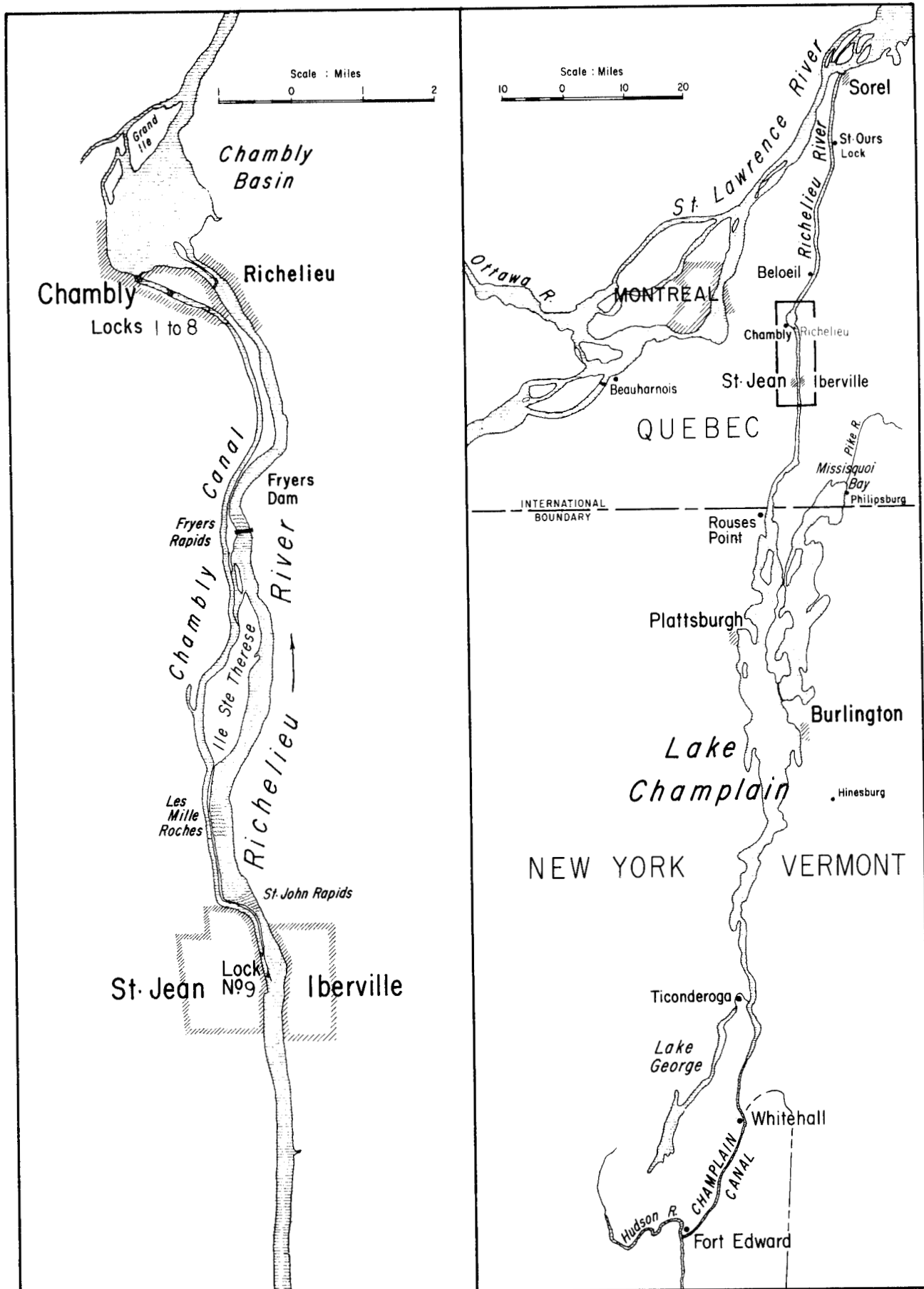


**INTERNATIONAL JOINT COMMISSION
CANADA AND UNITED STATES**

**INTERIM REPORT
ON THE
REGULATION OF THE RICHELIEU RIVER
AND
LAKE CHAMPLAIN**

MARCH 1975



RICHELIEU RIVER - LAKE CHAMPLAIN

INTERNATIONAL JOINT COMMISSION

CANADA AND UNITED STATES

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LETTER OF TRANSMITTAL

On March 12, 1975, the following letter was sent to the Secretary of State, Washington, D.C. and to the Secretary of State for External Affairs, Ottawa, Canada, by the secretaries of the International Joint Commission.

The International Joint Commission transmits herewith an interim report on the regulation of Lake Champlain and the Richelieu River.

As the report describes, progress has been made in resolving some of the issues posed in the Reference. However, the Commission has concluded that reliable information on the environmental impact and economic net benefits is lacking. Without such information, the Commission cannot complete its inquiry. The report discusses the problems requiring urgent attention by the Governments and recommends a course of action to resolve the problems.

In view of the urgency attached to the question of regulating the Richelieu River and Lake Champlain by the people of both the United States and Canada, the Commission requests the two Governments to act on the recommendations contained in this interim report at the earliest practicable date.

The Commission wishes to point out that a commitment by the two Governments to ensure prompt and adequate funding of the essential studies is an integral part of the action needed.

INTERNATIONAL JOINT COMMISSION

Canada and United States

INTERIM REPORT

on

REGULATION OF THE RICHELIEU RIVER AND LAKE CHAMPLAIN

On March 29, 1973, the Governments of the United States and Canada, in accordance with Article IX of the Boundary Waters Treaty of 1909, requested the International Joint Commission to investigate and report upon the feasibility and desirability of regulating the Richelieu River in the Province of Quebec for the purpose of alleviating extreme water conditions in the Richelieu River and Lake Champlain and for other beneficial purposes. A copy of the Reference is attached.

The Commission established the International Champlain-Richelieu Engineering Board which submitted its report to the Commission in September 1974. Public hearings were held in December to receive comments on the report.

The Commission, having considered the information contained in the Board's report and the testimony received at the public hearings, concluded that the Governments of Canada and the United States should be immediately informed of the urgent matters related to the regulation of Lake Champlain in an

interim report. The Commission cannot complete its inquiry under the Reference until it has received additional information concerning the environmental and economic impact of regulation.

LAKE CHAMPLAIN AND THE RICHELIEU RIVER

Description Lake Champlain, the sixth largest lake in the United States, is in the northwestern corner of Vermont, the northeastern corner of New York and the southwestern portion of Quebec. The Lake has a length of 107 miles, a maximum width of 12 miles and a water surface area of 490 square miles of which 17 square miles are in Quebec.

The outlet from Lake Champlain, the Richelieu River, begins near Rouse's Point, New York and flows north for 80 miles to the St. Lawrence River at Sorel, Quebec. Between Rouse's Point and the shoals at St. Jean, Quebec, a distance of 23 miles, the gradient of the water surface of the Richelieu River rarely exceeds a foot, even at high flows. The outflow from Lake Champlain is controlled by a long natural barrier, the rock shoals at St. Jean.

The Lake Champlain-Richelieu River watershed has an area of 9,220 square miles of which 7,760 are in the United States and 1,460 in Canada. The basin in Vermont and New York is characterized as a mountainous and generally wooded region, while the Quebec portion is generally low flat agricultural land. The average runoff from the basin is 22 inches per year, representing 63 percent of the precipitation. The level of Lake Champlain has varied from a low of 91.9 feet above

mean sea level (USGS - 1929 Adjustment) to a high of 101.5. The flow in the Richelieu River has varied from a minimum of 1,410 cfs (cubic feet per second) to a maximum of 43,700 cfs. The long term average flow is 11,000 cfs.

Uses The shorelines of Lake Champlain and the upper Richelieu River are highly developed for water-based recreational activities. In New York three-quarters of the shoreline is within Adirondack Park; the remainder, from Plattsburgh to the Canadian border, is used for residences and agriculture. In Vermont the shoreline is increasingly being used for seasonal and permanent residences and water-based recreation. Except in the limited lowland areas, agricultural use has not been extensively affected by lake level fluctuations. In Quebec about 250 square miles of lowlands support an agricultural industry specializing in high value crops. The Richelieu River supports an expanding tourist industry centred around water-based activities and historic attractions.

In Vermont land use control legislation has been introduced and is presently under consideration by the legislature. In New York the portion of the shoreline within Adirondack Park is currently under land use control; while the balance of the shoreline is controlled by recent legislation which seeks to protect State wetlands and shorelines. In Quebec a land use control and development plan is under consideration by the Provincial Government.

Flood Damages On June 10, 1937, the International Joint Commission approved construction and operation by Canada of remedial works in the Richelieu River in Quebec for the reclamation and protection from flooding of lowlands in Quebec. A dam with thirty-one gates, each thirty feet wide was completed at Fryers Island in 1939. The dykes in the vicinity of the dam and the excavation through the rock shoal at St. Jean, provided by the Order of Approval, have not been undertaken. This two-mile long rock shoal presently controls the flow through the Richelieu River, thereby naturally regulating the levels of Lake Champlain. The high levels of the Lake cannot be lowered until this restriction is removed.

It was not until 1968, when the current period of high water levels commenced, that any serious public pressure or governmental action developed to complete the works contemplated in the Commission's Order of Approval. Since that time the Province of Quebec assisted by the Government of Canada has examined the possibilities of flood control measures. In the United States grave concern has been expressed as high water conditions on Lake Champlain since 1968 have caused substantial flood damage.

Flood damages are considered to occur on Lake Champlain and the Upper Richelieu River when Lake levels rise above 98.0 feet. In recent years high water caused substantial agricultural damages, particularly in Quebec where inundation or restricted drainage affected some 600 farms. Along both

banks of the Richelieu River from Lake Champlain to St. Jean, a strip from one to three miles in width is inundated when the Lake levels are high. Between the River and Missisquoi Bay flooding extends as much as five miles inland. Delayed planting, which shortens the growing season, has reduced yields of grain and corn by 25 to 50 percent.

Survey results indicate that a recurrence of the 1972 Lake levels would cause damages amounting to an estimated \$2,577,000. Of this amount, the residential, commercial, public utilities, and non-structural damage in the United States would be \$983,000. The residential, commercial, and agricultural damage in Canada would amount to \$1,594,000. Should the peak level occur during the warm weather recreation season, the United States damages would be increased by \$519,000. In the United States, since most of the farms are on higher banks, set back from the shore, agricultural losses are a small portion of the total damage.

Spring flooding also causes soil erosion, deposition of silt, sludge and debris on agricultural and recreational land, and hampers the operation of the Delaware and Hudson Railway.

When the still water level of the Lake reached 101.5 feet in 1972, about 6,500 acres of Quebec farmland were inundated and another 5,800 acres were affected by restricted drainage. At that time, high water damaged 361 permanent residences and 1,305 summer cottages in the Quebec portion of the basin. Marinas, beaches, camp grounds, restaurants

and hotels suffered from high water in the form of damage to structures, to contents, and loss of business activity.

Flooding in the Richelieu River, between St. Jean and Fryers Island, occurs when the flow exceeds 40,000 cfs. Since 1937, this flow has been exceeded on five occasions for a total of 48 days. Damage due to flooding below Fryers Island Dam has been minimal.

Approximately ten percent of the Vermont shoreline is seriously affected by erosion of banks; another 30 percent is affected to a lesser degree. This erosion is aggravated by high water and storms. In New York and Vermont marinas, beaches, and camp grounds suffer from structural damage and the loss of business activity. Seasonal and permanent residences, commercial and industrial establishments, and state and municipal facilities are also damaged by high water.

A lack of clarity in building regulations, with respect to minimum elevations, has contributed greatly to losses suffered by lakeshore residences. Accordingly, land use regulations are urgently needed to reduce future flood losses and to permit an orderly development of the area.

The Environment Lake Champlain and the Richelieu River support an unusual diversity of insect and plant life, fish, fur-bearing animals, and water fowl. Biologists state that this variety of life has developed in harmony with the fluctuating water levels. Hunting and fishing are part of a multi-million dollar recreation industry.

The major fisheries of Lake Champlain include perch, bass, pike, walleye, smelt and bullhead. A cooperative stocking program has just been initiated to restore or improve fisheries for lake trout, steelhead and landlocked salmon. Muskrat, beaver, and mink are the more important fur bearers of the Lake and the River. About one-quarter of a million waterfowl stop over on Lake Champlain and the Richelieu River in their seasonal migrations to and from the Canadian breeding areas and join the locally reared birds to provide hunting opportunities for waterfowl gunners.

It is reasonable to assume that the shallows of the Lake, and in particular the adjoining wetlands, hold the secret of the Lake's diversity and success. Lake Champlain wetlands have remained essentially intact because of limited residential and industrial development. Thus, the breeding and nursery areas necessary for the successful propagation of fish and wildlife continue to be available and functional.

There is also an increasing belief that marshes may play an important role in maintaining water quality of the Lake and its estuaries. Runoff waters from agricultural lands carry large nutrient loads into the Lake. When the enriched tributary waters enter directly into a lake, the rate of eutrophication is accelerated. When the tributary waters enter a marsh, the marsh appears to filter out and utilize a significant portion of the nutrients. In the Champlain-Richelieu basin, drainage from areas of intensive agricultural use, high recreational development and municipal input has

encouraged extreme eutrophication and aquatic growth in certain areas, particularly in Missisquoi Bay and the Richelieu River. Thus, the significance of the wetlands to water quality needs further examination.

Indeed, no long-term negative impacts could be demonstrated for natural flooding in the Lake Champlain environment. The vegetative pattern and dependent fauna appear to be in harmony with natural variations of water levels in the Lake, including the extreme lows and highs which occur at infrequent intervals.

THE INQUIRY

Within a month of receiving the Reference, the Commission established the International Champlain-Richelieu Engineering Board to make the necessary technical investigations. The membership was drawn from Environment Canada, U.S. Army Corps of Engineers, New England River Basins Commission, Ministère des Richesses Naturelles Québec, Vermont Agency for Environmental Conservation, Parks Canada, New York State Department of Environmental Conservation, and Office de Planification et de Développement du Québec.

Pursuant to the Commission's directive to the Board, hydraulic, environmental and economic committees were established to carry out detailed technical studies. Their contribution is reflected in the appendices to the Board's report.

Initial Hearings The Commission held initial hearings at Burlington, Vermont and St. Jean, Quebec in April 1973. At Burlington, the majority of the testimony supported

regulation to reduce extreme water levels and flood damage. The Commission received testimony which urged also both caution in proceeding with the regulation study and a determination of the effects of regulation on the natural environment. At St. Jean the witnesses were unanimous in demanding immediate action to provide regulation which would reduce flooding and its associated damage, and which would improve low water conditions on the Richelieu River.

Board's Investigation The testimony received at the initial hearings was taken into account in planning the Board's investigation and the formulation of its report. The main thrust of the Board's study was to develop sufficient information to determine, on the basis of economic and environmental considerations, if regulation for flood control purposes is desirable, practicable, and economically feasible; and if so, to ascertain the location and type of control works that should be undertaken and the regulation objectives that should be implemented. Such works would be capable of deliberate and controlled flooding during periods of adequate supplies and could control the elevation, frequency and duration of flooding.

The Board examined in detail the use of Fryers Island Dam, a possible new control structure at St. Jean and a number of dredging alternatives in the St. Jean Rapids. They found that the most practicable and economically feasible works consisted of a dredged channel and a gated control structure in the St. Jean Rapids.

Over sixty alternative regulation schemes using varying hydraulic, economic and environmental criteria were developed. In response to the environmental concerns in the United States, ten regulation schemes based on daily operation were examined in detail. One of the schemes maintained natural lake levels and outflows throughout the year, except for the period of the spring flood. The Board agreed that such a regulation scheme, which reduces peak levels above a specified elevation during the spring freshet, would be the most promising.

The Engineering Board considered the environmental effects which could arise from the regulation of levels and flows, but were unable to agree either on the nature of the effects or their impact on the ecology of Lake Champlain. The Board's environmental study was incomplete. For example, the environmental appendix contains five separate reports prepared by four separate groups. This deficiency is not surprising in view of the short time available for the environmental study and the lack of funding. The Environmental Committee concluded that the areas of fundamental concern regarding regulation were the delay of the start of the natural spring highwater, lowering of the peak levels and shortening of the duration of high water.

The Board agreed that, if environmental consequences could be set aside, regulation would be desirable and practicable. Some Board members were of the opinion that the environmental impact of regulation would not be significant in Canada or in the United States. Others believed that the

environmental impact of regulation to provide material relief from flood damage might be injurious to the ecological balance of the Lake and its wetlands.

It therefore became apparent that an additional environmental study would be prudent, in order to determine the environmental impact of any proposed regulation, to reconcile conflicting views, and to provide a reliable data base.

The calculated flood damages took account of costs associated with structures such as buildings and marinas, agricultural losses, and unrecoverable losses such as businesses, wages and opportunities. The conservative estimates of flood damage did not include adverse effects to the environment, wind-wave damage or non-crop damage, while regulation benefits excluded erosion reduction, land enhancement and reclamation, secondary benefits, beneficial effects to the environment, reduction of duration of flood peaks and beneficial effects of raising extreme low water levels. The surveys did not permit an exhaustive evaluation of all damages, but did give a good indication of their magnitude. Accordingly, the economic, flood damage and benefit analyses undertaken, like the environmental appraisal, should be considered only preliminary.

Commission Hearings After distribution of the Board's report in October 1974, the Commission, in December, conducted public hearings at Burlington, Plattsburgh and St. Jean to obtain comments and opinions on the report from interested individuals, associations and governments.

At Burlington and Plattsburgh most of the testimony advocated a two-year environmental study. The need for non-structural alternatives, such as land use planning, zoning and structural setback, was emphasized. Conflicting testimony was received concerning the effect of timing, duration and elevation of high water on fish spawning, duck nests in marshes, treed areas, shores and cultivated fields. The New York and Vermont Government agencies opposed any regulation until the environmental impact could be evaluated.

At St. Jean the witnesses were unanimous in calling for immediate action to provide regulation and flood control along the Richelieu Valley and Lake Champlain. The Commission inquired of the representative of the Government of Canada as to its opinion of the validity of the 1937 Order of Approval in the light of the current Reference. In reply to that question, the Government of Canada in a letter to the International Joint Commission dated February 21, 1975, stated that in its view the Commission's Order of Approval of June 10, 1937 remains valid. The full text of the letter is appended.

CONCLUSIONS

Having considered the Board's report, its appendices and the testimony at the public hearings on the Board's report, the Commission has reached the following conclusions:

Fryers Island Dam Regulation by use of Fryers Island Dam, five and one-half miles downstream from the rapids at St. Jean, as contemplated in the 1937 Order of Approval, was

considered. Most of the regulation schemes examined by the Board required operation of the control structure to maintain water levels above elevation 93.0 to prevent lowering of the natural low levels. The Board found that the cost of raising the protective dykes on both river banks to accomodate levels above elevation 93.0 would exceed the cost of new control works at St. Jean. Furthermore, the conditions included in the 1937 Order of Approval relating to the maintenance of the levels of Lake Champlain are no longer environmentally desirable or acceptable because, among other things, they would permanently lower the level of the Lake. Moreover, the Commission has doubts as to the present validity of the approval contained in its Order of Approval dated June 10, 1937, which was subject to Conditions recited in that Order and which have not been satisfied. *The Commission concludes, therefore, that the Fryers Island Project should not be completed.*

Alternative Works *Aside from the undetermined environmental consequences, the Commission concludes that regulation is desirable by means of a dredged channel and a gated control structure in the St. Jean Rapids. Preliminary appraisal indicates that the economic benefits of the proposed project would exceed its cost. There are no alternative structural means of providing protection to existing developments that are economically justifiable. However, the Commission is unable to determine at this time the extent or significance of the environmental impact of regulation and therefore is unable to establish the environmental acceptability of regulation.*

The estimated capital cost of construction of the works necessary to implement regulation of Lake Champlain is \$6.4 million. Of this cost \$4.0 million would be required for construction of the dam, and \$2.4 million for dredging of the St. Jean shoal. Annual costs, including costs to amortize at seven percent the capital investment and operating costs, are estimated to be about \$500,000.

A conservative estimate of average annual economic benefits from regulation ranges from \$800,000 to \$1,000,000 depending on the scheme considered. Roughly 60 percent of the benefits might accrue to Canada and about 40 percent to the United States. These benefits do not take account of wind-wave damage, non-crop damage, erosion, land enhancement and reclamation, secondary benefits, reduction of duration of flood peaks and the effects of raising extreme low water levels, all of which might be expected to improve the benefit-cost ratio. The environmental costs and benefits have not been determined and therefore have not been incorporated into the economic analyses. There will be need on completion of the environmental and net benefit studies discussed below, to achieve an equitable balance between the environmental effects of regulation and flood control benefits which would accrue, if regulation is deemed to be desirable or necessary.

Environmental Studies *The Commission concludes that a study to determine environmental benefits and costs is necessary before it can develop the most practicable method of regulation. In view of the urgency to provide relief*

from flooding, an intensive environmental study is mandatory. This study should be carried out according to a schedule which would provide as much relevant data as possible for use in developing a practicable method of regulation by the time construction has progressed to the point that the project is operable. Pre-project levels and flows should be maintained pending the development of such a practicable method of regulation. The joint environmental studies should be initiated as quickly as possible under a supplementary Commission directive to its International Champlain-Richelieu Engineering Board. Such studies would be directed and coordinated by that Board and carried out by a single environmental committee composed of United States and Canadian personnel applying consistent methodology and criteria throughout the study area.

The control structure proposed in the Board Report is capable of deliberate and controlled flooding during periods of adequate supplies. Therefore, the study should include an investigation of the elevation, frequency and duration of flooding that would be required to maintain an acceptable ecosystem or even enhance the environmental management of the Lake, if possible.

A regulation plan of the type which would reduce peak levels that are above a specified elevation during the spring freshet, but would maintain pre-project natural conditions during the remainder of the year, is the most promising, environmentally, of the schemes studied. Therefore, the

environmental studies should concentrate especially on the effects of modified water levels during the spring peak period, March to June.

Net Benefit Studies *The Commission concludes that the most equitable basis of sharing the costs of these works between the United States and Canada is an apportionment that will be commensurate with the net benefits that accrue to each country. Thus, it is imperative that the net benefits be accurately determined by a single body under the supervision of the Commission, applying uniform methodology and criteria in both countries. This determination of net benefits should be done concurrently with the environmental study. In order that any construction of new works might proceed in an orderly manner, the two Governments should agree, as soon as possible, on how each will pay its share of the cost of the project.*

Cost of Studies *The cost of all studies made under the Reference since March 29, 1973, including the proposed environmental and net benefit studies, should be shared equally by both countries. The Commission concludes that it is essential that both Governments provide the requisite initial funding as quickly as possible in order to assure the earliest undertaking and completion of the necessary studies.*

Concurrent Construction *The actual construction of control works will require two or three years after approval of construction, design, and provision of necessary funds. In order to avoid undue delays in alleviating future flood*

damages in both countries, construction of regulatory works and dredging could be undertaken concurrently with the environmental studies and the recomputation of net benefits.

All phases of such construction and operation would necessarily be under strict supervision of the International Joint Commission through an International Engineering Board appointed for that purpose. It must also be recognized that the findings of the environmental study might lead the Commission to require continued operation of the works to maintain pre-project levels and flows. Furthermore, a new control structure would require an application to this Commission for approval of the construction and operation of such works. Such an application would be given prompt attention by the Commission so as to expedite its decision thereon. Nothing in this report shall be construed to prejudice the granting or refusal of an Order of Approval or any of the conditions to be contained in the said Order.

RECOMMENDATIONS

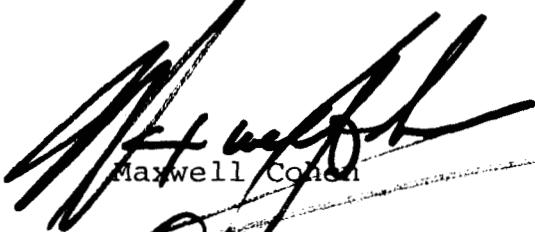
1. The Commission recommends that the Fryers Island Project not now be completed or operated as contemplated in this Commission's Order of 10 June 1937.
2. The Commission recommends that an intensive environmental study be jointly undertaken as soon as possible under the supervision of the International Joint Commission to develop data on the environmental effects of regulation in both countries.

3. The Commission recommends that, concurrent with the environmental study, an accurate determination of net benefits of regulation to each country, applying uniform criteria and methodology in both Canada and the United States, be carried out under the supervision of the Commission.
4. The Commission recommends that, if it is deemed desirable to proceed with construction of proposed works and dredging in the St. Jean Rapids concurrent with the environmental and net benefit studies, an application be submitted at the earliest possible date to this Commission for approval in accordance with the Boundary Waters Treaty and the Commission's Rules of Procedure.
5. The Commission recommends that the cost of all studies, including the recommended environmental and net benefit studies, undertaken pursuant to the Reference of 29 March 1973 be shared equally by the two countries.
6. The Commission recommends that all costs associated with implementing regulation of the Richelieu River and Lake Champlain be shared by the two countries in proportion to the recomputed net benefits that accrue to each country.

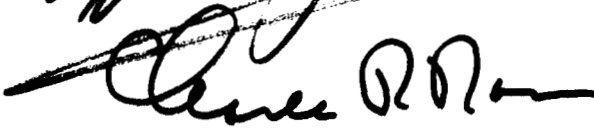
Signed this 6th day of March, 1975, as the International Joint Commission's interim report to the Governments of Canada and the United States on the regulation of the Richelieu River and Lake Champlain.

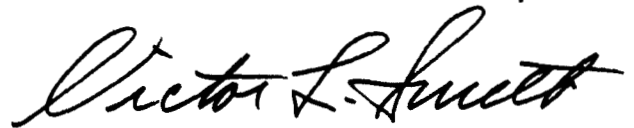

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TEXT OF REFERENCE TO THE INTERNATIONAL JOINT COMMISSION

On March 29, 1973, the Secretary of State for External Affairs, for the Government of Canada and the Secretary of State, for the Government of the United States, sent the following Reference to the International Joint Commission through identical letters addressed respectively to the Canadian and United States Sections of the Commission.

I have the honour to inform you that the governments of Canada and the United States of America have agreed, pursuant to Article IX of the Boundary Waters Treaty of 1909, to request the International Joint Commission to investigate and report upon the feasibility and desirability of regulation of the Richelieu River in the Province of Québec for the purpose of alleviating extreme water conditions in the Richelieu River and in Lake Champlain, and for other beneficial purposes.

On June 10, 1937, the International Joint Commission approved construction and operation by Canada of remedial works in the Richelieu River in Québec for reclamation and protection from flooding of low lands located in Québec. The Commission's Order of Approval would have also provided some protection for levels of Lake Champlain. Pursuant to the Commission's Order, a dam was completed at Fryers Island about 1939. However, other works required to expand the channel of the Richelieu River were not undertaken. Because the Channel works were never completed, effective regulation of the Richelieu River for flood control and other purposes has not been achieved. This has caused grave concern in both the United States and Canada, as high water conditions in recent years have caused substantial flooding damage. Because of these recent high water conditions, hydraulic and regulation studies of the area between the Chambly Basin and Lake Champlain have been conducted by the Government of Canada jointly with the Province of Québec, to examine other means of regulation, primarily for flood control purposes.

In light of this situation, the Commission is requested to make:

1. Recommendations regarding the desirability of operating the Fryers Island project or alternative works in the Richelieu River to alleviate extreme

water conditions in the Richelieu River and Lake Champlain, bearing in mind (a) water supplies and sanitation, (b) recreation, (c) navigation, (d) environmental factors including fish and wildlife, (e) reclamation of wetlands, and (f) such other beneficial purposes as may warrant consideration in the judgement of the Commission.

2. Recommendations regarding the most practicable and economically feasible system of regulatory works and method of regulation of the Richelieu River to alleviate such extreme water conditions, bearing in mind the uses specified in Point 1 (a) through (f) above.
3. An estimate of the capital and operating costs of works necessary to implement the plan of regulation recommended by the Commission.
4. An estimate of the benefits to and adverse effects on each country of implementation of the plan of regulation recommended by the Commission. It is requested that the Commission include in its report the bases upon which such estimates of benefits and adverse effects are made.
5. Recommendations concerning how the cost of implementing the plan of regulation recommended by the Commission might be apportioned between the United States and Canada. It is again requested that the Commission include in its report the bases upon which such recommendations are made.

In view of the urgency created by the existing high water conditions, the Commission is requested to submit, as soon as possible to the Governments of Canada and the United States, an interim report and recommendations on the desirability of regulating outflows from Lake Champlain and on interim measures which might be instituted to alleviate flooding together with a preliminary appraisal of benefits in each country. The Commission is also requested to submit its final report and recommendations to the two governments if possible within one year of receipt of this reference.

In the conduct of its investigation and otherwise in the performance of its duties under this reference the Commission shall utilize the services of engineers and other specially qualified persons and other resources made available by the concerned agencies of Canada and the Province of Quebec and the United States and will make use of information and technical data heretofore acquired or which may become available in either country during the course of the investigation.

TEXT OF LETTER FROM GOVERNMENT OF CANADA

On February 21, 1975 the Director of U.S.A. Division of the Department of External Affairs, for the Government of Canada, sent the following letter to the Canadian Section of the International Joint Commission:

Thank you for your letter of January 23 concerning the Commission's examination of regulation of the Richelieu-Champlain waterway system. Your letter indicates that the IJC would be interested in having the views of the Canadian Government in respect of certain questions asked of our spokesman at the hearings on this matter conducted by the Commission at St. Jean, Quebec, on December 5, 1974.

In our view, the Commission's Order of Approval of June 10, 1937 remains valid. As you are aware the required dam was constructed at Fryers' Island by 1939; however, dredging and related works were not completed due to the advent of World War II and differing priorities and demands in the post-war years led to further delays. Completion of the works related to the 1937 Order at this time would relieve the severe flooding which has occurred in recent years and eliminate much of the costly reconstruction of the upper lock of the Chambly Canal. The study which the Commission completed in 1965 held out hope for many in the area that the problem might be solved through construction of a deep draft Canada-U.S. canal system, but this hope proved to be unfounded when the Commission submitted an unfavourable report. The Province of Quebec has been subjected to serious flooding for many years, particularly since 1970 and the flood damage is accumulating at the rate of approximately \$900,000 per year. It can be readily understood therefore why the people in this area are now determined to seek an immediate solution to this problem which threatens to destroy their livelihood.

As you know, the Canadian Government hopes that substantive recommendations on the part of the Commission, taking into account the evident need for quick action in Canada, will be submitted at an early date. The Government will then be in a position to decide what further action may be appropriate in order to deal with this serious problem.

