, 1977 and the Metropolitan Toronto Agreement was extended to June 14, 1976. An amount of $428,000 has been committed for completion of these agreements.

5. OKANAGAN BASIN

Duration of Program: February 1976 to 1981

Entities and Funding: CANADA.....$2,500,000
BRITISH COLUMBIA....$2,500,000

(CMHC has agreed to provide $17,000,000 in loans and grants for sewage treatment projects)

Objective: To implement recommendations arising from the 1969-74 Okanagan Basin Study.

Status: An Implementation Task Force completed the preparation of the federal-provincial agreement to facilitate implementation of the recommendations of the Okanagan Basin Study. On February 9, the agreement was signed and an Implementation Board set up to administer the terms of the agreement.

6. QU'APPELLE BASIN

Duration of Program: October 1975 to 1985

Entities and Funding: CANADA.....$18,000,000
SASKATCHEWAN.....$15,700,000

(An additional $10,400,000 will be available on a loan basis, $8,400,000 through CMHC and $2,000,000 from Saskatchewan)

Objective: To implement recommendations arising from the 1970-72 Qu'Appelle Basin Study.

Status: The Department of Regional Economic Expansion is acting as this project's coordinator. In order to implement the recommendations of the Qu'Appelle Basin Study a formal Canada-Saskatchewan agreement was negotiated over a two year period and was signed in October 1975. The Management Board established by the agreement ratified a number of implementation programs (which had been undertaken on an interim basis) for retroactive cost sharing. Projects which have been essentially completed to date under this agreement include flood control works for the towns of Lumsden and Tantallon and Phase 1 of the Regina tertiary sewage treatment plant. Implementation plans to increase channel capacity in the Qu'Appelle River, and to provide a livestock pollution control program and a Moose Jaw flood protection program are nearing completion.

The plan prepared by the Saskatchewan Department of Environment for flood control and flood plain management along Wascana Creek,through the City of Regina,is presently being implemented for completion in 1976.

7. SAINT JOHN BASIN

Entities: CANADA
NEW BRUNSWICK

Objective: To implement recommendations arising from the 1970-74 Saint John River Basin Study.

Status: A number of studies related to long-term basin management have been conducted. Results of these studies were used to provide the data base for a framework plan in Summer 1973. The final basin management plan was essentially completed in 1974-75 and a federal-provincial coordinating group has been working toward implementation.

8. LAKE WINNIPEG, CHURCHILL AND NELSON RIVERS

Entities: CANADA
MANITOBA

Objective: To implement recommendations arising from the Lake Winnipeg, Churchill and Nelson Rivers Study carried out under the Canada Water Act.

Prior Action: The summary report of the Lake Winnipeg, Churchill and Nelson Rivers Study Board was released on June 2, 1975. This three-year, $2,000,000 joint study contained 47 recommendations, of which 13 are of federal interest in terms of implementation. Canada views joint planning and coordination in implementing the recommendations as crucial if its responsibilities are to be properly discharged and if adequate environmental impact review is to be ensured.

Status: Manitoba Hydro and various Manitoba Departments are proceeding with implementation of some of the Study Board's recommendations. Environment Canada is continuing its water quality and water quantity monitoring, and has initiated a research project on the fisheries of South Indian Lake. Federal-provincial discussions on implementation recommendations requiring joint action are continuing.

PLANNING STUDIES

1. CANADA-ONTARIO AGREEMENT ON GREAT LAKES WATER QUALITY

Duration of Study: initial agreement - August 1971 to December 1975; new agreement - January 1976 to March 31, 1980

Entities and Funding: CANADA
ONTARIO

Under the initial agreement:

1. Entities each to provide $3 million for feasibility studies and joint sewage treatment technology research.
2. CMHC to lend up to $167 million (increased to $210 million in 1974-75) for sewage treatment facilities (under the National Housing Act); Ontario to provide $83 million.

Under the new agreement:

The entities will each pay half the costs associated with research and surveillance programs; the federal share of research over the two fiscal years 1976-77 and 1977-78 is not to exceed $500,000; the federal share of surveillance is not to exceed $762,500 for fiscal year 1976-77.

Any research funding remaining from the initial agreement may be applied to claims for research programs that are carried on or initiated in the period January 1, 1976 to March 31, 1976.

Funding for municipal sewage treatment which was part of the initial agreement is now the subject of a separate agreement with CMHC under the National Housing Act.

Objective: The objective of the initial agreement was:

To provide a basis for implementing the Canada-U.S. Agreement on Great Lakes Water Quality in the basins of Lake Erie and Lake Ontario by reaching agreement on water quality objectives, by accelerating investment in sewage treatment facilities and by conducting research into treatment technology. Negotiations were undertaken to extend the period of the agreement and to extend financial provisions to include the upper Great Lakes.

The new agreement, which is designed to carry on the programs to achieve the general and specific water objectives of the Canada-U.S. Agreement, also contains specific provisions for research and surveillance activities. Furthermore, it broadens the scope of the surveillance to include the upper Great Lakes, not just Lakes Erie and Ontario as specified in the initial agreement.

Status: A Canada-Ontario Review Board was set up to administer the initial agreement. The Wastewater Technology Centre at the Canada Centre for Inland Waters conducted studies on

phosphate removal by adding chemicals to existing wastewater treatment plants, on chemical sludge treatment and disposal, and on the effects of NTA on phosphorus removal. In a research program aimed at reducing the cost of phosphorus removal for municipal treatment plants in the lower Great Lakes, some 40 contracts were let to private firms and universities for studies on waste treatment processes. A similar number of projects were undertaken in conjunction with Ontario, and the majority of these were almost completed. The studies on phosphorus removal techniques were completed and the technology developed was incorporated with the treatment plant construction program. The program is now concentrating on land disposal of sewage sludges and on methods for reducing pollution from storm and combined sewer systems and urban drainage.

Because, as already noted, the Canada-Ontario Agreement is being undertaken to provide a basis for implementing the Canada-U.S. Agreement on Great Lakes Water Quality, a brief outline of activities under the latter agreement is also provided.

CANADA-U.S. AGREEMENT ON GREAT LAKES WATER QUALITY

Duration of Study: continuous since April 1972

Entities: CANADA
UNITED STATES

Objective: To improve the quality of the water in the areas of the Great Lakes now suffering from pollution and to ensure that Great Lakes water quality will be protected in the future.

Commitments: As already noted, Canada and Ontario are sharing commitments in response to this agreement.

Canada met the commitment to complete or have in process of implementation by December 31, 1975, construction of municipal waste treatment facilities and phosphorus removal programs. Thunder Bay, the one major municipality where construction was not completed by December 31, 1975, is expected to be completed in 1977. Approximately 95% of the sewered population on the Canadian side of the Basin now has adequate municipal wastewater treatment facilities.

Arrangement: The International Joint Commission was given primary responsibility for overseeing implementation of this international water quality agreement. The Commission has established a number of Boards, Committees and Reference Groups to carry out the various provisions of the agreement. Activities are carried out under five programs: Upper Lakes Study, Pollution From Land Use Activities Study, Water Quality Objectives, Regulatory Activities, and Surveillance.

Status: Specific major research and surveillance projects were undertaken in 1975, including 12 surveillance cruises on Lake Ontario and 8 others on Lake Erie to assess the impact of major pollution control measures which were being implemented; a program to determine atmosphere loadings to the Great Lakes, with emphasis on the upper Great Lakes; and water quality surveillance of connecting channels. With reference to Pollution From Land Use Studies, progress was made in accordance with the Reference Detailed Study Plan dated February 1974, namely: a state-of-the-art summary report made recommendations with respect to potential remedial measures for identified problems; the land use inventory, specialized land uses, and material usage portions of the study were completed; field studies of selected watersheds were continued; river mouth monitoring data for all lakes along with land use and material use information, were placed in data banks and then were analysed statistically; work on the toxicology of several metals was carried out, and sediment sample analyses for pesticides, metals and nutrients were completed. Work was carried out to establish water quality objectives for viruses, waste heat, metals and persistent organisms. A stormwater management model was developed and verified for Canadian conditions to develop methods for controlling pollution from urban runoff. Physical, chemical and biological projects were continued to provide a scientific basis for water quality objectives for waste heat and radioactivity, and for some of the toxic substances listed in the agreement.

2. ST. LAWRENCE RIVER WATER QUALITY

Duration of Study: May 1972 to 1978

Entities and Funding: CANADA.....50%
QUEBEC.....50%

(The Statement of Intent called for a total expenditure of $400,000 in 1972-73, while a further $3,500,000 has been authorized under the formal agreement)

Objective: To prepare a comprehensive water quality plan of the St. Lawrence River from the end of the international section near Cornwall, down to the Gulf of St. Lawrence.

Arrangement: The program was initiated in 1972 on the basis of a Statement of Intent, pending a formal agreement. In subsequent years, it has been authorized under a formal agreement.

Status: The study program undertaken in the Cornwall-Varennes reach in 1972-73 was extended to cover the Varennes-Montmagny reach in 1973-74, with some overlapping in the Cornwall-Varennes reach; in 1974-75, the program was extended to cover the Montmagny-Saguenay River reach, with overlapping in the Cornwall-Montmagny reach; in 1975-76, a major change in study emphasis was brought about -

biological data were collected including content of toxic material in fish; fish spawning grounds and bird nesting sites were identified; and vegetative studies were advanced, including studies of algae and aquatic weeds.

3. CHURCHILL RIVER (Saskatchewan-Manitoba)

Duration of Study: February 1973 to March 31, 1976.

Entities and Funding:
CANADA.....$1,250,000
SASKATCHEWAN.....$1,075,000
MANITOBA.....$ 175,000

Objective: To assess the social, economic and environmental impacts of: developing two hydroelectric sites on the Churchill River in Saskatchewan (the Iskwatam and Pita sites), designating an area of the basin in Saskatchewan as a national park, developing provincial parks in the Manitoba portion of the basin, and evaluating the options open to Saskatchewan upon expiration of the Island Falls and Whitesand Dam licences. However, due to changes in planning by the Saskatchewan Power Corporation and the Canada-Saskatchewan Park planning group, the original objective was changed to an assessment of an alternative hydroelectric site (the Wintego site), and the park alternative was dropped from the study.

Status: All study work was completed by the different sectors with only editing and printing of the final report still outstanding.

4. FRASER RIVER UPSTREAM STORAGE STUDY

Duration of Study: February 1971 to mid 1976 (extended)

Entities and Funding:
CANADA.....$500,000
BRITISH COLUMBIA.....$500,000

Included in funds for the LOWER FRASER VALLEY FLOOD CONTROL PROGRAM

Objective: To develop an integrated plan for further flood protection, utilization and control of the water resources of the basin, with particular emphasis on flood protection for the lower reaches of the Fraser River valley, through use of dykes, upstream storage reservoirs and diversions.

Status: Field investigations and studies of hydrology, flood benefits, project costs, sedimentation, navigation, and ecological and environmental considerations were completed and so too were most reports. Reservoir regulation studies were completed and overall project evaluation was continuing. Work was under way on the final report. A small increase in funding remained under review.

5. NORTHERN ONTARIO WATER RESOURCES STUDIES

Duration of Study: 1966 to 1976

Entities and Funding: CANADA.....(Approx. $3,000,000)
ONTARIO.....(funding unknown)

Objective: To study the quantity and quality of water resources draining into James Bay and Hudson Bay in Ontario and to assess the possibilities for their future development.

Arrangement: Ontario was given responsibility for hydrologic and water quality studies, while Canada was made responsible for engineering feasibility and cost studies required for an assessment of alternative possibilities for utilizing the waters concerned. Socio-economic studies were shared.

Status: The federal responsibility for field and office studies was met and reported upon in a series of reports. Ontario has indicated that its part of the study will be completed in 1976.

6. SOURIS BASIN

Duration of Study: October 1974-1977

Entities and Funding: CANADA.....$415,000
SASKATCHEWAN.....$240,700
MANITOBA.....$174,300

The federal government has committed another $220,000 for studies on international aspects, raising the total funding to $1,050,000.

Objective: To formulate a framework plan for the management of the water and related resources of the basin.

Status: A program of study assignments has been developed to meet the objective of the Souris River Basin Study Agreement and the reporting deadline of December 31, 1977. Contractual arrangements have been made with federal and provincial government agencies and one private consulting firm covering approximately 90% of the principal tasks - Flood Damage Reduction, Water Supply, Water Quality, Agriculture, Water Related Resources, Public Involvement, and Program Management and Coordination. Expenditures to March 31 totalled $358,000.

7. FLOW REGULATION, MONTREAL REGION

Duration of Study: June 1974 to March 31, 1976

Entities and Funding: CANADA.....50%
QUEBEC.....50%

Objective: To examine the means of reducing the frequency of flooding as well as extreme low water levels of the Montreal region water bodies.

Arrangement: The study was initiated on the basis of an exchange of correspondence which called for a work-sharing arrangement within the regular programs of the agencies concerned. A total expenditure of $600,000 for outside consulting services has been authorized under a formal agreement signed on March 17, 1975.

Status: The Committee on Flow Regulation, Montreal region, has conducted the various studies required to fulfil its mandate. An interim report was scheduled for submission by April 1st, 1976, and the final report should be submitted by July 1, 1976.

8. SHUBENACADIE-STEWIACKE BASIN

Duration of Study: Two and one-half years

Entities and Funding: CANADA.....50%
NOVA SCOTIA.....50%

Funding proposed $730,000

Objective: To examine critical problems affecting the water resources and the interrelationships of these problems; to develop proposals for interim measures to control critical problems and to maintain options for future action; and to develop a comprehensive framework plan focusing on water quality and quantity objectives and complementary development and resource-use strategies.

Status: The study agreement was signed in April 1975 and recruitment of study staff was undertaken.

OTHER COOPERATIVE ARRANGEMENTS

1. CANADA-ONTARIO GREAT LAKES SHORE DAMAGE SURVEY

Duration of Program: 1972 to October 1975

Entities: CANADA
ONTARIO

Objective: To survey the nature and extent of damages to the Great Lake's shoreline and connecting channels from flooding and erosion in 1972-73, and to make preliminary recommendations related to shoreline management and planning.

Scope: The survey involved a detailed compilation of data, and determination of priority areas but did not include any detailed planning studies. The information available indicated the shore damage was confined to the lower Great Lakes. Thus, the survey was restricted to the erodible portion of the Great Lakes from Port Severn on Georgian Bay to Gananoque on the eastern end of Lake Ontario.

Status: The survey was essentially completed with the release of a Technical Report dated October 1975 and an accompanying Coastal Zone Atlas. The data were collected over the period from November 1972 to November 1973, and included land use, land value, land ownership, shoreline physical characteristics, shore damage and existing shore protection in damaged areas.

The report recommends a number of management alternatives and follow-up programs.

2. PRAIRIE PROVINCES MASTER AGREEMENT ON APPORTIONMENT

Duration of Study: Continuing -- Agreement signed October 30, 1969.

Entities and Funding: CANADA, ALBERTA, MANITOBA, SASKATCHEWAN (Funding to be borne one half by Canada and one sixth by each of the provinces)

Objective: The equitable apportionment of interprovincial prairie waters flowing eastward. The agreement and subsidiary agreements ensure one half the natural eastward flow of waters arising in or flowing through Alberta for Saskatchewan, and one half the eastward flow arising in or flowing through Saskatchewan for Manitoba.

Arrangement: Schedule C provides for the reconstitution of the Prairie Provinces Water Board, whose responsibility is to oversee and report on apportionment of waters flowing from one province into another province; to take under consideration comprehensive planning, water quality management and other management problems referred to it by the entities concerned; to recommend appropriate action to investigate such matters; and to submit recommendations for resolution of the problems.

Status: The Board's standing Committee on Hydrology is overseeing studies on the development of methods for determining natural flows for apportionment purposes, and the development of procedures to meet streamflow forecasting requirements on interprovincial streams. The Board has initiated action through its standing Committee on Water Quality on the review and update of Water Quality Objectives. A Board Committee is currently studying the effect of apportionment on water rights issued in the southern prairies. In addition, studies of apportioning westward flowing streams is in progress, along with a study of the mechanisms necessary to administer the agreement.

3. MACKENZIE BASIN INTERGOVERNMENTAL LIAISON COMMITTEE

Duration of Study: Continuous since 1973

Entities: CANADA.....Dept.of the Environment, Ministry of Transport, and Dept.of Indian and Northern Affairs representing the Yukon and NWT
ALBERTA
BRITISH COLUMBIA
SASKATCHEWAN

Objective: To exchange information on potential water-related developments in the basin and to formulate a program to gather data on the basin's water and related resources, with the intent of determining what further studies are required.

Status: The Task Force on Information, established by the Committee in 1973, has been disbanded after having completed the Mackenzie River Basin Reference Binder, which is expected to be published during the summer of 1976. The hydrologic modelling is being developed by Environment Canada in consultation with other jurisdictions and agencies operating in the basin.

The Liaison Committee set up a second Task Force (the Ad Hoc Task Force) in August 1975 to examine potential interjurisdictional water resource issues and, should sufficient needs be identified, to prepare recommendations on institutional arrangements and a program of work required to meet the needs. The Task Force presented its report to the Liaison Committee on February 11, 1976 and recommended institutional arrangements and programs that would assist the participating governments in managing the water resources of the Mackenzie Basin.

Liaison Committee members agreed in principle to work towards a formal agreement. The Ad Hoc Task Force has been disbanded and replaced with a new Task Force on Program Development charged with developing an Intergovernmental Agreement to be considered by the Liaison Committee at its next meeting in August, 1976. The agreement is to include the first phase of a program of work proposed to begin in February 1977-78.

4. WATER QUANTITY SURVEY AGREEMENTS

Entities: CANADA
ALL PROVINCES

Objective: To maintain a viable and efficient national water quantity survey network and to give recognition to joint federal and provincial responsibilities in this activity.

Arrangement: This is a shared-cost program, with the federal government carrying out the operations and invoicing the provinces quarterly. An exception is Quebec which operates its own program (except for that part involving international and navigable waters, and waters crossing federal land) and which invoices the federal government quarterly. Canada operates and finances the program for the Territories.

Funding:

1975-76	Canada's Share	$7,072,500
	The Provinces' Share	$1,650,700
	Total Program Cost	$8,723,200

The Total Program Cost reflects the total survey costs to the federal government and to all provinces except Quebec. As such, it includes a federal payment of $433,200 to Quebec, but not Quebec's own costs.

Duration of Agreement: Continuing. The agreements provide for termination on 18 months' written notice.

Status: Agreements were signed by Canada with each province in 1975 and implementation was effective April 1, 1975. Coordinating Committees have been established for each province to plan the water quantity survey networks and to determine annual cost sharing.

5. FLOOD DAMAGE REDUCTION PROGRAM

Duration: 1976 to 1986

Entities and Funding: CANADA
THE PROVINCES

The Flood Damage Reduction Program is expected to cost up to $20 million, with half the provincial costs and all costs in the Territories borne by the federal government. Most of these funds are expected to be spent on flood risk mapping.

Objective: The Flood Damage Reduction Program follows the cooperative federal-provincial approach of the Canada Water Act. It envisages a General Agreement outlining the basic approach in reducing potential flood damage, and makes provision for a Flood Risk Mapping Agreement. Other subsidiary agreements relative to specific programs may also follow.

Under the General Agreements, the respective governments commit themselves to (i) an agreement to carry out a flood risk mapping program whereby lands subject to flooding would be clearly defined and (ii) a number of policies concerning

government undertakings and programs on lands subject to flooding. The governments agree not to engage in or provide financial assistance to undertakings in areas designated as flood risk areas. Application of the disaster assistance program will also be restricted in designated flood risk areas. Only existing structures, and under certain circumstances structures which are flood-proofed, would be eligible for assistance. Information linked with designated flood risk areas will be made available to governments, agencies, zoning authorities and the public. Zoning on the basis of flood risk will be encouraged.

Subsidiary agreements may also be developed dealing with studies or research, flood forecasting and flood warning systems, flood proofing techniques, land use planning in flood areas, works to control flows and levels, and the acquisition of property or easements to reduce flood damage potential.

Status: Discussions have taken place with the provinces towards developing federal-provincial agreements on flood damage reduction. Canada and the Province of New Brunswick entered into a General Agreement and sub-agreements on flood risk mapping and studies for flood damage reduction on March 31, 1976. Up to $1 million will be spent under that Flood Risk Mapping Agreement and up to $200,000 on flood studies.

6. LOWER SASKATCHEWAN BASIN TASK FORCE (pre-planning)

Duration: September 1974 to December 1976

Entities: CANADA
SASKATCHEWAN
LOWER SASKATCHEWAN BASIN ASSOCIATION

Objective: To prepare an overview report on the Lower Saskatchewan River Basin which would identify water management concerns needing further study.

Status: The target date for completion of the Task Force assignment has been extended to the end of 1976.