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REPORT TO THE CONGRESS



Cleaning Up The Great Lakes:
United States And Canada
Are Making Progress In Controlling
Pollution From Cities And Towns

Environmental Protection Agency

**BY THE COMPTROLLER GENERAL
OF THE UNITED STATES**

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MARCH 21, 1975

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

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/ To the President of the Senate and the
Speaker of the House of Representatives

This report describes how the United States and Canada are progressing in controlling pollution from cities and towns in the Great Lakes. Both countries are aiming to achieve the objectives of the Great Lakes Water Quality Agreement of 1972.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

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/ We are sending copies of this report today to the Director, Office of Management and Budget; the Chairman of the Council on Environmental Quality; the Chairman of the United States section of the International Joint Commission; the Secretary of State; and the Administrator, Environmental Protection Agency. 24

James B. Axtell

Comptroller General
of the United States

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ABBREVIATIONS

EPA	Environmental Protection Agency
GAO	General Accounting Office
IJC	International Joint Commission

COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

D I G E S T

WHY THE REVIEW WAS MADE

62 Congressman Charles A. Vanik asked GAO to undertake a study to determine

- how implementing provisions of the United States and Canada Great Lakes Water Quality Agreement of 1972, to control pollution from municipal sources, is progressing,
- what problems are hindering progress, and
- how implementing the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) is proceeding to accomplish provisions of the agreement.

Because of wide interest in the agreement and in controlling pollution in Lakes Erie, Huron, Michigan, Ontario, and Superior, this report is being addressed to the Congress.

FINDINGS AND CONCLUSIONS

Pollution of the Great Lakes has concerned the United States and Canada since the beginning of the 20th century.

In April 1972, the two countries entered into the Great Lakes Water Quality Agreement. The agreement was to reaffirm rights and obligations of both countries and, in particular, their obligations not to pollute boundary waters.

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CLEANING UP THE GREAT LAKES:
UNITED STATES AND CANADA ARE
MAKING PROGRESS IN CONTROLLING
POLLUTION FROM CITIES AND TOWNS
Environmental Protection Agency

The 1972 agreement provides for developing and implementing programs to abate and control discharges of municipal sewage into the Great Lakes. The agreement stipulates that such programs shall be either completed or in process by December 31, 1975.

Total costs to control Great Lakes pollution from municipal sources in the United States was estimated at \$8 billion and total costs to control combined sewer overflows from \$8 to \$13 billion.

In the Great Lakes Basin most sewer systems carry both sanitary waste and storm water runoffs (combined sewers) to the same treatment plant. During dry weather, combined sewers usually carry all waste to the treatment plant. During a storm, however, because of overloading, only a part of the mixed flow is carried to the plant; the rest is discharged, untreated into the Great Lakes. (See p. 6.)

Canada has not estimated the total cost to control pollution from municipal sources but a Canadian official has estimated that it would cost \$700 million to control municipal pollution and from \$1 to \$1.5 billion to control combined sewer overflows. (See p. 6.)

The Environmental Protection

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Agency is the U.S. Federal agency primarily responsible for implementing the agreement. This agency must rely on programs authorized by Public Law 92-500 to meet the provisions of the 1972 agreement.

U.S. and Canadian progress

According to the Environmental Protection Agency and Canadian estimates, the United States is trailing Canada by at least 3 years in constructing needed municipal waste treatment facilities in the Great Lakes Basin.

The United States has made substantial progress in controlling pollution from municipal sources but much remains to be done to meet the requirements of Public Law 92-500 and to accomplish the provisions of the agreement.

The pollution problem in the U.S. portion of the Great Lakes Basin was much more serious than the pollution problem in Canada and required considerably more funds to correct when the agreement was signed.

In April 1972, 5 percent of the 16 million people in the U.S. portion of the basin served by sewer systems were provided adequate treatment. In May 1974, the percentage was 42.5 percent. (See p. 9.)

Greater progress has not been made because many municipalities did not meet the administrative and legislative requirements of Public Law 92-500 and their projects did not qualify for available Federal funds.

Federal funding of municipal waste water treatment works on the Great

Lakes came to a virtual standstill between August 1973 and March 1974. These delays occurred while the Environmental Protection Agency developed new regulations and guidelines to implement Public Law 92-500 and the Agency and municipalities worked to iron out misunderstandings of the new requirements. (See pp. 12 to 15.)

By December 31, 1975, about 60 percent of the 16 million people served by sewer systems in the U.S. portion of the basin are expected to have adequate treatment. Nine major U.S. cities are included in the 40 percent of the 16 million people that will not be provided adequate treatment. Five of these cities are expected to have adequate treatment facilities by 1976, two by 1977, and the other two by 1978. (See p. 5.)

Canada had made much progress in controlling municipal pollution in the Great Lakes before the agreement and this progress has continued. By December 31, 1975, Canada expects to provide adequate treatment to about 98 percent of the 5 million people served by sewer systems. (See p. 10.)

In the United States and Canada, limited progress has been made in controlling pollution from combined sewer overflows primarily because of the magnitude of the problem and the huge sums of money needed to construct treatment facilities to treat such overflows using existing technology.

Many years and billions of dollars may be required before the United States and Canada are able to

control pollution from combined sewer overflows. (See pp. 9 and 10.)

Increased joint research and development effort needed

The 1972 agreement provides for measures to find practical solutions for reducing pollution from combined storm and sanitary sewer overflows. To date, neither the United States nor Canada has made much progress toward reducing the cost of solving the combined sewer problem.

Recognizing the international aspects of cleaning up the Great Lakes, GAO believes that the Environmental Protection Agency should explore with Canada the possibility of expanding their joint research and development program with the prime objective of finding ways to minimize the cost of treating combined storm and sanitary sewer overflows.

If successful, such a program would also benefit other municipalities in the United States and Canada that have similar combined sewer problems. (See pp. 24 and 25.)

Greater United States commitment needed

To support the agreement, the Environmental Protection Agency established the Great Lakes Initiative Program in fiscal year 1973. The program is designed to

- perform research to gain a greater understanding of the Great Lakes ecological system,
- find solutions to pollution problems, and
- carry out surveillance and

monitoring activities to assess water quality changes resulting from control programs.

The Agency estimated that it would cost about \$37.5 million to complete the program by June 1978.

The program, however, was delayed

- in fiscal year 1973 by transferring research funds to another program considered by the Agency to have a higher priority and also because of the low number of research staff--four--and
- in fiscal years 1973 and 1974 by the Administration's impoundment of \$3.5 million.

In April 1974, the Administration released the \$3.5 million of impounded funds which increased the Agency's program funds through fiscal year 1974 to \$12.7 million.

At current annual funding levels for two areas under the Great Lakes Initiative Program, the United States may not be able to adequately support the agreement. These areas are

- a Great Lakes surveillance and monitoring program to obtain the necessary scientific data to assess water quality changes resulting from control programs, and
- research to gain a greater understanding of the Great Lakes ecological system. (See p. 18.)

The Canadian Government has long placed high priority on obtaining an understanding of the Great Lakes system. In 1967, Canada constructed the Canadian Centre for Inland Waters--a \$23.5 million facility--on the shores of Lake Ontario to provide technical and scientific knowledge for improving the freshwater supply throughout Canada.

The Centre has committed about \$4 million a year between 1972 and 1975 to basic research projects in the Great Lakes Basin.

Canada has committed an additional \$35 million to carry out research projects, perform surveillance and monitoring, and provide support for carrying out the agreement from 1972 to 1977. (See p. 24.)

RECOMMENDATIONS

To help the United States meet its commitment to the Great Lakes Water Quality Agreement, the Administrator of the Environmental Protection Agency should:

- Explore with Canada the possibility of expanding their joint United States-Canadian research and development program to find ways to minimize the cost of controlling pollution from combined sewer overflows.
- Prepare an estimate of the funds needed under the Great Lakes Initiative Program for research aimed at gaining a greater understanding of the Great Lakes ecological

system and for monitoring and surveillance activities on the Great Lakes to meet the requirements of the agreement, and present this information to the appropriate congressional committees for use in their deliberation on the Environmental Protection Agency's budget requests.

AGENCY COMMENTS AND UNRESOLVED ISSUES

The Agency generally agreed with GAO's findings. It said that much work is yet to be accomplished under the Great Lakes Initiative Program but stated that, if a judgment is made to mount a massive program in the Great Lakes, consideration must be given to additional funds and staffing above those allotted to base programs, since base programs could not withstand reductions of their already limited resources.

Comments of the State water pollution control agencies included in GAO's review are discussed in Chapter 2. (See pp. 16 and 17.)

International Joint Commission comments are presented in Chapter 3. (See pp. 25 and 26.)

MATTERS FOR CONSIDERATION BY THE CONGRESS

This report is being addressed to the Congress because of the broad congressional interest in controlling pollution in the Great Lakes.

CHAPTER 1

INTRODUCTION

Congressman Charles A. Vanik asked us to undertake a two-part study to determine

1. How implementing the United States and Canada Great Lakes Water Quality Agreement of 1972 is progressing and where the biggest problems lie,
2. How implementing the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) is proceeding to accomplish provisions of the agreement.

Because of congressional concern on controlling pollution in the Great Lakes and interest in the agreement, this report is being addressed to the Congress.

IMPORTANCE OF GREAT LAKES

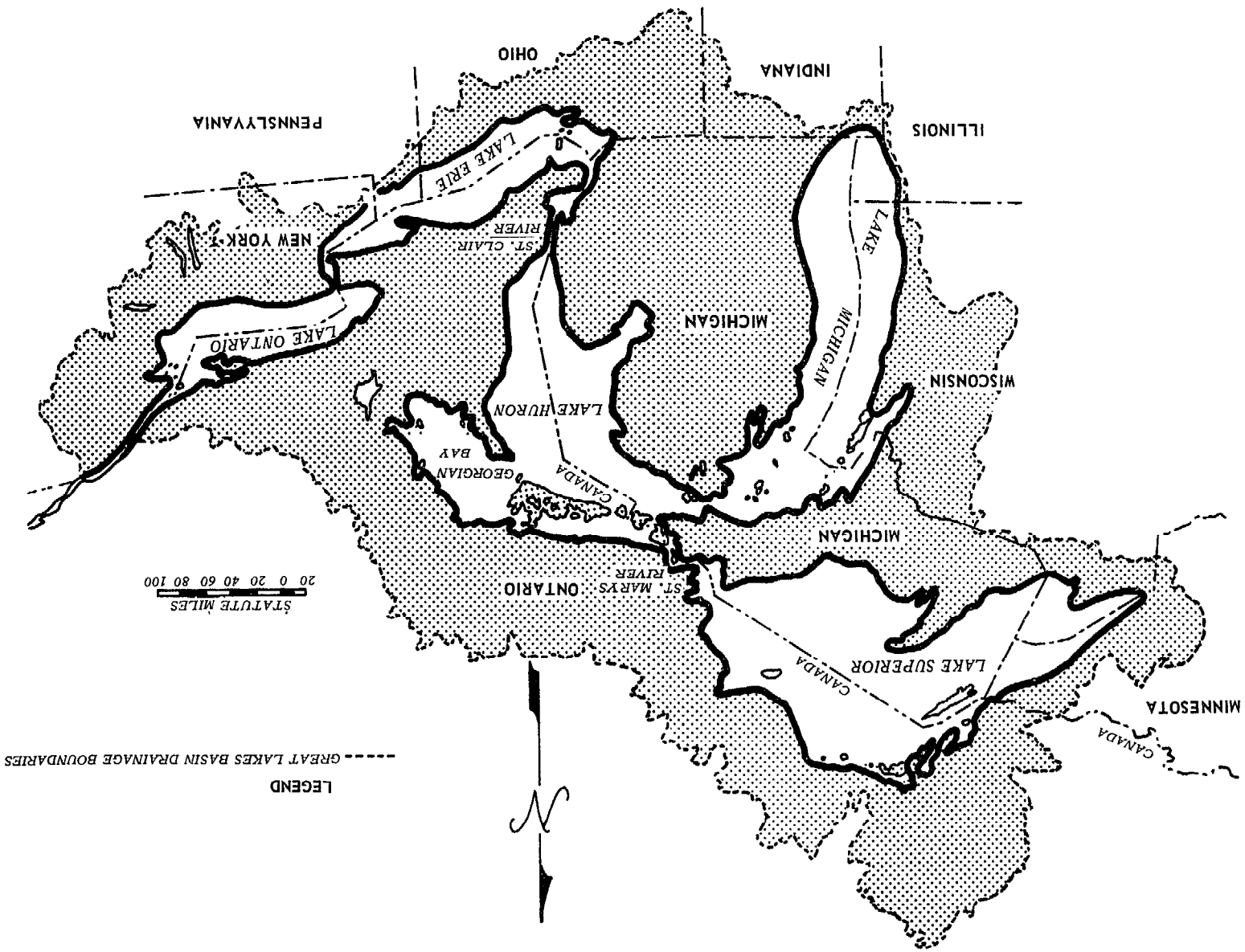
The Great Lakes (see map on p. 2)--Erie, Huron, Michigan, Ontario, and Superior--are immensely valuable to the United States and Canada. Communities surrounding the lakes enjoy an almost unlimited supply of water, low-cost transportation, and scenic beauty.

But man's pollution threatens the lakes. In less than 150 years man has brought changes in the lakes that probably would have taken centuries under natural conditions.

The Great Lakes Basin is one of North America's most important regions. About 28 million people live in municipalities which discharge wastes into the Basin--almost 21 million in the United States and about 7 million in Canada. The Basin includes all of Michigan and parts of Indiana, Minnesota, New York, Ohio, Pennsylvania, Wisconsin, and the Province of Ontario.¹

For many decades this region has been referred to as the industrial belt of the United States. It accounts for almost one-fourth of the Nation's total manufacturing activity. Almost one-third of Canada's entire population and about one-half of their industrial activities are located in this region; consequently, it is very important to Canada.

¹It does not include the Illinois population because all municipal wastewaters are to be diverted from the Basin.



the future growth of the Great Lakes region depends to a great extent on an adequate supply of clean water. Thus, the water resources of the lakes must not be degraded.

BOUNDARY WATERS TREATY OF 1909

The United States and Canada are jointly responsible for cleaning up the lakes and keeping them free from pollution.

The basic U.S.-Canadian agreement to remedy the problems in the Great Lakes is covered in the Boundary Waters Treaty which the Senate approved in 1909. The treaty was directed toward preventing and settling disputes over the use of boundary waters, including, but not limited to, the Great Lakes. It provided that boundary waters and waters flowing across the boundary were not to be polluted on either side to the point of injuring health or property of the other.

To carry out its purposes, the treaty established the International Joint Commission (IJC), a permanent body made up of three members from the United States and three from Canada. IJC was given the responsibility to investigate and make recommendations on pollution problems referred to it by either country.

In response to requests by the Governments, IJC made three major pollution studies on Great Lakes waters between 1909 and 1970. The final study was made from 1964 to 1970 and examined water pollution in Lakes Erie and Ontario and in the international section of the St. Lawrence River.

On the basis of the last study, IJC recommended that common water quality objectives be established for the Great Lakes and that the United States and Canada enter into an agreement on programs and measures to achieve the objectives. IJC further recommended that its powers be expanded to include coordinating and monitoring efforts to implement any international agreements reached. These recommendations led to the Great Lakes Water Quality Agreement of 1972.

THE GREAT LAKES WATER QUALITY AGREEMENT

The Great Lakes Water Quality Agreement of 1972 was a major U.S.-Canadian action to address the pollution problems of the lakes. It was intended to provide a basis for more effective cooperation to restore and enhance the lakes' water quality. The agreement:

- Established general and specific water quality objectives for the lakes.

- Designated programs and other measures to achieve the objectives and specified that such programs and measures be completed or in process by December 31, 1975.
- Assigned to IJC responsibilities and functions for implementing the agreement.
- Authorized IJC to establish a Great Lakes Water Quality Board to help exercise the powers and responsibilities assigned to it under the agreement. The Board was to consist of an equal number of members from Canada and the United States.

In the United States, the Environmental Protection Agency (EPA) is the prime agency responsible for implementing the agreement through the Federal Water Pollution Control Act Amendments of 1972. In Canada, the Environmental Protection Service is the Federal agency responsible for implementing the agreement through a Memorandum of Agreement with the Government of the Province of Ontario.

SCOPE OF REVIEW

We reviewed municipal water pollution control programs of seven of the eight Great Lakes States to determine their progress in constructing waste treatment plants to meet the water quality objectives of the agreement. Included in our review were Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin. Illinois was excluded because five of its seven municipalities in the Basin have diverted their sewer systems to municipalities outside the Basin; the other two will be diverted soon. We also reviewed EPA's research and development and technical programs carried out in the Great Lakes Basin for supporting the agreement.

We interviewed officials at EPA headquarters and regional offices, the U.S. State Department, State agencies, and other organizations in the Great Lakes Basin.

We met with Canadian officials to obtain information on their water pollution control programs and documentation showing the status of their programs.

We also met with IJC officials and examined pertinent documents, records, and other literature.

CHAPTER 2

UNITED STATES AND CANADIAN PROGRESS IN CONSTRUCTING AND UPGRADING MUNICIPAL SEWAGE TREATMENT FACILITIES

The 1972 agreement provides for developing and implementing programs to abatement and control discharges of municipal sewage into the Great Lakes system to meet water quality objectives.

The United States, which must rely on programs authorized by the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) to meet the requirements of the 1972 agreement, has made substantial progress to control pollution from municipal sources, but much remains to be done. Greater progress has not been made because many municipalities did not meet the administrative and legislative requirements of Public Law 92-500 and their projects did not qualify for available Federal funds.

According to EPA and Canadian estimates, the United States is trailing Canada by at least 3 years in its construction of needed municipal waste treatment facilities in the Great Lakes Basin. By December 31, 1975, about 60 percent of the 16 million people served by sewer systems in the U.S. portion of the basin are expected to have adequate treatment. At least nine major U.S. cities which are major polluters of the Great Lakes will not have adequate treatment until after 1975. In 1976, 23 projects, including projects for five of these cities, are expected to be completed and will provide adequate treatment to 85.5 percent of the population served by sewer systems. During 1977-78, 24 projects, including projects for the remaining four major cities, are scheduled for completion, increasing to 95 percent the population provided adequate treatment by sewer systems.

Canada made significant progress in controlling municipal pollution in the Great Lakes before the agreement; progress has continued since the signing of the agreement. By December 31, 1975, Canada expects to provide adequate treatment to about 98 percent of the 5 million people served by sewer systems.

Progress stated above relates only to the population served by sewer systems. There are almost 7 million people in the Great Lakes Basin who have no sewers--about 5 million in the United States and about 2 million in Canada. Most of the population not served by sewer systems use septic tanks or tile fields without discharge to surface waters. The

amount of lake pollution from septic tanks or tile fields is unknown.

In the United States and Canada, limited progress has been made in controlling pollution from combined sewer overflows primarily because of the magnitude of the problem and the huge sums of money needed to construct treatment facilities to treat such overflows using existing technology.

Combined sewers carry both sanitary waste and storm water runoffs to the same treatment plant. During dry weather, combined sewers usually carry all the waste to the treatment plant. During a storm, only part of the mixed flow is carried to the plant due to overloading; the rest is discharged untreated into the Great Lakes.

MUNICIPAL POLLUTION CONTROL NEEDS

At the time the agreement was signed, EPA had not made a survey to determine the total cost of controlling pollution from municipal sources. In 1973 EPA undertook the first comprehensive effort to determine the actual pollution abatement needs for the entire basin as part of a national needs survey in accordance with Section 205 and 516 of the Federal Water Pollution Control Act as amended by Public Law 92-500. Municipalities were asked to list their needs for adequately controlling their municipal waste waters. They were also asked to list their needs for controlling storm and sanitary combined sewer overflows, but only if they had made a study to determine the most economical means available to control overflows.

Great Lakes Basin municipalities reported that \$7.8 billion was needed to control municipal waste water. (See app. I.) Because many municipalities had not made the required studies, the municipalities only submitted estimates totaling \$2 billion for controlling combined sewer overflows. However, in 1971 EPA estimated that the basin needs for controlling combined sewer overflows alone ranged from \$8 to \$13 billion.

No effort has been made to determine the actual needs for the entire Canadian portion of the Basin; however, in 1972 an Ontario official estimated that \$700 million was needed to control municipal waste waters and phosphorus discharges and that from \$1 to \$1.5 billion was needed to control combined sewer overflows.

PROGRAMS TO SUPPORT AGREEMENT

United States

Programs funded under the Federal Water Pollution Con-

trol Act, as amended, are the principal mechanisms the United States relies on to achieve the objectives of the 1972 Agreement. That act established a Federal program to provide grants for constructing facilities to control pollution from municipal sources.

In October 1972 Public Law 92-500 amended the act to establish a national goal of eliminating discharges of pollutants into navigable waters by 1985 and an interim goal for protecting aquatic life and for recreation by 1983.

To help meet these goals, Public Law 92-500 authorized EPA to allocate \$18 billion to the States--\$5 billion, \$6 billion, and \$7 billion for fiscal years 1973, 1974, and 1975, respectively--to finance 75 percent of the cost of constructing publicly owned sewage treatment plants. The President impounded \$9 billion of the \$18 billion.

On January 28, 1975, EPA allocated to the States \$4 billion of the previously impounded funds at the direction of the President. On February 18, 1975, the Supreme Court ruled that sums authorized to be appropriated under Section 207 of Public Law 92-500 cannot be impounded or withheld from full allotment among the States by the Administrator, EPA.

Public Law 92-500 requires all municipalities, served by publicly owned sewage treatment plants, to achieve secondary treatment of waste by July 1, 1977. As generally defined by EPA, secondary treatment will remove at least 85 percent of the biochemical oxygen demand¹ and suspended solids from municipal sewage. The Great Lakes Water Quality Agreement, however, requires that programs and measures to provide treatment to achieve the water quality objectives for the Great Lakes--in some cases less than secondary treatment--be in operation or in the process of implementation by December 31, 1975.

To meet the agreement objectives, EPA previously required the Great Lakes States to give a higher priority for Federal funding to municipalities in the Great Lakes Basin than to those outside the basin. However, in January 1974, Public Law 92-500 was amended by Public Law 93-243 so as to prohibit EPA from requiring the States to give higher priority to basin municipalities because of the international agreement. Therefore, progress in implementing the agreement de-

¹A measure of the oxygen consumed in the biological processes that break down organic matter in water. Large quantities of organic waste require large amounts of dissolved oxygen. The more oxygen demanding matter, the greater the pollution.

depends on the funding priorities States assign to basin municipalities.

EPA allocated the seven Great Lakes States \$3.1 billion for fiscal years 1973-75. Funds were not specifically earmarked for the basin municipalities. In analyzing the priority systems the States used to allocate their Federal construction grant funds, we found that the States gave some added consideration to basin municipalities, but in most cases it was very slight. We found that basin municipalities would receive funds proportionate to or greater than the total reported abatement needs of all municipalities in the State. (See app. II.) For example, the needs of the basin municipalities in Ohio were 51 percent of the total State needs and basin municipalities were programmed to receive 54 percent of State funds in fiscal year 1974.

Canada

Unlike the United States, Canada has provided funds specifically to meet the requirements of the agreement. As authorized by the Ontario Water Resources Act as revised, the Province of Ontario administers the program to control municipal waste water in the Canadian Great Lakes Basin. Under the act, the Minister of the Environment, Province of Ontario, has the power to construct, operate, and maintain sewage works. Since 1960 the Canadian Federal Government has been providing 30-year financing for sewage treatment facilities at preferred interest rates for 66 2/3 percent of the eligible project cost, with forgiveness of 25 percent of the loan.

To accelerate constructing sewage works in the Great Lakes Basin and to meet the requirements of the water quality agreement, the Canadian and Ontario Governments entered into a Memorandum of Agreement on March 29, 1972. This agreement provides up to \$293 million for constructing municipal pollution control facilities through December 1975 in the Lower Lakes Basin. A similar funding arrangement is being negotiated for municipal projects in the Upper Great Lakes Region.

Through the Ministry, Ontario acts as an agent for financing, constructing, and operating sewage treatment facilities. The Province of Ontario also provides additional financial assistance for (1) area facilities designed to serve more than one municipality and (2) small municipalities where the cost of adequate treatment is excessive.

U.S. PROGRESS

The pollution problem in the U.S. portion of the Great Lakes Basin was much more serious than the Canadian portion and required considerably more funds to correct when the agreement was signed.

In the United States, 974 municipalities¹ with sewer systems serve close to 16 million people in the basin. Before the agreement, 335 municipalities were providing adequate treatment services to only 776,000 people--5 percent of the people served by sewer systems in the basin. By May 1974 this had risen to 588 municipalities providing adequate treatment services to 6.8 million people--42.5 percent of the people served by sewer systems. Greater progress has not been achieved primarily because of the time it took many municipalities to meet the administrative requirements of Public Law 92-500. (See p. 12.)

Combined sewers

The United States has done little to control its combined sewer overflow problem--estimated to cost from \$8 to \$13 billion--primarily because (1) other problems have been assigned higher priorities, (2) installation of combined sewer treatment facilities are very costly using existing technology, and (3) construction grant funds have been insufficient.

Five of the seven Great Lakes States require that combined sewer overflows be controlled as early as 1977, but little has been done to correct the problem. An EPA official told us that primary efforts to control combined sewer overflows were made only if controls could be installed as part of a facility to correct the municipal waste water problem. Since April 1973, six grants were made specifically to correct combined sewer overflows and five other grants provided for overflow controls, but only as part of a facility which was designed primarily to correct the municipal waste water problem.

In 1971 EPA assessed the Great Lakes combined sewer problems to identify the most urgent needs. It identified eight projects that would yield visible results within a 3-year period, such as the reopening of beaches that have been closed for years. Only three of the eight projects were funded specifically to correct the problem. (See app. III.)

¹ Municipalities in Illinois were excluded from this figure.

² Adequate treatment in the United States means a minimum of secondary treatment and a total phosphorus reduction of 80 percent for each basin which generally requires a phosphorus reduction in effluents to the range of 0.5 to 1.0 milligrams per liter.

CANADIAN PROGRESS

Before signing the agreement, Canada was much further along than the United States. There are 349 municipalities with sewer systems serving almost 5 million people in the Canadian portion of the basin. In 1971, 5 municipalities provided no treatment; 171 provided partial treatment; and 173, representing 80 percent of the population served by sewer systems, provided adequate treatment.

The United States and Canada use somewhat different definitions of adequate treatment. The United States defines adequate treatment as secondary treatment with at least 85 percent removal of biochemical oxygen demand, suspended solids, disinfection, and phosphorus removal of 80 percent. Before the agreement, Canada required adequate treatment on the basis of an assessment of the impact of the waste discharge on the receiving water quality. Following these assessments, Canada generally required a minimum of secondary treatment or its equivalent. On major waterways, however, adequate treatment in Canada could have consisted of primary treatment with supplementary chemical treatment if the effluent did not pollute the receiving water. Furthermore, Canada did not require phosphorus removal.

The agreement, however, called for phosphorus removal in the Lake Erie and Lake Ontario Basins in addition to the treatment Canada considered to be adequate. Because of the phosphorus removal requirement, the percentage of people considered to be provided adequate treatment dropped to 29 percent in May 1974. At that time, phosphorus removal facilities were essentially completed in treatment plants in the Lake Erie Basin, but not in the Lake Ontario Basin.

By December 31, 1975, phosphorus removal facilities are expected to be complete in the Ontario Basin and it is estimated that about 98 percent of the people in municipalities with sewer systems will be provided adequate treatment under the Canadian definition.

Combined sewers

Canada, like the United States, has done little to control combined sewer overflows, which are estimated to cost from \$1 to \$1.5 billion on the Canadian side of the border. Canada's efforts are directed toward defining the magnitude of the problems, defining potential solutions, and developing a strategy for implementing the solutions. However, one construction project costing over \$100 million has been initiated in Toronto.

U.S. PROBLEMS IN MEETING
AGREEMENT REQUIREMENTS

The United States is progressing toward achieving the agreement requirements through programs funded under the Federal Water Pollution Control Act. Between April 1972 and December 31, 1974, EPA awarded 226 grants totaling \$814 million to basin municipalities. Greater progress has not been made because municipalities did not meet the administrative requirements EPA established to implement Public Law 92-500. However, by April 1974 these problems were being overcome and the grant program began to pick up momentum. From April 1 to December 31, 1974, grants totaling \$366 million were awarded to 107 projects in the Great Lakes Basin. The Administration's impoundment of funds was not a major factor in retarding progress during this period.

Administration's impoundment
of funds

In fiscal year 1973, the Administration's impoundment of grant funds reduced the municipal waste treatment plant projects that could be funded in the New York portion of the basin; however, in the other six States, Federal funds were available for all qualified basin projects.

In fiscal year 1974, the impoundment did not cause delays because the failure to meet administrative requirements had brought the program to a virtual standstill in all States from August 1, 1973, through March 31, 1974.

However, In April 1974, the States and EPA began to overcome the problems of meeting administrative requirements. State officials in six of the seven States said that future impoundment could slow down construction of sewage treatment plants and seriously hamper implementation of the agreement.

However, the Supreme Court decision on February 18, 1975, ruled that the Administrator, EPA, cannot impound or withhold from full allotment sums authorized to be appropriated under Section 207 of Public Law 92-500.

The Administration has also impounded some funds for constructing facilities in the Great Lakes Basin to control combined sewer overflows. Section 702 of the 1965 Housing and Urban Development Act (Public Law 89-117) authorizes the Secretary of Housing and Urban Development to award grants for constructing public water and sewer facilities, excluding treatment works. As of October 1973, at least \$400 million of the funds appropriated for these grants remained unexpended.

Under Public Law 93-135 (enacted October 24, 1973), the Congress authorized \$100 million of these funds to be available for transfer to the EPA to fund storm and combined sewer overflow abatement projects for the Great Lakes Area. The Administration, however, did not release the funds; the Congress then reauthorized transfer of the funds in EPA's 1975 appropriation bill. On August 8, 1974, the President vetoed the legislation. In his veto message the President said:

***the feasibility of this cleanup program has not yet been proven. Further study is essential if we are to avoid ineffective Federal spending for these purposes."

EPA's 1975 appropriation bill, redrafted by the Congress and enacted December 31, 1974, does not include provisions for transferring the previous year's unobligated Department of Housing and Urban Development funds.

Administrative requirements of Public Law 92-500

The delays resulting from EPA implementing the new requirements of Public Law 92-500 slowed down the awarding of grants for municipal waste facilities considerably. As a result, \$2.1 billion of construction grant funds allotted to the seven Great Lakes States for fiscal years 1973 and 1974 remained unobligated at June 30, 1974. Public Law 92-500 made many changes in the construction grant program. Major changes included:

User Charges and Industrial Cost Recovery--The EPA Administrator could not approve any grant after March 1, 1973, unless it was determined that the applicant had adopted or could adopt a system of charges to insure that each recipient of waste treatment services will pay its proportionate share of the costs of operations and maintenance. The applicant also had to make provision for payment by industrial users of the treatment works of that portion of the Federal cost of construction allocable to the treatment of such industrial waste.

Priority System--Construction grants could only be approved after July 1, 1973, in accordance with an approved State priority list derived from a new priority system. Public Law 92-500 required development of a much more complex system than the States had been accustomed to. The prior system used financial need as one of the major factors in setting priorities. The new system established by EPA used the severity of

pollution problems, the population affected, the need for preservation of high quality waters, and national priorities as well as total funds available.

Infiltration/Inflow Analysis--The EPA Administrator could not approve any grant after July 1, 1973, for treatment works unless the applicant showed that each sewer collection system discharging into the treatment works was not subject to excessive infiltration.

Delays resulted because of the time required for EPA to develop regulations and solve problems the States and municipalities had in understanding and complying with the new requirements.

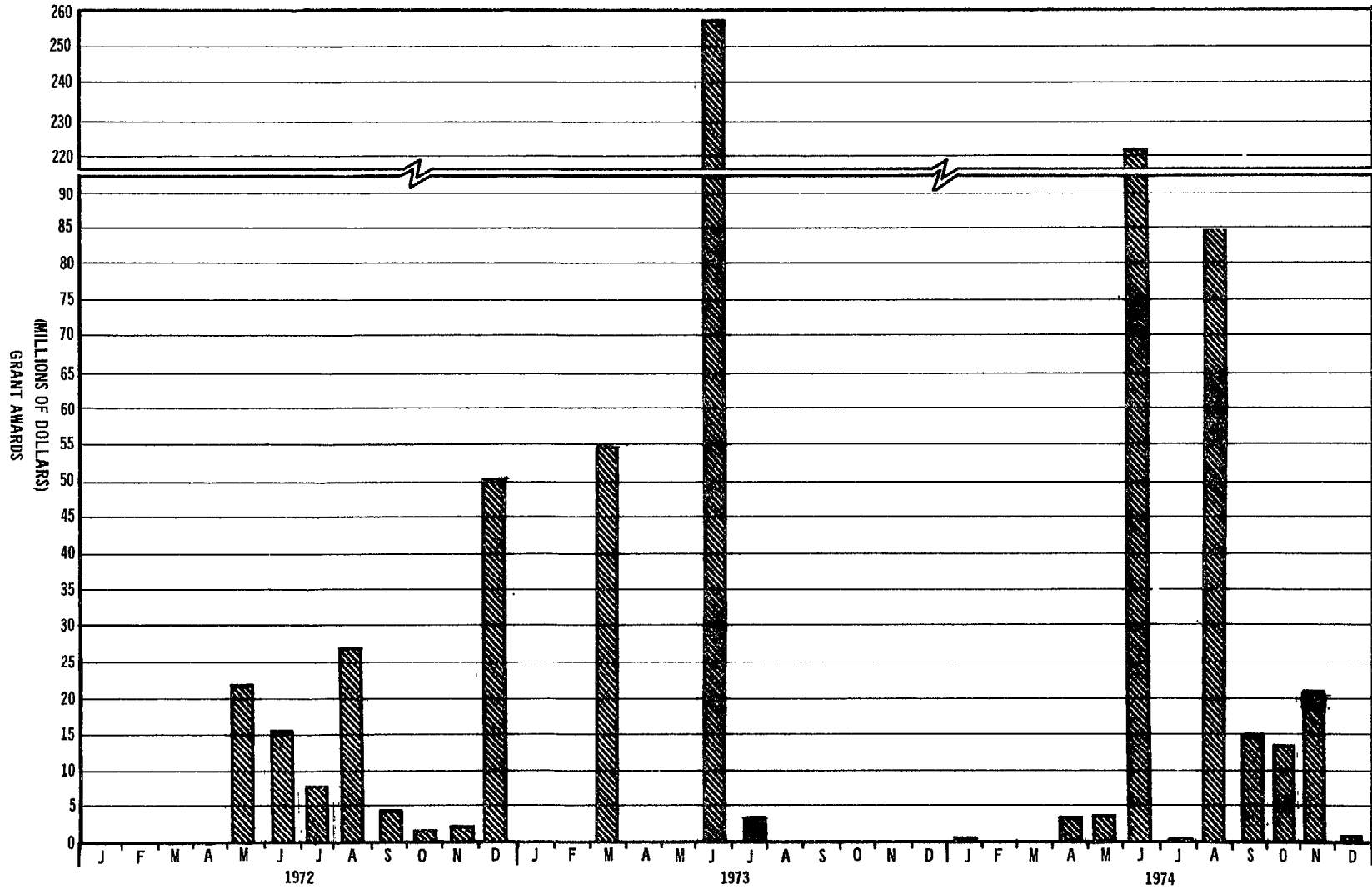
Funding activity for municipal waste facilities in the Basin between May 1972 and December 1974 is explained below and shown on the graph on p. 14.

- Only 11 awards for \$8.4 million were made by EPA between September and November 1972 because of uncertainties caused by anticipating new requirements and a lack of understanding once they became law.
- Only 4 awards for \$54.9 million were made in January through May 1973, while EPA regulations and user charge guidelines were being developed.
- Only 1 award for \$260,000 was made from August 1, 1973, through March 31, 1974, while priority systems and priority lists were being developed by the States and approved by EPA. After the priority lists were approved, more delays were encountered in meeting the user charge and infiltration/inflow requirements.

The delays resulting from the change to a new priority system are shown below. The schedule shows the length of time between July 1, 1973,--when the new priority systems were required--and the date the priority list was approved for each State:

<u>State</u>	<u>Months After 7/1/73</u>
Indiana	7
Michigan	11
Minnesota	6
New York	2
Ohio	11
Pennsylvania	7
Wisconsin	5

EPA GRANT AWARDS IN THE GREAT LAKES BASIN



Once the priority lists were approved, further delays occurred before project applications were approved by the EPA regions. Federal and State personnel told us that these delays occurred because people at the local level did not understand the requirements and had difficulties getting old projects approved under the new system. The new requirements made many municipalities already through the planning stage revise their applications. For example, one State had 200 applications through planning but had to go back and prepare infiltration/inflow and user charge analyses.

In February 1974, EPA issued final regulations and cleared up many uncertainties about the new requirements. To supplement the regulations, EPA Region V personnel, who are responsible for 5 of the 7 Great Lakes States, held over 400 preconstruction grant award conferences in cooperation with State personnel. However, Region V and some State officials believe that further effort is needed to fully explain the requirements at the local level.

The new regulations and approval of priority lists stimulated progress--107 grants totaling \$366 million were awarded from April through December 1974.

OUTLOOK

At a May 1974 meeting between the U.S. and Canadian Governments, the EPA Administrator stated that construction of all major municipal waste treatment plants in the U.S. Basin are to be underway by December 31, 1975. However, 274 municipal systems are expected to still require upgrading to provide adequate treatment for almost 6.3 million people--about 40 percent of the persons served by sewer systems in the Basin.

Nine major municipal treatment facilities serving populations of more than 100,000 are not scheduled to be completed until after December 31, 1975. These facilities will serve such major U.S. cities as Detroit, Cleveland, Buffalo, Syracuse, Niagara Falls, and Duluth.

Between 1976 and 1978, these facilities will be among 47 projects that are expected to be completed. In 1976, 23 projects including projects for five of these cities are expected to be completed and will provide adequate treatment to 85.5 percent of the population served. During 1977-78, 24 additional projects including projects for the remaining four major cities are scheduled for completion. Completion of these 47 projects will increase adequate service to about 15 million people or about 95 percent of the Basin's population served by sewer systems.

Canadian officials anticipate adequate treatment will be provided by 338 of the 349 Canadian Basin municipalities by December 31, 1975, to more than 98 percent of the population in this area. Three of the municipalities are not to have treatment facilities and the remaining eight are to provide only an intermediate level of treatment.

CONCLUSIONS

The requirement of the 1972 agreement to construct needed municipal waste treatment facilities in the Great Lakes is expected to be substantially met by Canada by 1975 and the United States by 1978. The pollution problem in the U.S. portion of the Great Lakes Basin was much more serious and required considerably more funds to correct when the agreement was signed.

The United States and Canada have done little to control pollution from overflows of combined storm and sanitary sewers, primarily because of the magnitude of the problem and the cost to construct such facilities using existing technology. It may take many years and cost billions of dollars before the United States and Canada are able to control pollution from combined sewer overflows.

STATE COMMENTS

Comments were received from each of the seven State water pollution control agencies. The State agencies agreed, in general, with the findings discussed in the report. We evaluated and considered all comments in the report.

- The Indiana Stream Pollution Control Board, the Michigan Environmental Protection Branch, the Pennsylvania Department of Environmental Resources, and the Wisconsin Department of Natural Resources indicated substantial agreement with the information presented.
- The Minnesota Pollution Control Agency feels that the funding delays were caused mostly by Federal Government actions. The Agency stated that greater progress has not been made in improving waste water discharges to the Great Lakes not because municipalities did not meet administrative requirements but because the Federal administration appears to have used this tactic to minimize the importance of not releasing sufficient funds.
- The New York Department of Environmental Conservation felt that greater progress has not been made because many municipalities were unable to meet the administrative and procedural requirements of EPA's regu-

lations as based on EPA's interpretation of Public Law 92-500.

--The Ohio Environmental Protection Agency stated that Ohio should be included with New York as being affected by the impoundment of funds in fiscal year 1973. However, according to our information, New York was the only State included in our review that had qualified projects ready for construction with State-approved design plans and specifications that could have been funded in fiscal year 1973 but were not because of the impoundment.

CHAPTER 3

GREATER COMMITMENT NEEDED TO SUPPORT OTHER PROVISIONS OF THE GREAT LAKES WATER QUALITY AGREEMENT

The 1972 agreement also provides for (1) measures to find practical solutions for reducing pollution from overflows of combined storm and sanitary sewers, (2) monitoring and surveillance activities to measure the progress of control programs, and (3) research to identify and find solutions to Great Lakes pollution problems.

To support the above provisions, EPA established the Great Lakes Initiative Program in fiscal year 1973. The program is designed to

- perform research to gain a greater understanding of the Great Lakes ecological system,
- find solutions to pollution problems, and
- carry out surveillance and monitoring activities to assess water quality changes resulting from control programs.

EPA estimated that it would cost about \$37.5 million to complete the program by June 1978.

The program, however, was delayed in fiscal year 1973 by (1) the transfer of research funds to another program considered to be higher priority by EPA, (2) a limited number of research staff--four, and (3) the Administration's impoundment of funds in fiscal year 1973. In April 1974, the Administration released \$3.5 million for the program which increased EPA's funding through fiscal year 1974 to \$12.7 million. (See app. IV.)

At the current annual funding levels for two areas under the Great Lakes Initiative Program, EPA will not be able to adequately support the agreement. If the United States intends to fulfill its obligation to support the agreement, a greater commitment of resources is needed in

- carrying out a Great Lakes surveillance and monitoring program to obtain the necessary scientific data to assess water quality changes resulting from control programs, and
- performing research to gain a greater understanding of the Great Lakes ecological system.

The Canadian Government has long placed high priority on obtaining an understanding of the Great Lakes system by constructing a \$23.5 million research facility on the shores of Lake Ontario, and by committing \$51 million to carry out research projects, perform surveillance and monitoring and provide IJC support in the years 1972 through 1977.

To date, however, neither the United States nor Canada has made much progress toward reducing the cost of treating combined sewer overflows. Only one combined sewer project has been funded under the Great Lakes Initiative Program, but it was not directed toward finding an economical solution to the problem.

Under its national research and demonstration program, EPA funded 27 projects totaling \$15 million during fiscal years 1965-74 in the Great Lakes Basin for controlling discharges from combined sewers. These projects too, however, were not directed toward finding economical solutions to the problem.

In our report to the Congress dated January 16, 1974, entitled "Research and Demonstration Programs to Achieve Water Quality Goals: What the Federal Government Needs to Do" (B-166506), we stated that:

"***there has been little change in the processes for dealing with municipalities' major water pollution control problems. R&D programs for controlling municipal water pollution have emphasized improving individual processes to achieve higher pollutant-removal rates and demonstrating existing technological alternatives. Few of the recent results of municipal technology R&D programs have been broadly implemented because of the high cost."

We recommended that one of the primary objectives of EPA's research and demonstration program should be to find ways to minimize the cost of municipal water pollution control, either by modifying existing technology or by developing new techniques.

Based on our recommendations, EPA officials told us in January 1975 that the primary objective of its municipal water pollution control research and demonstration program is now directed toward finding ways to optimize cost effectiveness.

EPA and the Canadian government have a limited joint research and development program underway. For example, an EPA representative chairs a technical advisory group which conducts a continuing technical review of the Canadian storm

and combined sewer program. This relationship is intended to insure that the two governments' research in the storm and combined sewer area is coordinated to avoid duplicating effort and unnecessary expenditure. However, EPA has committed little more than one-third man-years effort on this program.

GREAT LAKES INITIATIVE PROGRAM

The program is designed to support the agreement requirements by:

- Demonstrating new methods and techniques and developing preliminary plans for controlling pollution,
- Studying pollution problems in the Great Lakes to determine the extent of pollution, remedial measures needed to control pollution, and cost of control,
- Performing technical studies in special attention areas of the Great Lakes to measure progress in implementing the agreement and to support litigation against specific polluters, and
- Performing research in developing guidelines for controlling pollution.

Demonstration and planning projects

In 1970 the Congress amended the Federal Water Pollution Control Act authorizing \$20 million to fund projects to demonstrate new methods and techniques, and develop preliminary plans for eliminating or controlling pollution in all or any part of the watersheds of the Great Lakes.

Through June 1974, \$4.3 million had been spent. Funding was delayed when the Administration impounded \$1.1 million of fiscal year 1973 funds until April 1974. Additional cost to develop new methods and techniques is expected to be \$7.7 million through fiscal year 1978.

Since the agreement was signed, three grants have been awarded to develop methods and techniques to control municipal waste. Three others were awarded to supplement the land use studies to control pollution from agricultural, forestry and other land use activities. None of the projects was complete as of June 30, 1974.

One of the six grants was awarded to Rochester, New York, to develop and demonstrate an integrated system for controlling combined sewer overflow. The system will include various

storage and treatment facilities for wet and dry weather flows incorporating the latest technology and will use demonstration monies designated specifically for the Great Lakes. However, the grant is not directed toward finding a more economic solution to the combined sewer overflow problem.

Before the agreement, 22 grants totaling about \$14 million were awarded in the Basin under EPA's national research and demonstration program. In our January 16, 1974, report to the Congress, we concluded that these projects demonstrated various techniques; however, they too, did not emphasize developing more economical solutions to the problem.

Studies of pollution problems

The Administration's impounding \$3.5 million of funds delayed these studies. The funds were later released, and EPA now expects to meet the target dates for completion of the studies. These studies, involving considerable surveillance and monitoring activities, however, are only being done in portions of the Basin. Additional funding is needed to continue the surveillance and monitoring in these portions after the studies are completed and to make studies in the other portions of the Basin.

Upper lakes studies

EPA allocated \$300,000 of fiscal year 1973 funds to develop a plan of study of pollution problems in Lake Superior and Lake Huron and initiate the first phase of the work. In fiscal year 1974 the funding was increased to \$1.3 million. But even this increased funding level was not adequate and, as a result, several high priority projects included in the plans could not be funded or were inadequately funded. After the Administration released the funds in April 1974, EPA allocated \$986,000 to these studies in addition to the \$1.1 million of fiscal year 1975 funds already committed to the studies.

The EPA Great Lakes Coordinator stated that with additional funding of \$200,000 in fiscal year 1976, the studies should be completed as planned in December 1975.

Land drainage study

EPA allocated \$200,000 of fiscal year 1973 funds to develop plans for this study. In fiscal year 1974, EPA allocated additional funding of \$325,000 and \$900,000 in fiscal year 1975. When impounded funds were released in

April 1974, \$1.4 million was added.

The most important element of this study are pilot projects in three major and two minor Great Lake watersheds to provide data necessary for evaluating the impact of land use activities on the Great Lakes system.

The watershed projects were delayed for about 9 months by impounded funds. Although plans for the studies were approved in July 1973, the projects were not funded until after the impounded funds were released in April 1974.

Although the funding level is now adequate for fiscal years 1974 and 1975, additional funding of \$2.9 million is needed to complete the study as scheduled in December 1977.

Surveillance and monitoring

The studies of Lakes Superior and Huron and the land use studies involve surveillance and monitoring to some extent. However, these studies cover only a part of the Great Lakes and upon completion of the studies, there will be no further surveillance and monitoring efforts underway in Lakes Superior and Huron.

The Great Lakes Water Quality Board in its 1973 annual report recommended that greater resources be applied to surveillance and monitoring in order to assess current water quality and note evidence of changes resulting from remedial programs now underway in the Basin. To give greater emphasis to surveillance and monitoring, EPA Region V is establishing a Great Lakes Surveillance Branch which will carry out these activities in the studies of Lakes Superior and Huron.

The Branch is to be supported in fiscal year 1975 with funds earmarked for the studies. However, EPA officials are concerned that the Branch may be short-lived. EPA Region V Director of Surveillance and Monitoring said that the lack of specific authorization to fund the Branch could mean that funding would be a problem when the studies in Lakes Superior and Huron are completed in fiscal year 1976.

Technical studies

These studies are designed to

- assess water quality in the most critically polluted portions of the Great Lakes, and their major tributaries for measuring U.S. progress in implementing the agreement, and
- show existing adverse effects supporting litigation

reports against specific polluters.

Impoundment did not affect these studies. EPA awarded 13 contracts in fiscal years 1973-74 totaling \$866,000 and plans to use \$436,000 to coordinate the studies and support enforcement activities. One of the contracts was completed before June 30, 1974, and the others are expected to be completed in fiscal year 1975.

Research

Research under the Initiative Program was seriously hampered because EPA transferred funds to other higher priority programs and because of a limited number of research staff.

The research to be performed under the program began in fiscal year 1973 to develop

- predictive models of chemical, physical, and biological processes affecting pollution,
- guidelines for controlling nutrients, and
- guidelines for controlling the ecological stresses caused by thermal pollution.

EPA program officials estimated that it would require about \$11.6 million to develop necessary predictive models and guidelines by fiscal year 1978. On the basis of the funding provided for these efforts in fiscal years 1973 and 1974--about \$1 million and \$1.7 million, respectively--and given the small number of research staff involved, it is doubtful that the above objectives will be achieved by fiscal year 1978.

According to the EPA Grosse Ile Laboratory Director, the program would have helped EPA a great deal in gaining a greater understanding of the Great Lakes ecological system. But the laboratory had only four researchers to work on the program and, according to the Director, it would have been difficult to carry out the above research with such a limited staff. Also, EPA reduced the fiscal year 1973 funds from \$1.7 million to \$926,000. This meant research on thermal pollution had to be eliminated and research on developing predictive models had to be reduced. In the Director's opinion, the reduced program was not adequate to meet the research needs for the lakes.

In fiscal year 1974, the funding level was increased back up to \$1.7 million. However, the staffing problem continued in fiscal year 1974 with only four researchers

involved in the program. The Director does not consider this to be an adequate staff to carry out all of the responsibilities of the program.

EPA's former Assistant Administrator for Research and Development told us that fiscal year 1973 funding was reduced when EPA transferred some funds to other programs because of changes made in priorities for a variety of reasons. EPA can reduce the program funding at its discretion because the Congress, in appropriating funds for EPA research, does not earmark them specifically for Great Lakes research into the sources, fate, and effects of water pollutants.

CANADIAN EFFORTS

Canada has placed a high priority on gaining an understanding of the Great Lakes system. In 1967 it constructed the Canadian Centre for Inland Waters--a \$23.5 million facility built to provide technical and scientific knowledge for the advancement of freshwater throughout Canada. The Centre has committed about \$4 million each year between 1972 and 1975 to basic research projects in the Great Lakes Basin.

Also, Canada has committed an additional \$35 million to carry out research projects for surveillance and monitoring, and to provide IJC support from 1972 through 1977. (See app. V.) It budgeted \$7 million of the \$35 million to carry out research on reducing the cost of the abatement of municipal pollution. Part of these funds--\$600,000 in 1973 and 1974--were for the combined sewer problem.

CONCLUSION

Because of the huge sums of monies needed to treat overflows from combined storm and sanitary sewers using existing technology as discussed in Chapter 2, and because of the Nation's many other pressing funding needs, it is doubtful there will be meaningful progress in solving this problem unless new and less costly methods and processes can be developed.

Recognizing the international importance of cleaning up the Great Lakes, we believe that EPA should take a leadership role and explore with Canada the possibility of an expanded joint United States-Canadian research and development program to minimize the cost of controlling pollution from combined storm and sanitary sewer overflows. Such a program would (1) enhance the spirit of friendship and cooperation between the two countries, (2) reaffirm the intent of the United States not to pollute boundary waters, and (3) benefit other municipalities in the United States and Canada having

similar combined sewer problems because the newly developed technology could be applied elsewhere.

We discussed this idea with officials from EPA, Office of Management and Budget, the Department of State and IJC, all of whom agreed it would be desirable and beneficial.

At the current annual funding levels to conduct research and monitoring and surveillance efforts on the Great Lakes, the United States may not be able to adequately support the 1972 agreement.

RECOMMENDATIONS TO THE ADMINISTRATOR, EPA

To help the United States meet its commitment to the Great Lakes Water Quality Agreement, the Administrator, EPA, should

- explore with Canada the possibility of expanding their joint U.S.-Canadian research and development program to find ways to minimize the cost of controlling pollution from combined sewer overflows,
- prepare an estimate of the funds needed under the Great Lakes Initiative Program for research aimed at gaining a greater understanding of the Great Lakes ecological system, and for monitoring and surveillance activities on the Great Lakes to meet the requirements of the agreement and present this information to the appropriate congressional committees for use in their deliberations on EPA's budget requests.

EPA, STATE DEPARTMENT, AND INTERNATIONAL JOINT COMMISSION COMMENTS

In November 1974, this report was sent for comment to EPA, the Department of State, and the International Joint Commission.

EPA generally agreed with the findings discussed in the report. In our second recommendation to the Administrator, we asked EPA to prepare an estimate of the funds needed for research and for monitoring and surveillance activities under the Great Lakes Initiative Program. EPA agreed that much work is yet to be accomplished, but stated that if a judgment is made to mount a massive program in the Great Lakes, consideration must be given to additional funds and staffing above those allotted to base programs, since base programs could hardly be expected to withstand reductions of their already limited resources.

The Department of State had no comments on the report. The United States Section of the International Joint Commission stated that it found no areas of serious difference in general. The International Joint Commission did point out, with respect to our recommendation for expanding the joint U.S.-Canadian research and development program, that the Great Lakes Research Advisory Board, established by the Commission under the terms of the Great Lakes Water Quality Agreement, is developing a directory of related Great Lakes research and demonstration projects in both countries which would be helpful in identifying joint research and demonstration possibilities.

FUNDS NEEDED TO CORRECT MUNICIPAL WATER POLLUTION
PROBLEMS IN THE GREAT LAKES BASIN AS OF NOVEMBER 1973

State	Secondary treatment	Phosphorus removal	Infiltration/ inflow	Interceptors, pumping stations and new collectors	Total waste water discharge control needs	Funds needed to control combined sewer overflows ^a	Total basin needs	Total Great Lake States' needs	Percent of needs in Basin to total State needs
	(000 omitted)								
Michigan	\$ 525,000	\$115,000	\$ 14,000	\$1,812,000	\$2,466,000	\$ 859,000	\$3,325,000	\$ 3,325,000	100
New York	690,108	140,459	31,852	2,434,199	3,296,618	567,324	3,863,942	8,032,000	48
Ohio	273,820	186,178	379,968	458,267	1,298,233	160,095	1,458,328	2,833,000	51
Wisconsin	140,306	30,762	59,613	238,138	468,819	142,725	611,544	787,000	78
Minnesota	131,791	6,267	184	23,960	162,202	20	162,222	1,065,000	15
Indiana	45,907	18,196	371	43,131	107,405	261,440	369,045	1,040,000	35
Pennsylvania	1,908	673	379	45,017	47,977	39,000	86,977	4,210,000	2
Total	<u>\$1,808,840</u>	<u>\$497,535</u>	<u>\$686,367</u>	<u>\$5,054,712</u>	<u>\$7,847,454</u>	<u>\$2,029,604</u>	<u>\$9,877,058</u>	<u>\$21,292,000</u>	<u>46</u>

^a Restricted by EPA to those needs determined as a result of evaluating the most economical control methods available.

BEST DOCUMENT AVAILABLE

APPENDIX II

ANALYSIS OF BASIN PROJECTS' NEEDS
AND ELIGIBLE COSTS COMPARED TO TOTAL
STATE NEEDS AND ELIGIBLE COSTS FOR FISCAL YEAR 1974
(note a)

<u>^bState</u>	<u>Percent of needs in the basin compared to total State needs</u>	<u>Percent of eligible cost for basin projects compared to total eligible cost</u>
Indiana	35	44
Michigan	100	100
Minnesota	15	44
New York	48	43
Ohio	51	54
Pennsylvania	2	1
Wisconsin	78	70

^aBased on an analysis of the top 50 fiscal year 1974 priority rankings for each State.

^bThere are seven municipalities in Illinois that are also in the Basin. However, five of these have diverted their sewer systems to municipalities outside the Basin and the other two will be diverted in the near future.

ESTIMATED 1971 NEEDS TO CONTROL THE MOST SEVERE COMBINED SEWER OVERFLOW PROBLEMS IN THE GREAT LAKES BASIN AND SPECIFIC AWARDS MADE TO MEET THESE NEEDS

Site	Population	Project impacts	Estimated 1971 project cost (millions)	Combined sewer overflow grant awards
Superior, Wisconsin	32,000	2 Beaches	-	Design for overflow control \$ 540,375
Kaena, Wisconsin	95,000	1 Beach 1 Municipal water supply	1.2	Plan for overflow control 67,500
Whiting/Hammond, Indiana	110,000	4 Beaches 2 Municipal water supplies	3	Construct retention basin and sewers 5,369,175
Ht. Clemens, Michigan	20,000	1 Beach	5.4	
Detroit, Michigan	3,600,000	1 Municipal water supply several industrial supplies	20	
Saginaw/Bay City, Michigan	177,500	1 Beach 1 Municipal water supply	-	
Cleveland, Ohio	2,585,000	4 Beaches 1 Municipal water supply	10	
Rochester, New York	300,000	3 Beaches several water supply intakes	24	
Total				<u>\$5,977,050</u>

a/ Received award for the construction or upgrading of treatment plant which will partially correct overflow problem.
 b/ Received a \$600,000 grant to demonstrate and apply proven technology.

APPENDIX IV

GREAT LAKES INITIATIVE
PROGRAM FUNDING THROUGH JUNE 30, 1974

<u>Task to be performed</u>	Funding as of June 30, 1974			
	Fiscal year		April 1974	
	1973	1974	Release by Office of Management and Budget	Total
	(Thousands)			
Demonstration and Planning Projects	\$1600	\$1630	\$1096	\$4326
Studies of Pollution Problems:				
Upper Lakes study	300	1300	986	2586
Land drainage study	200	325	1418	1943
Surveillance and monitoring (note a)	--	--	--	--
Technical studies	635	231	--	866
Research	926	1700	--	2626
IJC	150	129	--	279
IJC research coordination	50	50	--	100
Total	\$3861	\$5365	\$3500	\$12726

^aThe Upper Lakes and land drainage studies involve surveillance and monitoring to some extent but only cover Lakes Superior and Huron.

SUMMARY OF CANADA'S EXPENDITURES ON
RESEARCH STUDIES SUPPORTING CANADA-UNITED
STATES GREAT LAKES WATER QUALITY AGREEMENT

<u>Name of study</u>	<u>Study period</u>	<u>Budget</u> (thousands)
Land use activities reference group	1973-77	\$ 5,200
Upper Lakes reference group	1973-76	6,500
Research projects in support of programs under Article V	1973-74 1974-75 1975-76	2,800 3,300 3,200
Surveillance and monitoring	1972-77	5,000
Research under Canada- Ontario agreement	1972-77	7,000
IJC office support	1973-77	<u>2,000</u>
Total		<u>\$35,000</u>

^aEstimate.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 31 1974

Mr. Henry Eschwege
Director, Resources and Economic
Development Division
U. S. General Accounting Office
Washington, DC 20548

Dear Mr. Eschwege:

Your letter of November 11, 1974, transmitted copies of GAO's proposed draft report entitled: "Cleaning Up the Great Lakes - United States and Canada Making Progress in Controlling Pollution from Municipal Sources." We appreciate the opportunity to comment on this report.

The report has been reviewed by the EPA personnel involved in the program and the comments received have been furnished GAO informally. Because of the wide variance of viewpoints of this program, EPA's staff members and GAO's auditors met on December 12 to discuss the specific items at issue. Our staff felt the meeting was productive and we would welcome the opportunity to review the changes that were suggested.

[See GAO note]

EPA does not agree that the R&D program, and the projects derived from it, are not directed toward more economic solutions to the combined sewer overflow problem. The reasons for the lack of agreement on EPA's part were cited in the informal comments furnished GAO.

[See GAO note]

While we agree that much work is yet to be done, it is felt that if a judgment is made to mount a massive program in the Great Lakes, additional funds and staffing above those allotted to the base programs must be provided. The base programs cannot withstand reductions of their already limited resources.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Alvin L. Alm".

Alvin L. Alm
Assistant Administrator
for Planning and Management

[GAO note: Material related to matters no longer discussed in the report has been deleted.]



DEPARTMENT OF STATE

Washington, D.C. 20520

December 11, 1974

Mr. J. Kenneth Fasick
Director
International Division
U. S. General Accounting Office
Washington, D. C. 20548

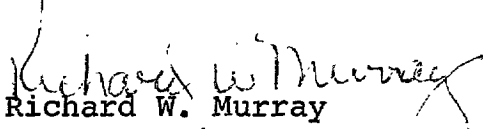
Dear Mr. Fasick:

The Secretary has asked me to reply to your letter of November 11, 1974, transmitting copies of your Draft Report entitled "Cleaning Up the Great Lakes: United States and Canada Making Progress in Controlling Pollution from Municipal Sources".

The Department's Acting Assistant Secretary for the Bureau of Oceans and International Environmental and Scientific Affairs has reviewed your report and has no comment at this time (copy enclosed).

We appreciate having had the opportunity to review your report. If we may be of any other assistance, please let us know.

Sincerely,

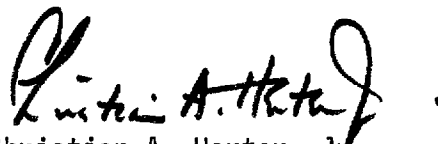

Richard W. Murray
Deputy Assistant Secretary
for Budget and Finance

Enclosure

APPENDIX VII

DEPARTMENT OF STATE COMMENTS ON GAO DRAFT REPORT: "CLEANING UP THE GREAT LAKES: UNITED STATES AND CANADA MAKING PROGRESS IN CONTROLLING POLLUTION FROM MUNICIPAL SOURCES"

The Department of State has no comment on the subject report.



Christian A. Herter, Jr.
Acting Assistant Secretary
Bureau of Oceans and International
Environmental & Scientific Affairs

November 29, 1974



INTERNATIONAL JOINT COMMISSION
UNITED STATES AND CANADA
WASHINGTON, D.C. 20440
December 6, 1974



Mr. Brian P. Crowley
Assistant Director
Resources & Economic
Development Division
U.S. General Accounting Office
441 G Street, N.W., Room 7824
Washington, D. C. 20548

Dear Mr. Crowley:

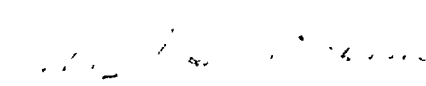
This will acknowledge receipt of your letter of November 11, 1974, transmitting four (4) copies of the draft report entitled, "Cleaning Up the Great Lakes: United States and Canada Making Progress in Controlling Pollution from Municipal Sources."

Our U. S. staff review of this draft document does not indicate any areas of serious difference in general. It appears that some of the figures used with regard to municipal waste treatment construction are based on EPA data made available in May 1974. More recent information is available from EPA and probably should be used in the final draft.

With respect to the reports discussion of the research needs between Canada and the United States, you may be interested to know the Great Lakes Research Advisory Board, established by the Commission under the terms of the Great Lakes Water Quality Agreement, is currently developing a directory of related Great Lakes research and demonstration projects in both countries which would be helpful in identifying joint research and demonstration possibilities. It is anticipated that this document will be available to interested parties early in the Spring 1975.

Thank you for the opportunity to comment on this draft report.

Sincerely,


John F. Hendrickson
Executive Director
United States Section

APPENDIX IX

PRINCIPAL EPA OFFICIALS
RESPONSIBLE FOR ACTIVITIES
DISCUSSED IN THIS REPORT

	<u>Tenure of office</u>	
	<u>From</u>	<u>To</u>
ADMINISTRATOR:		
Russell E. Train	Sept. 1973	Present
John R. Quarles, Jr. (acting)	Aug. 1973	Sept. 1973
Robert W. Fri (acting)	Apr. 1973	Aug. 1973
William D. Ruckelshaus	Dec. 1970	Apr. 1973
ASSISTANT ADMINISTRATOR FOR WATER AND HAZARDOUS MATERIALS:		
James L. Agee	Apr. 1974	Present
Roger Strelow (acting) (note a)	Feb. 1974	Apr. 1974
Robert L. Sansom (note a)	Apr. 1972	Feb. 1974
DEPUTY ASSISTANT ADMINISTRATOR FOR WATER PROGRAM OPERATIONS:		
John T. Rhett	Mar. 1973	Present
Louis De Camp (acting)	Sept. 1972	Mar. 1973
Eugene T. Jensen	Jun. 1971	Sept. 1972

^aBefore April 22, 1974, the title of this position was Assistant Administrator for Air and Water Programs.

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U. S. GENERAL ACCOUNTING OFFICE



THIRD CLASS