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DIVERSION AND WITHDRAWAL OF ADDITIONAL WATER FROM LAKE MICHIGAN INTO THE ILLINOIS WATERWAY

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THE KANSAS STATE UNIVERSITY

HEARINGS

BEFORE THE

COMMITTEE ON WATER RESOURCES

OF THE

COMMITTEE ON PUBLIC WORKS

HOUSE OF REPRESENTATIVES

NINETY-THIRD CONGRESS

SECOND SESSION

ON

H.R. 12015, H.R. 12744, H.R. 13254

TO PERMIT THE DIVERSION AND WITHDRAWAL OF ADDITIONAL WATER FROM LAKE MICHIGAN INTO THE ILLINOIS WATERWAY, AND FOR OTHER PURPOSES

OCTOBER 8 AND 9, 1974

Printed for the use of the Committee on Public Works



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WASHINGTON : 1974

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MEMORANDUM FOR THE RECORD

RE: [Illegible]

DONALD W. [Illegible]
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DIVERSION AND WITHDRAWAL OF ADDITIONAL WATER FROM LAKE MICHIGAN INTO THE ILLINOIS WATERWAY

TUESDAY, OCTOBER 8, 1974

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON WATER RESOURCES
OF THE COMMITTEE ON PUBLIC WORKS,
Washington, D.C.

The subcommittee met, pursuant to call, at 10:14 a.m., in room 2167 Rayburn House Office Building, Hon. John A. Blatnik (chairman of the full committee) presiding.

The CHAIRMAN. The House Public Works Committee will please come to order.

We meet for consideration of several bills listed on the agenda and they shall all appear in the record at this point by number and by author.

[H.R. 12015, H.R. 12744, and H.R. 13254 follow:]

(1)

93^d CONGRESS
1ST SESSION

H. R. 12015

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 18, 1973

Mr. O'HARA introduced the following bill; which was referred to the Committee on Public Works

A BILL

To permit the diversion and withdrawal of additional water from Lake Michigan into the Illinois Waterway, and for other purposes.

- 1 *Be it enacted by the Senate and House of Representa-*
- 2 *tives of the United States of America in Congress assembled,*
- 3 *That the Congress finds that, to protect, improve and pro-*
- 4 *mote navigation and navigable waters in the Illinois Water-*
- 5 *way and to protect property and shores along the Great*
- 6 *Lakes, the Chief of Engineers, Department of the Army,*
- 7 *should have broader options than now provided by United*
- 8 *States Supreme Court decree in regulating the diversion of*
- 9 *water from Lake Michigan.*

1 SEC. 2. The Chief of Engineers, Department of the
2 Army, shall at least monthly determine the rate of diversion
3 of water from Lake Michigan into the Illinois Waterway
4 that will serve best to achieve the aforesaid objectives and
5 shall authorize, supervise, and direct the diversion of water
6 at the determined rate, except that such rate shall not be
7 greater than one providing a total annual average of more
8 than ten thousand cubic feet per second, the instantaneous
9 maximum not to exceed eleven thousand cubic feet per sec-
10 ond, whether by way of domestic pumpage, storm runoff
11 from the Lake Michigan watershed, or direct diversion
12 from the lake. This authority is subject to the following
13 limitations:

14 (a) The Chief of Engineers shall at all times have direct
15 control and supervision of the amounts of water directly di-
16 verted from Lake Michigan.

17 (b) The Chief of Engineers shall not allow water to be
18 diverted from Lake Michigan at a rate greater than thirty-
19 two hundred cubic feet per second when flooding exists or is
20 threatened in the waters comprising the Illinois Waterway,
21 or rivers downstream from them.

22 (c) The Chief of Engineers shall not allow water to be
23 diverted from Lake Michigan at a rate greater than thirty-two
24 hundred cubic feet per second when the level of Lakes Michi-

1 gan and Huron has fallen to or is below the average monthly
2 level since 1860.

3 SEC. 3. The Chief of Engineers is authorized to make
4 such studies as are required for his determinations under sec-
5 tion 2 and additional studies to determine the feasibility of
6 increasing the maximum rate of diversion provided for in
7 section 2 by the expansion of the capacity of the Illinois
8 Waterway to carry water.

9 SEC. 4. For the purpose of this Act—

10 (a) "Illinois Waterway" means the waters providing
11 the connection for navigation between the Great Lakes and
12 the Mississippi River system, including the sanitary and
13 ship canal from Lake Michigan at Chicago to Lockport, Illi-
14 nois, the Des Plaines River thence to its junction with the
15 Kankakee River, and the Illinois River thence to the Missis-
16 sippi River, and

17 (b) "Great Lakes" means Lakes Superior, Michigan,
18 Huron, Erie, and Ontario and their connecting and tributary
19 waters.

93D CONGRESS
2D SESSION

H. R. 12744

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 7, 1974

Mr. O'HARA (for himself, Mr. ASHLEY, Mr. BRADEMAS, Mr. CEDERBERG, Mr. CONYERS, Mr. DAVIS of Wisconsin, Mr. DIGGS, Mr. DINGELL, Mr. ESCH, Mr. FORD, Mr. FROELICH, Mr. HUTCHINSON, Mr. MADDEN, Mr. METCALFE, Mr. MOSHER, Mr. MURPHY of Illinois, Mr. NEDZI, Mr. OBEX, Mr. ROSTENKOWSKI, Mr. RUPPE, Mr. J. WILLIAM STANTON, Mr. VANDER JAGT, Mr. VANIK, and Mr. YATES) introduced the following bill; which was referred to the Committee on Public Works

A BILL

To permit the diversion and withdrawal of additional water from Lake Michigan into the Illinois Waterway, and for other purposes.

- 1 *Be it enacted by the Senate and House of Representa-*
 2 *tives of the United States of America in Congress assembled,*
 3 That the Congress finds that, to protect, improve, and pro-
 4 mote navigation and navigable waters in the Illinois Water-
 5 way and to protect property and shores along the Great
 6 Lakes, the Chief of Engineers, Department of the Army,
 7 should have broader options than now provided by United

1 States Supreme Court decree in regulating the diversion of
2 water from Lake Michigan.

3 SEC. 2. The Chief of Engineers, Department of the
4 Army, shall at least monthly determine the rate of diversion
5 of water from Lake Michigan into the Illinois Waterway
6 that will serve best to achieve the aforesaid objectives and
7 shall authorize, supervise, and direct the diversion of water
8 at the determined rate, except that such rate shall not be
9 greater than one providing a total annual average of more
10 than ten thousand cubic feet per second, the instantaneous
11 maximum not to exceed eleven thousand cubic feet per sec-
12 ond, whether by way of domestic pumpage, storm runoff
13 from the Lake Michigan watershed, or direct diversion from
14 the lake. This authority is subject to the following
15 limitations:

16 (a) The Chief of Engineers shall at all times have direct
17 control and supervision of the amounts of water directly
18 diverted from Lake Michigan

19 (b) The Chief of Engineers shall not allow water to be
20 diverted from Lake Michigan at a rate greater than thirty-
21 two hundred cubic feet per second when flooding exists or
22 is threatened in the waters comprising the Illinois Water-
23 way, or rivers downstream from them.

24 (c) The Chief of Engineers shall not allow water to
25 be diverted from Lake Michigan at a rate greater than thirty-

1 two hundred cubic feet per second when the level of Lakes
2 Michigan and Huron has fallen to or is below the average
3 monthly level since 1860.

4 SEC. 3. The Chief of Engineers is authorized to make
5 such studies as are required for his determinations under sec-
6 tion 2 and additional studies to determine the feasibility of
7 increasing the maximum rate of diversion provided for in
8 section 2 by the expansion of the capacity of the Illinois
9 Waterway to carry water.

10 SEC. 4. For the purpose of this Act—

11 (a) "Illinois Waterway" means the waters provid-
12 ing the connection for navigation between the Great
13 Lakes and the Mississippi River system, including the
14 sanitary and ship canal from Lake Michigan at Chicago
15 to Lockport, Illinois, the Des Plaines River thence to its
16 junction with the Kankakee River, and the Illinois River
17 thence to the Mississippi River, and

18 (b) "Great Lakes" means Lakes Superior, Michi-
19 gan, Huron, Erie, and Ontario and their connecting and
20 tributary waters.

93^d CONGRESS
2^d SESSION

H. R. 13254

IN THE HOUSE OF REPRESENTATIVES

MARCH 5, 1974

Mr. O'HARA (for himself, Mr. ANNUNZIO, Mr. ASPIN, Mr. CONABLE, Mr. HORTON, Mr. KEMP, Mr. KLUCZYNSKI, Mr. LANDGREBE, Mr. LATTI, Mr. MINSHALL of Ohio, Mr. REUSS, Mr. JAMES V. STANTON, Mr. STEIGER of Wisconsin, Mr. STOKES, Mr. VANDER VEEN, Mr. VIGORITO, Mr. WALSH, and Mr. YOUNG of Illinois) introduced the following bill; which was referred to the Committee on Public Works

A BILL

To permit the diversion and withdrawal of additional water from Lake Michigan into the Illinois Waterway, and for other purposes.

- 1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Congress finds that, to protect, improve, and pro-
4 mote navigation and navigable waters in the Illinois Water-
5 way and to protect property and shores along the Great
6 Lakes, the Chief of Engineers, Department of the Army,
7 should have broader options than now provided by United

1 States Supreme Court decree in regulating the diversion of
2 water from Lake Michigan.

3 SEC. 2. The Chief of Engineers, Department of the
4 Army, shall at least monthly determine the rate of diversion
5 of water from Lake Michigan into the Illinois Waterway that
6 will serve best to achieve the aforesaid objectives and shall
7 authorize, supervise, and direct the diversion of water at the
8 determined rate, except that such rate shall not be greater
9 than one providing a total annual average of more than ten
10 thousand cubic feet per second; the instantaneous maximum
11 not to exceed eleven thousand cubic feet per second, whether
12 by way of domestic pumpage, storm runoff from the Lake
13 Michigan watershed, or direct diversion from the lake. This
14 authority is subject to the following limitations:

15 (a) The Chief of Engineers shall at all times have direct
16 control and supervision of the amounts of water directly
17 diverted from Lake Michigan.

18 (b) The Chief of Engineers shall not allow water to be
19 diverted from Lake Michigan at a rate greater than thirty-
20 two hundred cubic feet per second when flooding exists or is
21 threatened in the waters comprising the Illinois Waterway,
22 or rivers downstream from them.

23 (c) The Chief of Engineers shall not allow water to be
24 diverted from Lake Michigan at a rate greater than thirty-
25 two hundred cubic feet per second when the level of Lakes

1 Michigan and Huron has fallen to or is below the average
2 monthly level since 1860.

3 SEC. 3. The Chief of Engineers is authorized to make
4 such studies as are required for his determinations under sec-
5 tion 2 and additional studies to determine the feasibility of
6 increasing the maximum rate of diversion provided for in
7 section 2 by the expansion of the capacity of the Illinois
8 Waterway to carry water.

9 SEC. 4. For the purpose of this Act—

10 (a) "Illinois Waterway" means the waters provid-
11 ing the connection for navigation between the Great
12 Lakes and the Mississippi River system, including the
13 sanitary and ship canal from Lake Michigan at Chicago
14 to Lockport, Illinois, the Des Plaines River thence to its
15 junction with the Kankakee River, and the Illinois
16 River thence to the Mississippi River; and

17 (b) "Great Lakes" mean Lakes Superior, Michi-
18 gan, Huron, Erie, and Ontario and their connecting and
19 tributary waters.

The CHAIRMAN. We have several members from the Great Lakes area that have been deeply and justifiably concerned that the unusual and persistent high levels of the Great Lakes and the subsequent damage in different forms.

Today's hearings on proposals to increase diversion of water from Lake Michigan into the Illinois Waterway are part of the Public Works Committee's continuing efforts to alleviate the tremendous human and economic hardships caused by current high waters throughout the Great Lakes.

These proposals would increase the flow of water from Lake Michigan via the Chicago Ship Canal to the Illinois River and ultimately the Mississippi River.

The present maximum outflow—3,200 cubic feet per second—was established by the Supreme Court in 1967—a time of record levels on the lakes.

Now that the lakes are at flood level, an increase in the maximum outflow would seem in order.

However, any increase would have an impact not only on the levels of the Illinois and Mississippi Rivers and the human and economic activity dependent on them, but on agreements between Canada and the United States as well.

In order to learn what those impacts would be, we have invited representatives from the U.S. Army Corps of Engineers, the Department of State's Canadian desk and legal counsel, Governors, Members of Congress from affected districts, and other public and private interests from the lakes and river, to appear before us today to present their views and information on the proposals.

It is our hope that benefits to the residents of the Great Lakes can be achieved without adverse effects to residents and businesses on the Mississippi.

I want to assure all interested parties that the committee will keep an open mind, and weigh carefully all the issues, before taking any further action.

I recognize the gentleman from California, Mr. Clausen.

MR. CLAUSEN. Mr. Chairman, I am pleased that you have called this hearing for this morning.

I have had any number of the Members of Congress that are co-sponsors of this legislation asking for us to peruse this matter and advance it through the committee and the Congress toward authorization because this is one of the more serious problems—as the gentleman who does represent a district now on the border of one of the Great Lakes fully realizes. I am hopeful that the committee witnesses and particularly the agency witnesses will focus in on the attainable goals consistent with engineering and economic possibilities because we know that we are dealing with a problem of major magnitude.

I am hopeful we can put it on the basis of a short-term alleviation of a problem that will tie in with the long-range comprehensive objectives that are consistent with the legislation.

I would ask unanimous consent that I be permitted the opportunity to extend my remarks later for the record.

The CHAIRMAN. Without objection, so ordered.

We have with us today a gentleman who has been in the forefront of many major problems concerning the Great Lakes, Congressman Mosher of Ohio.

The Chair would like to point out that Mr. Mosher has been available time after time on problems that go far beyond the interest of his own particular district and just his own particular lake to help us to bring about the problem management and a much better utilization of the five Great Lakes and the St. Lawrence which has been officially declared by the Congress as a fourth sea coast.

Mr. Mosher, may we hear from you first this morning?

I thank you for being the first witness on hand and waiting for the rest of us to catch up with you which is about the usual pace.

**STATEMENT OF HON. CHARLES A. MOSHER, A REPRESENTATIVE
IN CONGRESS FROM THE STATE OF OHIO**

Mr. MOSHER. Mr. Chairman, this is an unexpected privilege.

I did not expect to be first, but I appreciate the opportunity.

I certainly appreciate the time and attention that your committee is willing to give in this hectic time in the Congress to give this crucial matter your special attention.

Mr. Chairman, I prepared a rather lengthy statement which you folks have and I am not going to read it.

The CHAIRMAN. Without objection, Mr. Mosher, your full statement will appear in the record in its entirety at this point.

[The prepared statement of Mr. Mosher follows:]

**STATEMENT OF HON. CHARLES A. MOSHER, A REPRESENTATIVE IN CONGRESS FROM
THE STATE OF OHIO**

Mr. Chairman: The potential value of this bill (H.R. 12744) is as much symbolic as it is substantive, or perhaps more symbolic, as I see it; but that makes it all the more important.

I believe your subcommittee's approval, and then full congressional approval are needed and warranted; and that is why I have joined our able colleague, Jim O'Hara of Michigan, in cosponsoring this effort.

Our urgent interest in obtaining permission for an increased diversion of water out of the Great Lakes via the Chicago Drainage Canal and down the Illinois Waterway, is because of the extremely high water levels in the lower Great Lakes and the terrible amounts of property damage from erosion and flooding (damages totaling millions upon millions of dollars in property destroyed, plus the costs of repairs attempted), damages which have been caused by the high water; these are tragic losses which will continue inexorably, unless and until we in the Congress act decisively to find effective ways to regulate the lake water levels.

No such regulatory controls exist today, nor have they ever existed. No government official or agency has any effective means by which to purposely raise or lower the water levels to any significant degree * * * for example, there is no positive control of any sort over the levels of Lake Erie, which borders my district.

Of course, there exists some small control over the flow out of Lake Superior into the lower lakes, but that regulation is so small that it can at best influence Lake Erie's water level no more than about 3 inches one way or the other over a period of many months.

Yes, a lowering of 3 inches does help, but I emphasize to you that the excessive high water in our Lake Erie these past 2 years * * * even after we did succeed in cutting back on the flow from Lake Superior * * * measures 2 to 3 feet, rather than mere inches; and it is those additional feet of high water which are so devastating in their destruction by erosion and flooding, an extremely costly destruction that goes on and on, hour after hour, day after day. It never quits.

Now, let's not kid ourselves, the possible diversion of additional water out of Lake Michigan at Chicago, can't possibly produce more than an inch or so of further lowering in Lake Erie.

That's why I say it is urgently needed more as a symbol than for its substance, even though I certainly do not belittle any inch that can be gained on bringing down today's levels. Every inch helps.

It is imperative that the Congress make a start in attacking this high water problem, and this Chicago Diversion bill is the quickest available start. By approving this effort, we will signal our intention also to do some of the other more substantive things that must be done.

In addition to this approval of the greater water diversion via the Chicago Canal, I suggest there are at least five other essential steps in the months to come:

1. We must press for a new treaty with Canada which will provide for more equity in recognizing the interests of all the Great Lakes as one interconnected system, and which recognizes the rights and needs of shore property owners equally with other interests. (The present treaty, in force for more than 60 years, provides only for water level controls in Lakes Superior and Ontario, no controls over levels in the other Great Lakes, and no protection for shore property owners.)

2. We must confirm and formalize a national policy of recognizing that all of the Great Lakes are one interconnected system, and all deserve equal recognition and treatment in any effort to regulate water levels.

3. We must continue to press upon the International Joint Commission, the State Department and the White House, the imperative need for holding back more water in Lake Superior over a longer period of time, recognizing that they now have increased the flow into the lower lakes, even though Lake Superior's level today is still below the maximum level required by treaty * * * 602 feet above sea level.

4. We must proceed as rapidly as possible to introduce legislation before the House and Senate Public Works Committees, to permit consideration here in the Congress of the potentially most effective and feasible project for control of Lake Erie levels, i.e., construction of controls at the Black Rock Canal in the Niagara River. (We are thinking there in terms of two options: providing for a maximum outflow of 8,000 cubic feet per second; or should it be 30,000 cubic feet per second? The greater outflow would, of course, require other new flood control projects on Lake Ontario, and probably down river from Ontario. Too, we must recognize that this project will also require United States/Canada agreement.)

5. We must give very active, further consideration to deepening Niagara River above the falls. (But recognizing the irreversible effects of such dredging, the threat of unacceptable low water levels in Lake Erie when the weather cycle changes, dredging the Niagara River deeper would seem to imply also a need for some elaborate control mechanisms to protect the lake against too much drain.)

Mr. Chairman, I hate to say it, but clearly our predecessors in the Congress in the past 20 to 40 years were unfortunately negligent in their failure to attack and solve the Great Lakes water level problems. In the early 1950's, the levels on Lake Erie were nearly as high as in 1973-74; and periodically for more than a century there have been similar high levels, with disastrously costly damage. In the early 1950's there was a popular outcry for effective action, so that any such disaster might be avoided in the future, but the Congress took no action. Then, when I came here in the early 1960's, the Lake Erie water levels had retreated to the other extreme, they were very low, and many of my constituents who owned lakeshore property or wanted to use the lake in a variety of ways, complained bitterly about those low levels, and demanded more water. But no significant way existed to respond to that appeal.

Obviously, somehow we now must find ways to avoid both those high and low extremes. We in this Congress, and in the 94th Congress convening next January, definitely have an obligation not to follow the do-nothing example of previous years, but to take now positive steps to provide the lake water level controls which obviously are so needed. That task is complex, difficult and costly, it will take years to accomplish completely * * * but the bill before us today is very significant as a first step, and indication we do intend also to make that larger effort.

Mr. Chairman, in the past 2 years I have absorbed a lot of personal criticism from people in my district; I've been the favorite target of many verbal brickbats from good, well intended people who understandably have been impatient and terribly frustrated because month after month those high waters have been tearing their property away * * * costing them huge amounts, irretrievable losses * * * while no one in government was able to help them much, and increasingly they felt no one in the government was interested in helping them.

I understand their impatience, frustration, despair, and their disbelief when we told them very candidly that little or nothing could be done immediately to

help them. Early in this high water period, a few people made headlines by oversimplifying the causes, pointing the finger of blame, suggesting that selfish interests (the power people or the shipping people) had engaged in some sort of nefarious conspiracy to plan and produce the record high water levels; and those same people promised a variety of quick cures.

A few frustrated and angry citizens still believe those headlines. But every responsible investigation proves that such simplistic talk is nonsense and can be cruelly misleading.

More than 2 years ago, my staff and I began to dig for the responsible truth, and from the beginning I have tried to publish the hard facts, the brutal truth, that there absolutely is no existing way that the Government, or any other instrument employed by human beings, can manage effectively the water levels of Lake Erie. No significant way exists to manipulate those levels, to either raise them or lower them, other than the indirect effects of the Lake Superior controls, and those effects never can measure more than about 3 inches.

Many people have heaped special blame on the U.S. Corps of Engineers, accusing the Corps of creating the high water levels. But that's like the people of old Salem blaming and burning witches. The Corps of Engineers has no legal authority and no effective mechanical means to control the water levels of Lake Erie. I repeat, no such means has existed ever, nor will it ever come into being unless we in the Congress take action to create the means. The bill before us today will make a small beginning.

So, gentlemen, from the very start of this high water controversy, in a dozen public meetings, press statements and in previous testimony here, I have tried to persuade the people of our Lake Erie area not to be fooled, not to believe in myths, not to waste time looking for villains to blame, nor to waste time in fruitless promises of quick and easy cures, but instead to unite in vigorous action, to agree on feasible, positive cures, and to work to obtain those cures * * * above all, to recognize there is no conceivable way to lower today's levels quickly; but that our united efforts must concentrate on the future, on trying to avoid these recurring disasters in years to come.

It is that crucially needed emphasis that, again, I testify to here today.

One of the continuing, widely held suspicions in my district is that by deepening the channels of the Detroit River (and other Seaway channels), and/or because of weirs that exist in the Niagara River as the result of repairs to the American side of Niagara Falls, that by these means the Corps of Engineers has either purposely or inadvertently raised Lake Erie's water levels.

In response to those suspicions and claims, I have asked the advice of independent engineering authorities at the Case Western Reserve University, the State University at Buffalo and the Massachusetts Institute of Technology. I can report to you that those authorities seem to agree that such suspicions are without merit. They declare that any changes that have been made in the Detroit and Niagara Rivers could not possibly affect Lake Erie's water levels more than the tiniest fraction of an inch, so little it would be impossible to measure.

Mr. Chairman, I will make available to you and your staff my correspondence with those independent engineering authorities. But, more importantly, I would welcome and urge whatever further studies of that subject you and your staff might consider feasible and warranted.

Other witnesses will discuss here the details of the water diversion bill before you. I will not duplicate their testimony.

I will conclude only by repeating my urgent belief that this is needed as a first small step, but other much more important steps must follow. We must persist in this effort, and I know I speak for many other Congressmen from the Great Lakes shoreline areas who also hold to that belief.

As I understand this bill, it does not allow for any constant outflow at Chicago of larger amounts of water than in the past. It would permit an up and down outflow, between 3,000 and 10,000 cubic feet per second, depending on a complex set of circumstances. That elastic capability is very much needed. I fully recognize that the interests of the people of Illinois on the one hand must be protected, and in the other direction it will be essential to get Canadian approval. Those factors only serve to emphasize the complexities of this difficult problem, wherever you attack it.

I suggest this bill before you is probably the least complicated, least difficult, least costly way to make a beginning. But it is very important, nevertheless, and I urgently hope your committee will approve it.

Mr. Chairman, I greatly appreciate the time and attention you and your committee are willing to give to this matter in these hectic closing days of the 93d Congress, and I thank you for the privilege of offering my views.

The CHAIRMAN. The gentleman may proceed.

Mr. MOSHER. I will speak very briefly, Mr. Chairman.

I believe I do speak for all the Congressmen of our area, and this is certainly a bipartisan position and a very real concern, in our support of this effort to permit a larger diversion of water of the Great Lakes via the Chicago Drainage Canal.

The emphasis in my statement is essentially that this legislation is largely important only as a first step, only as a symbol of the congressional concern for this crucial problem of high water levels on the Great Lakes.

This bill is a sort of token, Mr. Chairman.

If we can get this accomplished, this diversion, it is a sort of a token of our willingness to pursue the matter much further.

The emphasis in my statement is largely on some of the other projects that I feel and others feel need to be accomplished. I suggest five further steps that are going to be necessary and more difficult.

The CHAIRMAN. Would you read those five, Congressman?

I think it is very important.

Mr. MOSHER. One. We must press for a new treaty with Canada which will provide for more equity in recognizing the interest of all the Great Lakes as one interconnected system, and which recognizes the rights and needs of shore property owners equally with other interests.

The present treaty, in force for more than 60 years, provides only for water level controls in Lakes Superior and Ontario, no controls over levels in the other Great Lakes, and no protection for shore property owners.

(2) We must confirm and formalize a national policy of recognizing that all of the Great Lakes are one interconnected system, and all deserve equal recognition and treatment in any effort to regulate water levels.

(3) We must continue to press upon the International Joint Commission, the State Department and the White House, the imperative need for holding back more water in Lake Superior over a longer period of time, recognizing that they now have increased the flow into the lower lakes, even though Lake Superior's level today is still below the maximum level required by treaty * * * 602 feet above sea level.

(4) We must proceed as rapidly as possible to introduce legislation before the House and Senate Public Works Committees, to permit consideration here in the Congress of the potentially most effective and feasible project for control of Lake Erie levels, that is, construction of controls at the Black Rock Canal in the Niagara River.

We are thinking there in terms of two options: Providing for a maximum outflow of 8,000 cubic feet per second; or should it be 30,000 cubic feet per second? The greater outflow would, of course, require other new flood control projects on Lake Ontario, and probably down river from Ontario. Too, we must recognize that this project will also require United States/Canada agreement.

(5) We must give very active, further consideration to deepening Niagara River above the falls.

But recognizing the irreversible effects of such dredging, the threat of unacceptable low water levels in Lake Erie when the weather cycle changes, dredging the Niagara River deeper would seem to imply also a need for some elaborate control mechanisms to protect the lake against too much drain.

I recognize the difficulties inherent in each one of those proposals and I do not mention those in any way to diminish the importance of the legislation before you here today.

To get back to that I repeat, it is terribly important as a symbol.

My concern, of course, is with the water levels of Lake Erie and I recognize that the tremendous diversion of more water through the Chicago Drainage Canal probably would not in the long run affect the water levels of Lake Erie more than an inch or so.

It is that fact, that every inch counts, that is the emphasis I want to press here today, that gaining that 1 inch is a start, a first step on the larger, more long time problem, and the very expensive problem of creating a system by which we can manipulate, control, regulate the water levels of the whole system.

Again, I emphasize that it is not only the power interests or the shipping interests, not only the related Canadian interests, that need to be considered by the Congress, but very specifically the interests of the shoreline property owners on the lakes, because in the last 2 years they have taken a terrible beating.

It has been disastrous, millions and millions of dollars of property damage through erosion and flooding.

Mr. Chairman, thank you for the opportunity to make very briefly these points.

I do strongly support the legislation before you and I salute Congressman O'Hara for taking the leadership here and a lot of us, Republicans and Democrats alike, are cosponsoring this legislation.

The CHAIRMAN. I thank the gentleman for his very, very excellent summary and his very well prepared statement.

I want to assure the gentleman that your remarks will be considered very thoroughly, will be discussed with the proper officials in the Department of State and with our U.S. representation on the International Joint Waterway Commission.

I do believe that something more can be done than just the modest increase in diversion proposed but the authors are not limiting themselves just for that.

They are trying to minimize any impingement on the rights of either Canada or other neighboring States in trying with a minimum amount of diversion to gain some relief with the thought that at least something is better than nothing.

I believe you are right when you say, and I quote you, "Somehow we now must find ways to avoid both these high and low extremes;" it seems to run in sort of a cyclical pattern around eight plus or minus years.

More can be done and should be done to control and better utilize this large body of water.

Any questions or comments on my right?

Mr. JOHNSON. Mr. Chairman, all I want to say is having Lake Tahoe in my district, we have the same problem.

Water levels can cause more trouble than most any other thing and when the lakes get too high, mother nature runs up the water damage and it is tremendous along the lake shore from the standpoint of damage and erosion.

Lake Tahoe's problem is very small compared to the problem we have with the Great Lakes because you have many lakes. I think the problem that you are trying to resolve is primarily one of damage to lake shore property, erosion, and high water.

When you get a little ice mixed with it, it makes it worse than that.

Mr. MOSHER. It is very good to know that members from other parts of the country appreciate our particular problem in the Great Lakes area, Mr. Johnson.

I am glad you have that lake which gives you this insight.

Mr. CHAIRMAN. Mr. Clausen.

Mr. CLAUSEN. Yes.

Well, I am pleased that my colleague from California Mr. Johnson did allude to the fact that it is a problem in other areas of the country and, if you will note from the most recently passed reclamation omnibus bill, we are trying to go into the direction of giving consideration to the erosion problem and frankly I have to compliment my colleague, Mr. Roberts, who actually managed the omnibus bill for focusing attention on this in addition to our friend, Mr. Blatnik.

Now, there is one suggestion that I am going to make.

It is this:

With Mr. Blatnik retiring, you might want to make him an honorary chairman of some sort of ad hoc committee because of his influence on this committee has come as a result of a very cooperative attitude on a bipartisan basis over years I have served with him, at least the last 12 years.

There is one question that I would like to ask of you, Mr. Mosher.

You state in your point No. 1 we must press for a new treaty with Canada which will provide for more equity in recognizing the interest of all the Great Lakes as one interconnected system.

I wonder if you could provide to the committee the benefit of your understanding of the situation.

Do you feel that Canada would be cooperative toward this end or is there any hesitancy on their part, any unknown problems that we are not aware of that you could enlighten the committee on?

Mr. MOSHER. I have always found our Canadian friends to be willing to negotiate and to consider our problems and to be cooperative.

However, we cannot duck the fact that they are very concerned about the need for water levels which are useful in their power projects and for shipping purposes.

That was their principal concern, Mr. Clausen, when the treaty was signed some 60 or so years ago, and it continues to be a concern.

It is my impression that they do not begin to have erosion and flooding problems that we do.

For instance, the prevailing winds are such in the Lake Erie area that the water pounds upon the south shore and not the Canadian

shore and so they are not as sensitive as we are to the immediate problem we are discussing here today.

I think we have a lot of work to do to have them fully appreciate our concern.

Mr. CLAUSEN. Well, Mr. Chairman, I have a suggestion in this regard that I will spell out to you, Mr. Mosher, to see whether or not you think this might be a means of achieving a better understanding and cooperation from them.

Assuming this committee still has jurisdiction after the reorganization proposals go to the Congress, I am wondering if it would be helpful if this committee went to the area and met possibly with our counterparts in the Canadian Parliament and sat down and had sort of a working session on the total problem, taking into consideration their concerns, their desires, their objectives and also the concerns that we have in attempting to solve some of the problems.

Mr. MOSHER. That is an initiative that I would very much welcome. I think it would be very helpful.

Mr. ROBERTS. Would the gentleman yield?

Mr. CLAUSEN. Yes.

Mr. ROBERTS. General Bachus is chairman of that Compact Commission so I think we can get a lot of information from him when he is called as a witness.

He and I have been all over that area and I think General Bachus will be able to answer a lot of questions you are asking our distinguished colleague, Mr. Mosher.

The CHAIRMAN. I am glad the chairman of the Subcommittee on Water Resources made the point because the general lives here and he is chairman of the U.S. Section of the Joint Commission and is concerned with the Great Lakes levels.

We also have the representative from the Department of State, the Canadian desk and the legal counsel and we will have good testimony and it is suggested that we then meet with our counterparts in Canada, meet with the technical specialists.

We had seriously considered that earlier but I believe at that time there were elections in Canada and we thought it would not be proper to go to Canada at that time.

We will give consideration to an excellent piece of advice.

Mr. CLAUSEN. I wanted to get your reaction because I have seen how people who have the technical ability certainly can sit down and discuss matters of a technical nature, but when it comes to a question of policy it does require a communication and in particular the need to communicate with our peers, more and more with people here in this Western Hemisphere is going to become a necessity and I think we should start with our friends and start to work toward a common solution to this problem.

Mr. MOSHER. Mr. Clausen, I think you make a significant point.

The CHAIRMAN. Congressman, if there are no further questions or comments I wish to thank you.

We will keep in touch with you for your valuable assistance.

Mr. MOSHER. I like Mr. Clausen's suggestion that you might be an ex officio or honorary leader and continue to be in this area, because you certainly have been the leader in a most effective way in our Great Lakes bipartisan congressional effort.

The CHAIRMAN. I appreciate your kind words. Anything I can do I certainly shall.

I am very pleased to call upon Congressman Jim O'Hara.

Jim O'Hara constantly understands the problems we have and that we have even as of this moment.

Congressman O'Hara, please take the chair and make yourself at home.

I want to express the Chair's appreciation on behalf of the full committee for the very effective leadership role which the Congressman from Michigan has played in getting us a substantial number of co-authors for this general legislation and for the leadership he has given in all matters pertaining to the Great Lakes.

Mr. ROBERTS. Mr. Chairman, I would just like to apologize to my distinguished colleague, Mr. O'Hara, and also to General Bachus because I have to leave and go to a rules committee meeting.

I will be in touch with you.

I do not know how long that will last.

I just wanted to explain my absence.

The CHAIRMAN. I will have to join you for about one-half hour and return.

STATEMENT OF HON. JAMES G. O'HARA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. O'HARA. Thank you, Mr. Chairman.

I have a prepared statement. I would like to ask unanimous consent that it be printed in the record.

The CHAIRMAN. As usual and in the case of Congressman Mosher who just preceded you, Mr. O'Hara, you have a well-organized and well-prepared statement.

I did read your statement.

I am very impressed with it, and it will appear in its entirety at this point in the record, and you may proceed to either underscore or underline any key part or particularly pertinent parts of the testimony, or elaborate, but feel free to use the time as you wish.

[The full prepared statement of Mr. O'Hara follows:]

STATEMENT OF HON. JAMES G. O'HARA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. Chairman, I appreciate the action of the Subcommittee on Water Resources in holding these hearings on proposals dealing with the diversion of water out of the Great Lakes basin through the Chicago Sanitary and Ship Canal, and I welcome this opportunity to appear here as a witness on behalf of such legislation.

As you know, Mr. Chairman, the problem of persistent high water throughout the Great Lakes system is one which has been of considerable concern to me over a long period of time. In the past 2 years, I have had the opportunity—thanks to the oversight role which this subcommittee has exercised with respect to the Great Lakes—to appear here on several occasions, urging that we do something to alleviate the high water problem.

Because of my concern, I introduced H.R. 12015, to provide the capability for increased diversion of water from Lake Michigan into the Illinois Waterway. Subsequently, I was joined by 37 of my colleagues from the Great Lakes region in the sponsorship of H.R. 12744 and H.R. 13254, which are identical to H.R. 12015. I appear here today as a concerned Member of Congress, as the principal sponsor of the legislation under consideration, and as one of the spokesmen for

the Conference of Great Lakes Congressmen—a Conference which has been active in the search for acceptable solutions to the problems which we face. Other members of the Conference who have joined in introducing this legislation will also be expressing their separate views, Mr. Chairman, and together I hope we can be persuasive enough to convince the subcommittee of the soundness of our approach to this problem and the urgent need that exists for remedial action.

Mr. Chairman, let me take a few minutes to detail the magnitude of the high water problem throughout the Great Lakes. This chain of lakes, as the subcommittee is well aware, constitutes the largest body of fresh water on the face of the earth. It is the source of food, transportation, power, commerce and recreation for the over 40 million people who live in the Great Lakes basin. When water levels on the lakes drop perilously low—as they did a decade ago—then the lakes are less capable of serving the growing needs of its 40 million dependents. When water levels on the lakes rise dangerously high—as is now the case—then the lakes cease to be man's ally and become his enemy.

According to the National Oceanic and Atmospheric Administration, the Great Lakes currently are well into their third season of high water levels. This condition has occurred only twice before in this century; the outlook for next year is for more of the same; and scientists simply will not predict when this condition will abate.

NOAA's scientists say that past cycles of highs and lows on the lakes show that record or near-record water levels, such as those we are now experiencing, normally persist for only about 2 years. These scientists blame abnormally heavy precipitation, and abnormally low evaporation. Taken in combination, the effect has been to raise the lake levels to alltime highs.

I have said, Mr. Chairman, that the Great Lakes contain the world's largest supply of fresh water. The figures boggle the imagination: Nearly 55,000 cubic miles of water—enough to cover the entire continental United States to a depth of over 9 feet.

Given the huge size and storage capacity of the Great Lakes, it's understandable that the Great Lakes, as a total water system, do not respond quickly to changes in supply. I say as a "total system" because it has already been demonstrated by the past actions of the International Joint Commission—United States and Canada, its Lake Superior Board of Control, and the Army Corps of Engineers, that one of the lakes in the chain—Lake Superior—does, in fact, respond with delicate precision to any change in the amount of water released from Superior into the rest of the system.

The reason why the Great Lakes, as a whole, respond more slowly is because there are few outlets, they are small outlets, and they restrict the flow of water out of the lakes. It is in an effort to find a way to accelerate, even modestly, the capability to draw more water out of the lakes in high water periods, that we are here today. The legislation under consideration by the subcommittee would provide one, small step in the direction of drawing off more water more quickly, and thus perhaps averting some of the disastrous consequences of flooding and shoreline erosion which are the inevitable result of persistent high water levels.

Mr. Chairman, H.R. 12015 would seek to alleviate high water levels by modifying a 1967 Supreme Court decree which governs the amount of water taken out of the Great Lakes system through the Chicago Sanitary and Ship Canal. Under the court order which has been in effect for the past 7 years, the maximum diversion at Chicago is pegged at 3,200 cubic feet per second. The proposed legislation would permit diversion of as much as 10,000 cubic feet per second—but under rigid safeguards to protect the rights of the Great Lakes States and the rights of the States bordering the Illinois Waterway and the Mississippi River system.

Throughout our years of discussion of the Great Lakes problems, Mr. Chairman, we have been reminded by the Chairman of the full Public Works Committee, the gentleman from Minnesota, that it simply would not do to transfer the problems which we have either upstream or downstream, or to transfer them to another region of the country. We have already seen the mischief that as been done to the Great Lakes, themselves, because of the actions of the Canadian Government in taking water, which historically had flowed into the Hudson Bay watershed, and diverting it instead into Lake Superior in order to generate electric power. The result has been to aggravate the situation in the Great Lakes—not only on Lake Superior, into which this water is initially diverted, but into the entire lake system, which must carry off any water introduced at the

top of the chain of lakes. So I quite agree with Mr. Blatnik, that there is no merit in exporting problems from one area or region to another.

It was for that reason that our bill includes the two basic conditions for increased diversion at Chicago. These are very simple guidelines, which require that before there is any increased diversion above the present 3,200 cubic feet per second ceiling, two requirements must be met:

(1) Lakes Michigan-Huron must be above their average monthly level; and

(2) There must be no danger of any flooding in the Chicago River, the Illinois Waterway or the Mississippi River.

Before I introduced the legislation, Mr. Chairman, I consulted with the Water Resources Division of the U.S. Geological Survey on this matter. I wanted to know precisely what the impact on these waterways would be if we were to increase the rate of outflow at Chicago. Based on the data available for the 1972-73 water year—the period between October 1, 1972, and September 30, 1973—the Geological Survey concluded that there were 261 days in which the levels of these waterways were low enough so that they could successfully have handled the full 10,000 cubic feet per second of water without any danger of flooding. There were another 32 days during which those waterways could have absorbed as much as 6,500 cubic feet per second—double the present limit—without any danger.

In other words, based on this data from the U.S. Geological Survey, added diversion at Chicago could have been used safely more than 70 percent of the time to help alleviate high water conditions on the Great Lakes.

In addition to safeguarding the rights of those outside the Great Lakes Basin Mr. Chairman, the bill naturally seeks to give adequate protection to the rights of all of the States within the basin. That is the reason for the other guideline which the Corps of Engineers must follow in making determinations on Chicago diversion—the guideline that diversion cannot go above the 3,200 cubic feet per second ceiling if we are in a low water cycle on the Great Lakes.

Since the time that this legislation was introduced, Mr. Chairman, questions have been raised in some quarters concerning the propriety of the Congress legislating in this area, in light of the Supreme Court decrees regulating diversion of water from Lake Michigan.

In its opinions rendered since 1924, the Supreme Court has on numerous occasions affirmed the power of Congress to legislate with regard to diverting water from Lake Michigan. In *Sanitary District of Chicago v. United States*, 266 U.S. 405 (1925), Mr. Justice Holmes, speaking for the Court, indicated the basis for national power to regulate the Chicago diversion as follows, "This is not a controversy between equals. The United States is asserting its sovereign power to regulate commerce and to control the navigable waters within its jurisdiction." 266 U.S. 405 at 425.

In 1930, the Court entered a decree regulating the diversion of Lake Michigan water at Chicago. In the opinion of the Court, again written by Mr. Justice Holmes, the Court indicated that its action was subject to modification by Congress:

"These requirements as between the parties are the Constitutional right of those States, subject to whatever modification they hereafter may be subjected to by Congress acting within its authority." *Wisconsin v. Illinois*, 281 U.S. 179 at 197 (1930).

Later in the same opinion the Court again deferred to the power of Congress. "The amount of water ultimately to be withdrawn *unless Congress may prescribe a different measure* is relatively small." 281 U.S. 179 at 200 (1930) (emphasis added).

Mr. Chairman, the original decree enjoining diversions by the Chicago Sanitary District has been modified from time to time. My research does not disclose any instance of the Court limiting the power of Congress to legislate with regard to increasing or decreasing diversions of Lake Michigan water at Chicago. This power is indeed one of the powers enumerated in article 1, section 8 of the U.S. Constitution, commonly known as the commerce power.

The legislation pending before this subcommittee then clearly falls within the scope of the power of Congress to regulate commerce and in no way encroaches on the judicial power exercised by the Supreme Court in its various decisions dealing with diversion of Lake Michigan water.

Throughout our history the courts have consistently held that Congress had broad power to regulate interstate commerce. This power extends to navigable waters. The Illinois Waterway and the Great Lakes are navigable waters subject to legislation enacted by Congress, and it is my hope that the subcommittee will assert this rightful congressional power over the diversion of Lake Michigan water.

Mr. Chairman, the problems we face on the Great Lakes are of serious magnitude. The scientists say that they will go away in time—that precipitation will someday return to “normal,” and that evaporation will also “normalize” itself. But they don’t say when, and we are now in the third successive year of this crisis. Increased diversion of water at Chicago won’t solve the problems—not overnight and not even over the long haul. We are going to need more heroic measures than this if we hope to stabilize the level of these lakes. But diversion at Chicago will help. It will lower the level of the lakes by a matter of inches a year—which is more than we are doing right now. What’s more, every inch counts in terms of increasing the margin of safety, decreasing the severity of flooding, and alleviating some of the shoreline erosion.

We must make a start; we can no longer simply stand there and watch the water rise and the shoreline disappear. We appeal to this subcommittee to help us make that start by approving the legislation that will permit us, under the proper circumstances, to pull the plug at Chicago.

Mr. O’HARA. Thank you very much, Mr. Chairman.

Mr. Chairman, may I go off the record for a moment?

The CHAIRMAN. Off the record.

[Discussion off the record.]

Mr. O’HARA. Thank you very much, Mr. Chairman.

Let me now proceed.

Mr. Chairman, I appreciate very much the committee’s action in holding these hearings.

As you know, the persistent problem of high water levels in the Great Lakes is a very, very serious one that effects many of the districts represented by Members of this Congress and is one that the Congress must come to grips with, Mr. Chairman.

I fully agree, Mr. Chairman, with the attitude that you have so often expressed that we cannot take action on the lakes that will benefit one area at the expense of the others.

I do not want to just transfer the problem to some other area and I recognize that there are equities on all sides and that we have to look to measures that would effectuate the greatest good for the greatest number.

This is what I think this proposal does, Mr. Chairman.

We are not saying that we want to dump our problem down the Illinois Waterway into the Mississippi basin and let somebody else worry about the water.

The bill that we put in provides for a flexible system of diversion. Even if we did not have a high water problem right at this time, Mr. Chairman, a flexible diversion system makes a lot of sense. The bill that we have introduced provides very simply that the diversion may be increased above the 3,200 cubic feet per second that is presently provided in times when two conditions are met—first, the level of the lake has to be above the long-term average for the particular time of year and second, the Illinois River, the Illinois Waterway, and the Mississippi watershed must be able to absorb the additional flows. So no additional water over and above the 3,200 cubic feet per second that is presently being diverted could be diverted in times of low water levels on the lakes, not even in times of average water

levels on the lakes. And it could not be diverted at times when there would be a flooding threat downstream.

No one would really be harmed by this, Mr. Chairman.

It is a matter of using what resources we have.

As you know, the problem of the Great Lakes in terms of high water levels is that the outlets for Great Lakes waters are constricted and you have to understand the tremendous size of the Great Lakes.

Mr. Chairman, there is enough fresh water in the Great Lakes to cover the whole United States to a depth of 9 feet.

Here we have a situation where there are not many things we can do and I do not pretend that this increase in the flexible diversion and Chicago is a cure-all.

I do not pretend that it is going to solve the problem because it is not, Mr. Chairman, and you know that as well as I do.

But it is going to take us one small step closer to alleviating this serious problem we have.

I like the old saying, Mr. Chairman, that it is better to light a candle than to curse the darkness; and I think that if we can put through flexible diversion at Chicago that it is worth doing because it will help us a little bit.

It will reduce the levels at the rate of something approaching 2 inches a year and that will go on for several years and that is worth doing, especially when it can be done at negligible cost and done in such a way as to do no harm to anyone.

Now, Mr. Chairman, let me just address two problems very quickly.

One, it is absolutely clear that Congress has the right to regulate the diversion at Chicago.

Some question has been raised about this because there is a Supreme Court decision which presently determines the amount diverted at Chicago and someone has said maybe that is a matter for the Court.

Well, it is not, Mr. Chairman. The courts in all of their decisions regarding the diversion at Chicago have made it clear that they are merely filling the gap and that if Congress were to choose to act that it is the congressional action that would be determinate.

The CHAIRMAN. A very proper point.

Mr. O'HARA. And finally, Mr. Chairman, let me address myself to the problem with the Canadian Government.

Now, I recognize the concern that the Canadian Government has.

The Canadian Government is troubled by the United States taking unilateral action as it affects the Great Lakes.

Under the treaty those portions of the Great Lakes—specifically Lake Michigan—that lie entirely within the boundaries of the United States are not subject to the boundary water treaty and as a legal matter the Canadians have no ability to veto any proposed action we might take, and they have no right to participate in the decision.

I recognize in spite of the fact that they do not have a legal right they do have a right to have their views considered and I think that it is up to this committee to give the views of the Canadian Government careful consideration.

I believe if the committee does that—and weighs the objections of the Canadian Government against the problem of the U.S. side of Lake Erie, on the U.S. side of Lake St. Clair, on the U.S. side of Lake

Huron and on Lake Michigan—that you will find that the equities are clearly in favor of doing something to reduce those levels.

I want to remind you of just one other thing—of the interpretation that the Canadians put on the Boundary Water Treaty.

You may recall that this committee authorized and funded a 9-year study of the problems of the Great Lakes water levels. That study was recently completed under the auspices of the International Joint Commission and the results published. That study on Great Lakes water levels ignores the question of what changes you might make in the capacity of the St. Lawrence and the ability of the St. Lawrence to carry off excess flows.

Here we have a study of Great Lakes water levels that does not even take into account what might be done with the major outlet for Great Lakes waters. Is our Corps of Engineers so rattlebrained that they could not figure out that would be important to the study?

Oh, no, because the Canadians are hot.

The St. Lawrence for much of its length flows entirely through Canada and it is not a boundary water and the Canadians would not even let us study it.

I must say, Mr. Chairman, that is their interpretation of the treaty of what is a boundary water and what is not when it is a part of the Great Lakes system that lies entirely within Canada. So when we come to a question of a part of the Great Lakes that lies entirely within the United States we have to take into account the legitimate objections of the Canadian Government and then make the proper decision by weighing the equities on each side. I'm sure when the committee does that they will decide in favor of this legislation.

Thank you, very much.

Mr. JOHNSON [presiding]. We want to thank you, Congressman O'Hara, for your statement and your oral presentation.

Being a very good parliamentarian, a lawyer and astute congressman, I am glad to have your opinion upon the right of Congress to regulate the levels of the Great Lakes.

Prior to your coming in, I told Congressman Mosher we have had a problem of this kind in Lake Tahoe for a number of years which is also regulated by a court decree as far as the level of Lake Tahoe is concerned and we have many, many problems there.

When the lake gets high, we have the same amount of damage you people are experiencing on the lake shore.

When the lake is low we have the same amount of complaints about this, that and the other thing, so it is a problem that I am glad to learn that you have looked into and tell us that Congress does have jurisdiction.

There may be some question of that, but here again we are involved with an international consideration with Canada and it is a complicated problem which I am sure the people in the area of the Illinois Waterway will watch very closely to make sure there is no harm or damage done to that area under certain conditions. You have brought that up and said it was not necessary to have it.

We thank you for giving us your expert advice.

You have lived with this for many, many years.

Mr. O'HARA. Thank you very much, Mr. Chairman.

Mr. TRAXLER. My distinguished colleague from Michigan, it is recently reported, and I'm sure we will have some testimony on that point, that the Great Lakes dropped 4 inches in August and another 4 inches in September and it is anticipated they will drop further in the course of the winter.

Maybe our good friends in the Illinois Waterway will be pleased to receive your assurances.

Mr. O'HARA. We have arranged for that precipitous drop during the weeks before the election.

Mr. TRAXLER. I appreciate all the help we can get.

Mr. JOHNSON. The gentleman from California, Mr. Clausen.

Mr. CLAUSEN. Mr. O'Hara, I thought God was on my side but apparently you got Him up there beside you.

I want to join my colleagues in commending our friend and fellow committee member on Interior and Insular Affairs, Mr. O'Hara, with whom I have the privilege of serving and for his leadership and cooperation that he has extended to Mr. Mosher and Mr. Young and many of the other members in the general area of the Great Lakes and for their diligence and willingness to carry this through the Congress.

You made reference to the objections of the Canadian Government.

Is it possible to narrow it down on a point by point basis and do you have what you can describe as the objections of the Canadian Government?

Mr. O'HARA. Yes, I do, Mr. Clausen.

I thank you for your kindness to me and the others for the work we have done.

Basically, the Canadian objections are two—one, that every cubic foot of water that is released from the Great Lakes at Chicago and goes back through another system is one cubic foot less that goes through the hydroelectric plants on the Niagara and the St. Lawrence.

That is a legitimate objection it seems to me.

I think it is a question of weighing the equities.

I will note, however, that for the first time really a year or so ago they had released water down through the St. Lawrence around some of the hydroelectric-producing facilities because it was just more than they could handle. But that is nevertheless a legitimate objection.

The second objection has to do with the question of shipping. Obviously, right now water levels are so high that there is no real problem with shipping.

In fact, the channels are not being dredged as frequently as they ought to be but you can get by with it a little bit because of the extremely high water levels. But they are concerned that in some ways this diversion might be continued after the water levels recede, and that this increase in diversion would have an adverse effect on shipping.

Right now, it is questionable whether increased diversion would adversely affect shipping because while it would take a few inches off the top of the levels at the same time they are having problems with the very strong currents in some places. For instance in the St. Clair River they had a ship that could not handle the current there that turned sideways in the channel and was struck by another ship and sunk right in the channel.

There are problems associated with the high water levels for shipping as well as advantages.

I think their objection really must go to the point of whether we were to continue diversion after the water level had receded and I think the intent of the bills and in its wording is clear that we would not do that.

I think it would be a different story if we were going to do that and then their objection would have more weight it would seem to me.

Mr. CLAUSEN. Then I would ask you a question.

Mr. Mosher has suggested in his testimony that there be a new treaty with Canada to deal with some of these problems.

Would you concur with his suggestion?

Mr. O'HARA. I would concur with it but I would not suggest that we wait on this bill.

Mr. CLAUSEN. Yes.

Well, I will not prolong the point because I will discuss it with you later on but I have made a suggestion that possibly this committee working in concert with some of the Congressmen from the Great Lakes area might conceivably enhance our own professional ability to negotiate this matter by sitting down and having a discussion with our counterparts, our peers in the Canadian Parliament, because we are the policymakers and sometimes I think we can influence our own agency people and I am sure they can influence theirs.

Would you agree with this assessment?

Mr. O'HARA. Yes.

As a matter of fact, I have had some good conversations with my Canadian counterparts who represent the ridings just across the river in Lake St. Clair from my district and we, of course, have a similarity of interest.

There is one problem I have found in trying to deal with Canadian members on this, and that is their side of the Great Lakes in the area with the high water level problems are not nearly as highly developed as ours.

If Toronto was on Lake Erie instead of on Lake Ontario I think they would share more of our alarm at the current situation, but it just does not work out that way so there are differences in terms of their interest.

Mr. CLAUSEN. It would seem to me that there is possibly other areas where there is a commonality of interest.

Mr. O'HARA. Yes; I'm sure there is and I found it very useful to talk with some of the members from the areas adjacent to mine.

Mr. CLAUSEN. Well, I am one of those that wants to try to act in advance of the problem rather than react after it occurs and I think it's about time we do these things with our friends.

Mr. O'HARA. And I think one thing we might well work on with our friends is to try to get the permission of the Canadian Government to add onto our study of the Great Lakes water levels, a study on ways to regulate flow into the St. Lawrence River. So far that permission has not been forthcoming.

Mr. JOHNSON. Mr. Hanrahan.

Mr. CLAUSEN. Mr. Chairman, could I make one observation?

I must leave, as Mr. Blatnik did, to go over to the Rules Committee. I want to indicate to each and every one of you that I regret I have to leave at this point.

Mr. JOHNSON. Mr. Hanrahan.

Mr. HANRAHAN. Thank you, Mr. Chairman.

I, too, would like to commend my colleague on this bill.

On page 2, as far as clarification is concerned, Congressmen, section 2 line 22 you mention the Chief of Engineers shall not allow water to be diverted from Lake Michigan at a rate greater than 3,200 cubic feet per second when the level of Lakes Michigan and Huron has fallen to or below the monthly level since 1860.

For clarification what is that average monthly level since 1860?

Mr. O'HARA. Well, I do not have that right before me, Mr. Hanrahan, I am sorry to say but we have the average levels.

The Great Lakes survey does a monthly publication of current levels as compared to average levels.

On Lakes Michigan and Huron the average level, for the period 1860-1971, is 578.69 feet above sea level.

Mr. HANRAHAN. And is it not true that at the present time Lake Michigan is 9 inches above the normal?

That was a year ago I believe.

Did we not have some testimony to that effect a year ago?

Mr. O'HARA. It is 1½ feet above average right now.

Mr. HANRAHAN. And in your bill you have a built-in safeguard in case there is this decrease in the level of Lake Michigan or any other lake that the Army Corps of Engineers can come in and shut the spigot off.

Mr. O'HARA. Right.

Lake St. Clair is 2 feet above average level.

Parts of my district border on Lake St. Clair.

Mr. HANRAHAN. Going on to page 3 you mention the studies that would be required to determine the feasibility of increasing the maximum rate of diversion provided for in section 2.

Have you discussed with the Army Corps of Engineers what might take place if your bill becomes law?

Mr. O'HARA. Yes.

As a matter of fact I have discussed that, and I have the figures in my statement that during most of the days of the year it would be possible to divert the additional water provided for in my bill.

The U.S. Geological Survey concluded that based on the data available for the 1972-73 water year which runs from October 1, 1972, to September 30, 1973, there were 261 days in which the levels of the Illinois Waterway and the Mississippi Waterway were low enough so they could successfully handle the 10,000 cubic feet per second without any danger of flooding.

Mr. HANRAHAN. No further questions.

Mr. JOHNSON. Congressman Vander Veen.

Mr. VANDER VEEN. Thank you, Mr. Chairman.

Mr. Chairman, I also would like to commend our colleague from Michigan, Mr. O'Hara, for his fine work on this bill.

This is a matter of great interest to me and mutual interest to Mr. O'Hara and me because I have sailed on all these waters that we are talking about and I know from personal experience precisely what we are referring to when we talk about water levels and currents and all that sort of thing.

A particular point that I want to get to is our relationship with Canada and the suggestion by our colleague, Congressman Clausen, in addition to talking with Members of the Canadian Parliament I wonder what other things we might be able to do in the direction of conversation with Canadian representatives?

I wanted to ask Congressman Clausen while he was here if there is any indication that there might be some effort on the part of the White House and I know this is not your bailiwick but I have been distressed frankly for the last several years about the fact that there seems to be no positive effort on the part of the administration to help relationships between our country and our excellent neighbor to the north, Canada.

Of all of the nations in the world it seems to me that we should have a warm, cordial relationship with Canada and here is another example of where we ought to be on first base with our counterparts both in the administrative and executive levels as well as the congressional and parliamentary levels.

Mr. O'HARA. Well, I think we ought to explore that and that the White House ought to explore it.

I know great damage was done to our relations when the former President vetoed the agricultural and consumer agency appropriation and in his veto message indicated that he objected to the appropriations contained therein for the Great Lakes cleanup.

You will remember the Great Lakes cleanup was a program agreed to by former President Nixon at a meeting with Prime Minister Trudeau and the Canadians have felt that we were dragging our feet and not carrying out the spirit of that understanding that we arrived at at that time.

I think the veto was a very damaging thing and I would hope that the House and Senate will not go along with the reduction as apparently the Committee on Appropriations has done in large part and that we might even reverse that action on the floor of the House and restore that appropriation.

I think that would do more good in terms of our relations with Canada than any of the action we in the Congress can take.

I must say in all fairness that the White House was very helpful to us in getting the International Joint Commission to move on retaining and impounding some of the water in Lake Superior that had been coming down on the middle lakes and I do commend them for a willingness to look at our problem. They were very helpful.

Mr. VANDER VEEN. I really was making those remarks in the nature of an inquiry.

I am pleased to hear at this point the White House was helpful.

Thank you, Mr. Chairman.

Mr. JOHNSON. Any further questions?

We want to thank you, Congressman O'Hara, for giving us the benefit of your statement and your oral presentation.

Mr. O'HARA. Thank you very much, Mr. Chairman.

Mr. JOHNSON. Our next witness will be the Honorable Samuel H. Young of the 10th Congressional District of Illinois.

Congressman Young, I am glad to have you here this morning.

**STATEMENT OF HON. SAMUEL H. YOUNG, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF ILLINOIS**

Mr. YOUNG. Thank you, Mr. Chairman, and other distinguished members of the subcommittee.

I appreciate this opportunity to be here.

I have a prepared statement which I believe has been furnished to each one of you.

I would very much like to thank you and the other members of the Subcommittee on Water Resources for the opportunity of presenting this statement on behalf of the pending legislation to permit the diversion and withdrawal of additional water from Lake Michigan.

The Lake Michigan shoreline of the 10th Congressional District, which I represent, is currently suffering from a severe erosion problem which threatens public beaches and private residential property. This problem is immediate and extremely serious. Even though it is recognized that there are technical limits as to what can be done to control problems which are caused by natural forces in our environment, it is imperative that everything which can be done is undertaken.

The situation faced by the communities of Evanston, Wilmette, Kenilworth, Winnetka, and Glencoe is common to the shoreline erosion problems not only of Illinois communities, but also the communities of Wisconsin, Indiana, and Michigan, which also border on Lake Michigan.

Lake Michigan goes through periodic changes in the water levels, and we are currently in the midst of an unusually high water level period. The high Lake Michigan water level, coupled with the usual forces of nature in our northern climate and the relatively soft glacial deposits that characterize our shoreline, have created a most serious emergency for the public and a large number of residents of our shoreline communities.

As we are all aware, the effort to preserve the Lake Michigan shoreline is proceeding on many fronts. It is my feeling that one of the most important and immediate remedies that could be initiated by this subcommittee is to act favorably on the legislative proposal which I have been pleased to cosponsor with a number of other Great Lakes Congressmen. This legislation provides for diversion of water out of Lake Michigan through the Chicago Sanitary and Ship Canal, on down through the Illinois Waterway, and into the Mississippi River system.

Naturally, any program of water diversion such as this would have to be flexible, depending on whether the Great Lakes were overloaded and whether the Mississippi River system would be able to absorb the additional water. At the present time, due to a Supreme Court decision, the amount of water that can be diverted is limited to 3,200 cubic feet per second. Our proposal would allow this to be tripled, but would provide adequate safeguards to protect the Mississippi River

system from being inundated, while at the same time providing much-needed relief to the shoreline communities.

In closing, please let me state that I have great confidence in the ability of the Army Corps of Engineers to administer the provisions of the bill in an independent and competent manner. I would hope that your subcommittee could consider this measure on a priority basis, since the public interest would be well served if the program were initiated at an early date.

Thank you, Mr. Chairman.

Mr. JOHNSON. We want to thank you, Congressman Young, for a very precise statement in connection with the pending legislation before the subcommittee.

I think you pointed out most of the problems that face the area that you represent, as well as considering the downstream people, because the downstream people are very much interested also.

Mr. Hanrahan.

Mr. HANRAHAN. Thank you very much, Mr. Chairman.

Congressman Young, I, too, would like to commend you on sponsoring this bill.

Can you give us some estimate as to the damage that has been caused to the western shoreline of the district that you represent as far as erosion is concerned?

Mr. YOUNG. Well, the damage runs up into the millions of dollars and it is not limited to just the public property.

As you know, we have Northwestern University along the lake-front.

We also have the Zion State Park, and we have other park facilities along these areas along with residential homes, and the damage runs into millions of dollars.

I would like to say that at the present time, as I recall, the Lake Michigan level is somewhere around 580 feet above sea level, and it is above its usual average height of, I think, about 1 foot or 1½ feet as was testified to by Congressman O'Hara.

I have heard figures for every 12 inches of height of the Great Lakes, it means 40 feet of shoreline, and the capability we have in using this faucet or this disposal through the Illinois Waterway is one we ought to take advantage of.

Mr. HANRAHAN. Thank you.

Mr. JOHNSON. Any further questions? If not, we want to thank you, Congressman, for being here.

Mr. YOUNG. I appreciate the opportunity to be here, Mr. Chairman, and I think I can say that most of the other Illinois Congressmen I have talked to on this subject, at least those around the Chicago and metropolitan area, are in favor of this legislation. Thank you.

Mr. JOHNSON. Our next witness will be Gen. Walter Bachus.

Will you gentlemen come forward?

We are very sorry that we have this makeup of activity, not that we are not all very much interested, but the chairman of the full committee has a keen interest in this, and the chairman of the subcommittee and others are before the Rules Committee on a very important matter of procedure and consideration of the mass transit bill.

We will make as good a record as possible.

The committee has been out on the lakes a number of times and have met with all interested parties there, and I am sure General Bachus is well acquainted with our visits. We are glad you are here to give us the benefit of your knowledge.

With you being an expert in this field, we can get a good record made.

Will you introduce the other people you have at the table with you, General?

STATEMENT OF BRIG. GEN. WALTER O. BACHUS, DIVISION ENGINEER, NORTH CENTRAL DIVISION, U.S. ARMY CORPS OF ENGINEERS; ACCOMPANIED BY DR. LEWIS H. BLAKEY, ARTHUR ERNSTEIN, HARRY W. DOTSON, CLARENCE PAQUETTE, RONALD C. ALLEN, AND CARL H. GAUM

General BACHUS. Thank you very much, Mr. Chairman.

It is a pleasure to appear before your committee today.

I would like to introduce the people that are with me representing the Chief of Engineers, Department of the Army.

I have Mr. Clarence H. Paquette, on my right, Mr. Carl Guam and Mr. Ronald Allen.

I also have from Chicago, the North-Central Division, my own chief of engineering, Dr. Lewis Blakey; and Mr. Harry Dotson in his office; and the North-Central Division counsel, Mr. Arthur Ernstein.

Mr. Chairman, my area of responsibility includes the Upper Mississippi River Basin and the entire Great Lakes and St. Lawrence River Basin within our country. I serve as Chairman of the U.S. Section of four International Joint Commission Boards concerned with Great Lakes levels and flows. These are the International Lake Superior Board of Control, the International St. Lawrence River Board of Control, the International Niagara Board of Control, and the International Great Lakes Levels Board. My statement will cover some of the problems of Great Lakes regulation, a brief history regarding the diversion of Lake Michigan waters, some aspects of the proposal for increased diversion at Chicago, and some conclusions.

Mr. Chairman, this will be a summary of the entire portion of the bill, and for those who have not had time to take a brief look, I think these slides will be most useful to the committee.

[A showing of slides.]

The water in the Great Lakes comes from the rain and snow falling on the lakes and on the lands draining into them. A large portion of this precipitation is lost through evaporation. With their large areas, the lakes are normally able to store the net supply with only small changes in their levels. However, the capacities of the rivers connecting and draining the lakes are small compared to the storage volumes of the lakes.

The relation between storage volume and outflow capacity is such that, if precipitation persists above or below normal, water levels and flows vary significantly above or below their long-term averages. The high water levels which occurred in 1951-52, and are recurring now, are the result of persistent high precipitation. The low levels of 1964-65 occurred when precipitation persisted below normal.

The levels of the Great Lakes fluctuate in three ways: Over the long term, seasonally, for short periods.

Long-term fluctuations result from persistent high or low supplies. The magnitude of long-term and seasonal variations is shown in this table:

Lake	Maximum level	Minimum level	Range of stage	Average seasonal fluctuation
Superior.....	602.06	598.23	3.8	1.1
Michigan.....	581.94	575.35	6.6	1.8
Huron.....				
St. Clair.....	576.23	569.86	6.4	1.1
Erie.....	573.51	567.49	6.0	1.5
Ontario.....	248.06	241.45	6.6	1.9

Note.—Levels are monthly averages in feet IGD; period is 1860 to present except St. Clair, which is 1898 to present.

The variation shown in the far right column on the screen are actually in feet, sir.

The long-term range of levels varies from 3.8 feet on Lake Superior to 6.6 feet on Lake Michigan-Huron and Lake Ontario. A century of record on the Great Lakes does not reveal any regular, predictable cycle such as one might expect. The interval between high or low levels varies widely and erratically.

Current Great Lakes levels, in feet, along with long-term averages and levels for 2 previous years, are shown in this table:

SEPTEMBER LAKE LEVELS

Lake	Long-term average (1860-1973)	(1972)	(1973)	(1974)	Feet above average (1974)
Superior.....	600.96	601.50	601.83	601.82	0.9
Michigan.....	579.01	580.27	580.75	580.52	1.5
Huron.....					
St. Clair.....	573.45	575.27	575.70	575.45	2.0
Erie.....	570.58	572.11	572.51	572.31	1.7
Ontario.....	244.81	245.60	245.62	245.45	.6

These are the September lake levels for the years shown.

Under the 1974 column is the most current lake data that exists, and to the far right you will see the feet above average, the September 1974, most current record compared to the long-term average, the first set of numbers to the left.

In other words, Lake Superior is 0.9 feet above its long-term average as of September 1974, and so on.

The 1.5 feet mentioned a moment ago for Lake Michigan appears immediately below.

Only two of the Great Lakes are regulated: Lake Superior and Lake Ontario. Lakes Michigan and Huron and Lake Erie are uncontrolled. The outflow from each of the uncontrolled lakes depends upon the depth of water and the slope of the water surface prevailing in its outflow river.

Following the extreme high water of 1951-52 and the extreme low water of 1964-65, the Governments of Canada and the United States referred the problems to the International Joint Commission for study

pursuant to the provisions of article IX of the Boundary Waters Treaty of 1909. The Commission appointed an International Great Lakes Levels Board to investigate and advise the Commission as to the feasibility of regulating water levels in the Great Lakes and connecting channels so as to bring about a more beneficial range of stage. On December 7, 1973, this Board submitted to the Commission a report on Regulation of Great Lakes Water Levels. Also on December 12, your committee was briefed on the results of the study. The report contains a thorough analysis of the effects of all diversions on the levels of all the lakes.

HISTORY OF THE DIVERSION OF LAKE MICHIGAN WATER

By the act of March 30, 1822, and by an additional land grant made in 1827, Congress authorized the construction of a canal crossing the divide between the Chicago River and the Illinois River and ultimately connecting with the Mississippi River at Grafton, Ill.

As Chicago grew in population and industry, the Chicago River became an open sewer, a health hazard, and esthetically offensive. The municipal authorities arranged to pump additional water in excess of the needs of navigation from Lake Michigan to help overcome the river's gross pollution.

The question as to the right of the State of Illinois to divert Lake Michigan waters into the Illinois Waterway has been the subject of extensive litigation. To date, there has been some five decrees and modifications issued by the U.S. Supreme Court involving the State's efforts historically to divert water from Lake Michigan. There have also been subsequent challenges to such court action by other States contiguous to the Great Lakes.

The latest decree limited the permissible flow to an average rate of 3,200 cubic feet per second over a 5-year period, but included domestic pumpage as a portion of this flow (*Wisconsin v. Illinois*, 388 U.S. 426 (decree entered 1967)).

This flow comes from three major sources:

These sources can hopefully be seen on the viewing screen by the members of the committee, Mr. Chairman.

First, dilution water, and that is indicated by the little note at the top where it says North Shore connecting controlling works, to the right.

That is at Wilmette, Ill., about 8 miles north of midtown Chicago and there are control gates there to let some of the Lake Michigan water in.

Second, the Chicago Controlling Works that is in the center of the chart, that is right at Chicago River lock, and that is controlled right in the center of town.

Then, to the far south there you have the O'Brien Controlling Works in the south.

These are actually the three control gates and we sometimes refer to this as dilution water and these are the only means of controlling the diversion out of Lake Michigan.

There are two other sources that make up this total 3,200 cubic feet per second, domestic pumping.

This is uncontrolled and that is the water that is used by the cities to take freshwater in and to use it and to discharge as sanitary waste into the sewer system back into the Sanitary Ship Canal, not going back into Lake Michigan.

Finally, storm water on to the Lake Michigan drainage basin. This is the water that would ordinarily drain into Lake Michigan were it not passing into the ship canal.

Those are three components shown on the slide.

The measurement of the flow excluded any ground water not supplied by Lake Michigan, surface runoff outside the Lake Michigan watershed, domestic pumpage for the States of Indiana and Wisconsin that reaches the canal, and water diverted into Lake Michigan that would not normally enter that lake. The actual allocation of this 3,200 cubic feet per second to the several uses was left up to the State of Illinois, subject to the Federal interest in navigation and pollution control. Flow measurements are made by the State of Illinois and its subdivisions under the general supervision and direction of the Army Corps of Engineers.

The decree became effective on March 1, 1970. However, the State of Illinois was given authority to request a modification when it determines that additional water for domestic purposes is required for the Chicago metropolitan area and is not available for other sources.

INCREASED DIVERSION AT CHICAGO

There are several proposals now pending before Congress which would authorize additional diversion of water from Lake Michigan into the Illinois Waterway. In general, these proposals would authorize an increase in the diversion of water from Lake Michigan down the Illinois Waterway at Chicago from an average of 3,200 cubic feet per second to an average of 10,000 cubic feet per second under the direction and supervision of the Chief of Engineers.

Any increase above 3,200 cubic feet per second would be allowed only when the level of Lake Michigan is above its long-term average monthly level, and when no flooding exists in the waters downstream.

As pointed out, these proposals are not new and the effect of diversion of Lake Michigan water has been examined in the report of the Great Lakes Levels Board. We estimate that increasing the diversion to 10,000 cubic feet per second would lower the level of Lake Michigan nearly 2 inches in 1 year, about 3 inches in 2 years, and a total of about 6 inches if allowed to continue for 15 years. Likewise, the level of Lake Erie would be lowered about two-thirds of these amounts.

The proposal of increased diversion may be best considered from the viewpoint of advantages and disadvantages.

ADVANTAGES

Lowering of the level of Lake Michigan, when high, would reduce erosion and subsequent loss of valuable shore property. Furthermore, there would be a definite flushing action in the upper part of the Illinois Waterway due to the higher quality of Lake Michigan water.

This is certainly desirable from esthetic and public health viewpoints. Such a procedure should not be used, however, as a means of attaining water quality objectives in lieu of adequate source treatment of pollutants under the requirements of the Federal Water Pollution Control Act Amendments of 1972. The Department of the Army defers to the views of the Environmental Protection Agency on this matter of benefits to improved water quality which might be achieved and properly accounted for in enactment of any of these bills.

DISADVANTAGES

A potential disadvantage is possible downstream flooding. However, the present system of coordination among all the divisions and districts of the Army Corps of Engineers, the States, and the regional and local authorities within the Mississippi River watershed is highly developed and responsive. With information and advice from this system, the Chief of Engineers could exercise control to avoid flooding in the Chicago area, along the Illinois Waterway, and in the Mississippi River Valley, even though, in some cases, the travel time for flows to pass from Chicago to downstream locations likely to be affected may be several days. However, storms could possibly develop after flow diversions had been made. Such storms could result in greater flood effects because of the larger flow already in the channel. Therefore, detailed regulating plans, based on existing and anticipated flooding, would have to be developed and followed in order to minimize potential flooding.

Another potential disadvantage would be possible adverse effects on navigation through the Illinois Waterway brought about by increased channel velocities. Adverse effects would generally diminish downstream of Dresden Island although there might continue to be locations where there would be currents that might present some degree of hazards to navigation interests.

CONCLUSION

On balance, it appears that the disadvantages just discussed could be overcome through careful control of the diversion. The advantages from even the small reduction in lake levels should not be minimized. However, the Department of the Army considers that these matters merit further reassessment of any pertinent lake level study data and a more detailed analysis of probably downstream effects prior to the authorization of any increased diversion at Chicago. Particular emphasis should be placed on environmental considerations by EPA, and affected State and local interests.

The Department of the Army has also been informed by the Department of State that the Government of Canada has objected to any increased diversion at Chicago on the grounds that such an increase could adversely affect Canadian interests primarily concerned with the generation of hydroelectric power in the lower lakes. We understand that the Department of State will inform this committee that State has not conceded that an increased diversion at Chicago would result in any adverse impact on Canadian interests or that such an

increase would constitute a violation of any right under existing treaties. We defer to State's recommendation that there should be a detailed analysis of the Canadian allegations prior to any authorization for such an increase.

Although the Department of the Army believes that H.R. 12015, H.R. 12744, and H.R. 13254 might very well prove acceptable from a management resources viewpoint, the Department of the Army does not support the enactment of this legislation until such time that the operational analyses mentioned earlier have been completed and assessed.

Mr. Chairman, this completes my statement.

Mr. JOHNSON. General, I want to commend you on your statement and slides.

I think this points up a very good picture that was well presented by you in reading your statement.

I think all members have a better understanding of the problem.

You were here when the congressional delegation presented their statement.

The present 3,200 cubic feet per second decreed by the Court that you referred to as being contested now in the courts—do you think that Congress could legislate in this field if the Court would accept it as satisfactory that we increase the minimum flow from 3,200 cubic feet per second to 10,000 cubic feet per second.

General BACHUS. Mr. Chairman, this is a difficult question for me to answer as a professional engineering officer in the Corps of Engineers.

This should come from the legalistic field and my understanding from our counsel is that this a matter of jurisdiction for the U.S. Congress and I just do not believe I personally could comment on the eventual outcome or acceptance of such a measure.

I believe this really is more of a legalistic question, sir, if I may defer to judgment of counsel.

Mr. JOHNSON. I realize that you have served on these four international groups dealing with the problem and you have followed all of the court litigation, I presume, because that is part of your responsibility as far as the diversion from the lake is concerned, Lake Michigan is the one we are discussing.

As I understood in your statement, you quoted the State Department as saying this would have no ill effect upon the treaties.

General BACHUS. Yes, sir. I noted that the State Department has not conceded that any such effect would result.

Mr. JOHNSON. We will hear from Mr. Smith later on.

I know he is here and is very well versed in dealing with the Canadian and United States affairs.

General BACHUS. Mr. Chairman, within the context that you have just clarified for me, I appreciate your clarification of the question concerning the acceptability of the legislation. I was thinking more in terms of court acceptance and that sort of thing. But if you are speaking about the Canadian acceptance, my association with the Canadians indicates that we have a very warm and cordial relationship and one of great rapport, and understanding. It must be so when we deal with the control of the lakes. We meet all the time on these

control boards and, of course, on our study boards. I am sure the State Department would be in a better position to formally address this.

It is one of tremendous rapport and tremendous mutual understanding, one for the other and vice versa.

In our dealings most of which are with engineers in the engineering portion of the Canadian Government, with environment groups, and transportation groups most of these are groups that do not deal with high political matters. I frankly feel that State Department might be in a better position to give an answer to that when Mr. Smith testifies.

Mr. JOHNSON. Another matter you spoke about here is the quality of water that comes down the Illinois Waterway.

As I understand you, you said you would not want to use the diversion from the lake to dilute or wash away the pollution in the area of Chicago into the lower areas through the waterway and into the Mississippi.

EPA's standards would have to be met and this would have no effect upon it.

General BACHUS. Mr. Chairman, I would like to clarify that a little bit.

We defer, of course, to the U.S. Environmental Protection Agency concerning the technical cleanup and pollution control and pollution abatement in compliance with the Federal Water Pollution Control Act Amendments of 1972.

Our view is that perhaps analogous to the Potomac River around these large concentrations of population and Chicago is a classic. There is a very marked increase in the pollution as we move from the relatively clean waters of Lake Michigan to an abrupt change as we get into the rather open sewer nature around Chicago as indicated in my statement.

It is within this portion where the greatest number of people live.

Chicago is a beautiful city. It is potentially more beautiful. It is within that context that if we were to flush the river and this does not necessarily mean that we are moving the problem from one place to another, we are increasing the dilution flow.

In our view, while we would refer to the expert guidance of EPA, we would be moving with increased diversion more of the pollutant material and it certainly would move somewhere but it could move with such great dilution as it moves on downstream away from the heavily populated area. It offers such immense esthetic and public health potential because of the increase of dilution flow that we feel it could be a distinct advantage to all, including the people downstream.

Mr. JOHNSON. But under the act, they would have to comply with no discharge.

As far as pollutants are concerned, they could not just dump them in the water and move them downstream. They would have to be cleaned up prior to their disposal in the Illinois Waterway.

General BACHUS. The understanding that we have been given by the local region office of the Environmental Protection Agency having discussed this matter just briefly at the regional level, is that there is no intent to imply that the city of Chicago or the State of Illinois would prolong meeting the water quality objectives but it is strictly

intended that that be clear, if there is a flushing action that it be clear to all that this is not a permanent matter and that as soon as the lakes drop or if there is any eventful act of flooding, the valves may be turned off. So all should continue rapidly meeting water quality objectives without regard to the new legislation.

Mr. JOHNSON. Is there a minimum flow required out of Lake Michigan that will keep the Illinois Waterway alive?

General BACHUS. The flow record, Mr. Chairman, is extremely varied.

We have not identified this minimum flow as we have done in areas where we have great fishing potential, such as we have done in the Northwest. There we have a minimum flow to keep fish alive and that sort of thing, or to keep the stream alive.

I am certain that this is a technical question for which we could find an answer but I do not believe you will find it a problem in that as the population grows. The three components of the flow being as they are, at times of extremely high flow or low flow, the control works that we have in being are adequate to meet the ordinary dilution along with the pumped water for domestic uses, and, of course, as the lakes drop it becomes one of hydrography.

Ten thousand cubic feet per second is about as much as we can get out of Lake Michigan at Chicago there with high water unless we have some channel modification.

Mr. JOHNSON. That would lead to my next question.

How much trouble have you had moving the 3,200 cubic feet per second from the lake down through the waterway and other uses made of the lake?

General BACHUS. Historically, Mr. Chairman, the flows vary again, extremely.

They are erratic.

I am looking at a record here that dates back to early January 1900. We have a flow totaling 1,449 cubic feet per second, about half of what the diversion is now.

I am also looking at the same record and I notice in 1928, in the spring, we got up over 10,000 cubic feet per second, which should alleviate the fears of some concerning flooding. In fact, that was the case through the year 1928 and into the early spring of 1929. Then in the latter part of 1929 over 11,000 cubic feet per second again.

The flow is quite erratic.

We have attempted to watch this control very carefully, this 5-year average, to be sure it does not exceed the 3,200 cubic feet per second, including domestic pumpage.

In these high lake level periods we certainly feel that 10,000 cubic feet per second is a real possibility.

Mr. JOHNSON. You merely ask for additional time to study the handling of the 10,000 cubic feet per second.

That is a lot of water going down the stream. There is no question about that.

I do not know too much about the waterway but do you have the ability to handle that much water? In flood stage, I imagine, you would add considerably to local streams in the Mississippi.

General BACHUS. Mr. Chairman, we are not proposing any long or drawn-out study.

We do have data available, of course, through our normal flood control data gathering procedures.

We are asking for some time to take a good look at it concerning flooding.

To be a little more precise, we are talking about analyzing the downstream effects of flooding and navigation, and again we are not talking about too much time from the Corps' standpoint.

We are also talking about another look at the environmental impact by EPA and the State and local agencies, and the problem that the State Department has flagged. That is the detailed analysis of the Canadian allegation of the increased diversion on hydroelectric power generation.

Again, I respectfully defer to Mr. Smith when he appears before you.

Mr. JOHNSON. Mr. Hanrahan.

Mr. HANRAHAN. Thank you, Mr. Chairman.

General, I appreciate the cooperation that you have given me in trying to solve our local problems in the Third Congressional District in cleaning up the Calumet River.

I am sure you or the Corps have considered the one disadvantage, and that is the flooding downstream. What about the possibility of setting up a watershed project in the event of a possible flooding downstate?

Would this be feasible?

General BACHUS. Mr. Hanrahan, it might, but let me suggest that our initial appraisal of the downstream flooding is, that we are really not concerned about saving additional flooding. Regarding this appraisal, I might review a little data.

In terms of downstream flooding, we have a channel that has a channel design capacity basically of 10,000 cubic feet per second.

We have bankful capacity analysis which indicates, in a most constricted channel reach, a capacity of about 27,500 cubic feet per second. Then we are talking about 10,000 cubic feet per second maximum, so we are really so convinced that even with the advent of stream flooding, that we could not with the control that we now have with our existing control system, do a pretty good job of very carefully working out a regulation plan so we would not overstride the capacity.

The one possible problem is navigation.

When the flow exceeds 15,000 cubic feet per second navigation ceases on the Illinois Waterway. Of course, this has happened in peak flooding times.

Mr. HANRAHAN. That is why you are studying the possibility of expanding the waterway?

General BACHUS. Yes, sir, that is one of the reasons.

What we are saying is, our regulation plan could also take very careful note of the 15,000 cubic feet per second limitation for navigation. The Lockport—Brandon Road section being the most critical reach. We believe we could work out very rapidly a plan that would

not really mean we would have to look to the watershed plan that you suggest.

Right now we do not think we have to go that far.

Mr. HANRAHAN. What about the plan that has been suggested by some for a number of years and also by the metropolitan sanitary district in developing a deep tunnel system during heavy rainfall. In a case such as this, they would be able to capture the water and store it and pump it out during a dry period.

General BACHUS. Yes, sir, as you well know in your district we are working with the metropolitan sanitary district on the underflow system right now.

Undoubtedly, if the system unfolds as it is supposed to, this will offer additional storage capability which will make an impact. But we are still talking about something several years off when we talk about that system.

We are speaking about something here in a brief period and, of course, our lake waters are high right now.

They are about the same as last year for all practical purposes.

We are looking into the future of next year when the water will again go up.

They are already above the long-term average and about next April they will go up again.

I think what we are talking about is probably a short-range potential solution and perhaps a longer range which would include the Chicago underflow plan.

Mr. HANRAHAN. Thank you.

Mr. JOHNSON. The gentleman from Michigan, Mr. Traxler.

Mr. TRAXLER. General, can you tell us how long you are going to take for your downstream effect study and for your environmental impact study?

What period are you talking about?

General BACHUS. We are really talking about something that we would hopefully have ready to go by the time the water comes back up.

That is next April.

We are talking something hopefully 6 months or so.

We are not talking about a prolonged, lengthy study.

We would try to take one more look at it before we make a final commitment on the time but we will try to accelerate the study.

Mr. TRAXLER. I recognize this is asking you to peer into a crystal ball in October of 1974, but what do you think the lake levels are going to do next year?

General BACHUS. Mr. Traxler, that is an excellent question and I will look in the crystal ball. I do that almost every day.

We just had our semiannual meetings with the International Joint Commission, in Ottawa, Canada, a week ago and we were asking ourselves this same question.

In our view with the lake levels being very near the all-time high, down just a little bit in some lakes, we see the potential next spring to be not much better, and not much worse than now. I think that is a fairly accurate appraisal.

It represents the views of my Canadian colleagues as well.

If we have a little bit more rainfall and snow pack than we ordinarily would have, then we might have a little worse situation, but it is not anticipated.

On the other hand, if we continue to have a fairly dry period through the fall and not much snow pack, it could get a little better. But we are looking at probably another year or more of high water.

Mr. TRAXLER. Mr. Chairman, just a couple of more questions.

General, I have heard some statements concerning the importance of the evaporation in reducing lake levels. Have you any information as to what one good sunny July day does?

Can you tell us what effect that has on lake levels?

General BACHUS. Yes, sir.

It has a very significant impact, not so much one hot July day, although it does. But cumulatively, if you have several hot July days, it makes a tremendous impact.

In our most recent summary brochure from the Great Lakes Levels Board, we have a little chart on page 16, Mr. Traxler. I am sure the committee has copies of this and this would indicate just taking, let us say, Lake Michigan, for example, the precipitation on Lake Michigan—and these are reduced to flow quantities as opposed to percentages—and what this shows is that the precipitation, on the Lakes Michigan and Huron basin is about 109,000 cubic feet per second.

The evaporation from the lake is in the neighborhood of 87,000 cubic feet per second. Now, without talking about the other two components, runoff and outflow, what I think is significant here is that evaporation approaches 80 to 85 percent of the total precipitation.

In periods of extremely hot intense weather and intense sunshine, we can expect this level to even approach the same that came in. Therefore you would get a gradual drop in the lakes.

Mr. TRAXLER. One other question.

Can you tell me when the Hudson Bay tributary waters were diverted to Lake Superior and in your opinion what effect that has had on the Great Lakes levels?

General BACHUS. 1940 is the year and I believe, Mr. Traxler, we also have some data on this in our Great Lakes Levels Board Summary Report.

Mr. Traxler, in our summary report, concerning Lake Superior, there is no effect whatsoever because we passed this diversion right through the control works.

On Lakes Michigan and Huron it is $4\frac{1}{2}$ inches, a $4\frac{1}{2}$ -inch effective increase in this case. We are building the lakes up.

Lake Erie is up $2\frac{3}{4}$ inches and then on Lake Ontario, no effect because it is a regulated lake; on Montreal Harbor, about $2\frac{5}{8}$ inches.

In the same chart, Mr. Traxler, we point out the 3,200-cubic-feet-per-second Chicago diversion and that makes about a $2\frac{3}{4}$ -inch change on Lakes Michigan and Huron.

Mr. TRAXLER. Thank you very much.

Mr. JOHNSON. I am wondering out of all of these international groups that are concerned with the Great Lakes, do any of them have anything to do with the shorelines?

What is built adjacent to the lake and what is not is all left to other jurisdictions.

Do you people have any concern about zoning on the lakeshore properties?

General BACHUS. Mr. Chairman, the control of lakeshore property, of course, and zoning is ordinarily, as you know, sir, a State and local responsibility.

In our Great Lakes Levels Board Report, however, one of our main conclusions is that we do need much more intensive zoning if we are ever going to be able to avoid the unfortunate incident of people building right on the shoreline with the knowledge that their beaches are going to erode.

Concerning national controls, we have a very solid system in our country under section 10 of the 1899 Rivers and Harbors Act, where the Secretary of the Army delegates authority to the Chief of Engineers requiring permit applications before any building can take place out into U.S. Federal navigable waters. A permit is required.

Canada does not have quite that same system. It is not quite that extensive or focused on a single agency, but they do have a system.

Building away from the water on shorelands is strictly a local responsibility.

Mr. JOHNSON. How about flood plain zoning?

That is local jurisdiction, too.

Are there any flood plain zonings in and around the lakes as far as the United States is concerned?

General BACHUS. Yes, sir.

In the Coastal Zone Management Act there has been an attempt on the coasts and on the Great Lakes to have a coordinated coastal zone management plan. In the State of Illinois, for example, and in most of the Great Lakes States, Michigan and Indiana, Wisconsin, and Minnesota, most all of these States do have a fairly intensive program to try to impliment these shoreland management acts.

There are some real problems, of course, with coordination between the communities and across State boundaries, but this is pretty well spelled out in the legislation. Of course, we support these types of references 100 percent because it means that this is just that much less that we are going to have this valuable property falling into jeopardy and causing all the problems we now have.

Mr. JOHNSON. Does the staff have any questions?

Mr. TYLER. With respect to the study on the Canadian powerplants, could the Corps do that study, if necessary?

General BACHUS. I believe that we certainly have the capacity to do that study, Mr. Tyler.

You recall, I am sure, from our Great Lakes Levels Board report, conclusion 3 pointed to additional studies required on Lake Ontario and Lake Erie regulation.

Just recently on the U.S. side, at the request of the U.S. Section Chairman, Mr. Herter, International Joint Commission to the Chief of Engineers, we examined more of the control aspects for Lake Erie. It appears that our data bank has examined the question to a degree of shore interests, vis-a-vis navigation and power, and we do have some new data.

There is no doubt that we would need some more data and we have to sit down and analyze what we have now with this specific type of question.

I do not know how much time we are talking about there, either.

Mr. TYLER. But you do consider you have existing authority to undertake such a study?

General BACHUS. As far as the international aspects, we would have a problem.

On the U.S. side, much like we did on the Lake Erie study, we could proceed. But in terms of getting cooperation and participation from the Canadian side, this question might require a little fine tuning before we answer that.

I think we have a reservation on that, Mr. Tyler.

Mr. TYLER. Thank you.

Mr. JOHNSON. We want to thank you again.

I want to apologize again for Congressman Roberts, a very good friend of yours, who is in another committee at this time.

He would have liked to have been here.

I thought he would be back by now.

Seemingly, they are not going to get back and they are having a very heated discussion, I presume, in the Rules Committee.

We do appreciate your being here with us to enlighten us on this problem.

I think you have done a very fine job.

I want to thank you and the people with you, and if the chairman of the full committee and the chairman of the subcommittee need additional information, they will be sure to contact you.

General BACHUS. Yes.

We will respond very promptly, Mr. Chairman, to all the questions and it is our distinct honor and pleasure to appear before your esteemed committee today.

[The following was received for the record:]

(Would you please comment on the points raised by the Metropolitan Sanitary District of Greater Chicago concerning the restrictions in the bills that could cause operational difficulties?)

REPLY RECEIVED FROM GENERAL BACHUS

I would be very happy to comment since the Sanitary District's comments bring out some very important points about the precise wording. The Department of the Army is aware that these bills require some technical modifications before enactment. The fact was not brought out in my statement because the wording of these bills did not enter into our discussion or decision to not support this legislature at this time.

It is our feeling however, that if these bills were to be adopted some changes and clarification would be necessary. First, the instantaneous maximum diversion allowed for in the bills should be greater than 11,000 c.f.s., say 15,000 c.f.s. This change would be necessary because, due to the nature of the diversion and other uncontrolled factors, it would be very difficult, if not impossible, to maintain an average of 10,000 c.f.s. without exceeding an instantaneous discharge of 11,000 c.f.s. The value of 15,000 c.f.s. was chosen because flows greater than this would have adverse effects on navigation.

Second, the meaning of this flow limitation would need clarification. The limitation should be amended to mean that the total diversion, including domestic pumpage and diverted Lake Michigan run-off, would be limited to an instantaneous discharge of 15,000 c.f.s. as far as possible, within the limits of control of the system. In other words, when the total of the three components of the diversion approaches 15,000 c.f.s. the direct diversion would have to be cut back. During periods of high run-off the total flow might exceed 15,000 c.f.s. but, at such times, no direct diversion from Lake Michigan would be allowed.

Third, the bill should be amended to clarify the limitations on the diversion during flood threats downstream and during below average levels on Lake Michigan. We believe it is the intent of the existing proposals that, during these conditions, the instantaneous maximum total diversion, as just previously described, will still apply, but the total diversion shall not exceed an average of 3,200 c.f.s. as prescribed by the existing decree. The total diversion would vary, as it currently does, depending on run-off, but the average would be limited to 3,200 c.f.s. instead of the 10,000 c.f.s. average that would apply when no flooding is threatened and the level of Lake Michigan is above the long term average.

Mr. JOHNSON. Our next witness will be Mr. Rufus Z. Smith, Deputy Assistant Secretary of State for Canadian Affairs.

He is familiar with everything concerning the United States and Canadian situation.

Please identify the people with you, Mr. Smith.

STATEMENT OF RUFUS Z. SMITH, DEPUTY ASSISTANT SECRETARY OF STATE FOR CANADIAN AFFAIRS; ACCOMPANIED BY JOHN CROOK, ESQ., ATTORNEY-ADVISED, OFFICE OF LEGAL ADVISER AND SCOTT GUDGEON

Mr. SMITH. Thank you, Mr. Chairman.

Mr. Chairman, I am Rufus Z. Smith, the Deputy Assistant Secretary of State for Canadian Affairs.

I have with me two colleagues, Mr. John Crook on my left and Mr. Scott Gudgeon on my right. They are both officers from the Legal Division of the Department of State.

Mr. JOHNSON. Very good, Mr. Smith.

I know of your acquaintance with the entire parliamentary groups up there.

We hope we have another one soon. I imagine this will be a subject matter to discuss with our friends from Canada.

Mr. SMITH. Thank you, Mr. Chairman.

I appreciate the opportunity to appear before the committee today to comment on H.R. 12015, regarding the Chicago diversion. My statement will be brief.

Mr. Chairman, the Chicago diversion has been a source of long and continuing concern to the Government of Canada, and I'd like to give you a brief indication of Canada's position through the years concerning proposals to increase the diversion.

Canada has consistently opposed any unilateral increase in the diversion. This position was clearly articulated in a series of diplomatic notes and meetings on the subject throughout the 1950's and 1960's, and was reiterated last year in yet another exchange of diplomatic notes. Rather than attempt to summarize the Canadians position to you, I'd like to quote directly from a diplomatic note which the Government of Canada sent to us in 1959, at a time when other legislation to authorize an increase in the diversion was under consideration.

Every increase in the diversion of water from the Great Lakes watershed inevitably decreases the volume of water remaining in the basin for all purposes. The Government of Canada is opposed to any action which will have the effect of reducing the volume of water in the Great Lakes basin * * *.

The Government of Canada considers that many agreements and understandings between the United States and Canada would be broken if unilateral action were taken to divert additional water from the Great Lakes watershed, and directs attention to the provisions of two treaties in particular:

“(a) The Boundary Waters Treaty of 1909—the applicability of either article II paragraph 3, or article III of this treaty depends upon the interpretation of physical facts.

If Lake Michigan physically flows into the boundary water, Lake Huron, article II preserves to Canada the right to object to such a diversion which would be productive of material injury to the navigation interests in Canadian waters.

If, as has been asserted * * * article III of the treaty applies, no further diversion shall be made without the approval of the International Joint Commission.

The Canadian note went on, Mr. Chairman, to suggest that an increase in the rate of the diversion would interfere with Canada's rights, under our treaties and international agreements, to the use of the waters of the Great Lakes for power generation at Niagara and in the international portion of the St. Lawrence, and might interfere with Canadian power generation in the Canadian portion of the St. Lawrence, particularly at the great Quebec Hydro Plant at Beauharnois.

Mr. Chairman, we have not accepted the legal arguments advanced in this note, but I think it illustrates the importance the Canadian Government attaches to the question. The Canadians are concerned that a unilateral diversion on our part would interfere with their rights to the use of water for power generation in the major hydroelectric plants at Niagara and in the St. Lawrence. They are also concerned that, at least in lower water periods, such a diversion would interfere with Canadian rights to unimpeded navigation.

Now, as we all know, Mr. Chairman, the situation on the Great Lakes is now somewhat different from what it was in 1959 when the note I quoted from was passed to us. Both the United States and Canada are now confronted with a situation of extremely high water levels; our interest is perhaps more in getting water out of the Great Lakes rather than in storing it to assure its availability for navigation and power generation.

In light of this, we sent a formal note to the Government of Canada in April of 1973, inquiring as to Canada's position regarding an increase in the diversion which would be temporary and would be undertaken for the purpose of alleviating mutually damaging high water conditions. This concept is similar to the approach taken in H.R. 12015.

The Canadian reply emphasized that the matter of an increased diversion had received very careful consideration in light of the mutually damaging high water conditions. Nevertheless, the Canadian Government reluctantly—and the note used the word “reluctantly”—concluded that it was unable to alter its longstanding position even in regard to temporary diversions undertaken to lower high lake levels.

And so, Mr. Chairman, we continue to have a potential for difficulty with the Canadians regarding any legislation which would authorize a unilateral increase in the rate of the Chicago diversion. As I've noted, the Canadians have advanced—and continue to adhere to—a number of legal arguments that an increase might place the United States in violation of its international agreements with Canada. While we are not prepared to concede any of these arguments, we cannot dismiss them out of hand.

Accordingly, I suggest that it would be very useful, Mr. Chairman, for the Corps of Engineers, or some other appropriate agency, to undertake a study of the effects of possible legislation such as H.R. 12015 on Canadian navigation and power interests. I think that if we could demonstrate that such legislation would not have an adverse impact on Canadian rights and interests, we would go a long way toward averting a potentially serious problem in our relations with Canada.

The CHAIRMAN. Mr. Smith, I want to thank you, and I apologize.

We have had some extraordinary hearings before the Rules Committee or I would have been here all the way through.

I understand the Corps of Engineers people made an excellent statement.

We will carefully read their testimony and staff will be directed to read all testimony.

We will need particularly further discussion and guidance and help from you and your Department and any legal specialists that you know, and also Assistant Secretary Christian Herter.

We want to work with the Canadians and we always have.

We have done very well with the St. Lawrence Seaway, with the power projects and pollution matters, now.

In respect to their point of view we want to make clear so in your contacts with your Canadian counterparts and we hope with our legislative counterparts, we respect their wishes and we want their advice, and we want to work out a joint solution.

As I know from our meeting there earlier this year, the Canadians have suffered considerable damage on their shores and perhaps not only Lake Erie as Mr. Mosher pointed out, but they showed slides of rather severe erosion and damage to public property, park lands, buildings and structures and some summer homes severely damaged on the north shore of Ontario.

Mr. SMITH. Certainly there has been damage.

There is no question about that, Mr. Chairman.

The CHAIRMAN. I would like to have your comments on Mr. Mosher's suggestion, No. 1 out of his five, in which he states:

We must press for a new treaty with Canada which will provide more equity in recognizing the interests of all the Great Lakes as one interconnected system, and which recognizes the rights and needs of shore property owners equally with other interests.

That would imply, also, the interests of Canada, be all equal.

Do you think there is any possibility of that undertaking?

Mr. SMITH. I think it is within the realm of possibility.

The CHAIRMAN. As Mr. Mosher further points out, the present treaty provides for water level controls only on Lake Superior and Lake Ontario, not in the other Great Lakes.

Mr. SMITH. It is a very complex question, Mr. Chairman, and I am reluctant to try to give an authoritative view just off the cuff.

The CHAIRMAN. I understand.

Mr. SMITH. I think it would require some careful study, but certainly a number of people through the years have suggested that perhaps the treaty needs to be revised or updated.

It is dated back to 1909.

Very often, however, people have put forth suggestions and when they looked into it further concluded that we probably could not improve it.

My own mind is not clear as to what I think on that score but I think it is worth some study.

I do not think, however, Mr. Chairman, that a total revision of the 1909 treaty is the answer to the immediate problems that we now face.

The CHAIRMAN. I was thinking in the long term.

Of course, immediate steps can be taken and one is the proposed diversion in the current legislation.

Mr. Smith, would you explain a little further and in more detail your position of not conceding that the diversion would adversely affect Canada?

Mr. SMITH. Well, we have never conceded, first of all, that the treaty of 1909 prohibits us from taking action of the kind proposed with regard to Lake Michigan.

It is entirely within our jurisdiction.

Now, this is the basic legal point that the Canadians contest and have consistently so we have a different view.

While not conceding that they are right, nevertheless, I think prudence as well as the state of relations between the two countries requires us to give very, very careful thought to their concerns.

Now, their concerns over diversion proposals in the past have centered primarily on what they foresee as damage to their power and navigational interests.

I think it does behoove us to take a careful look at this and it is this kind of thing that I have in mind when I endorse the proposal for study by the Corps of Engineers or some other appropriate agency.

If we can come up with persuasive evidence or documentation that indeed the damages are not what might be feared or would not be or that there are offsetting benefits as well, then we at least have a chance, I suppose, of enlisting Canadian cooperation and concurrence.

We might find that our study would remain unpersuasive to them, but it behooves us to make the effort.

The CHAIRMAN. As you stated Mr. Smith:

Accordingly, I suggest it would be very useful for the Corps of Engineers or some other appropriate agency to undertake a study of the possible legislation such as H.R. 12015 on Canadian navigation and power interests.

We do have damaging erosion and water damage now which both parties recognize so it will be not necessary to have detailed reports on their damage.

I am not up to date. I thought the Corps of Engineers had information or information was available as to, let us say, both Canadian navigation and particularly powerplants, how they would be affected by the diversion of water.

Mr. SMITH. There are certainly data available but whether it is in the form to be brought together into a real analysis, I gather not.

The CHAIRMAN. We will have the staff look into that and see what legislation or committee action might be necessary to do that.

I do think it ought to be done and I agree with you.

I would like to indicate my attitude, obviously, to some degree is that no matter what you fix the water levels at, there is going to be

some negative impact someplace, but the main objective here is to spread out the negative and disabling effects of high levels as much as possible to minimize damage to both shore property and navigation.

I would like to know how much power is lost by a 1-to-3-inch decrease in water levels and measure that against the reduction to shore property; it could be hundreds of millions of dollars versus a few million.

Those facts should be gotten together by the staff so we may in the hope of having a better authoritative and factual basis for coming to an agreement among the many States on the southern shores of the Great Lakes.

Once we do that and present a unified case through whatever agency, the International Joint Commission or your offices, through whatever communication you have with Canada, and then we can see if we cannot come to some agreement with them.

Does something like that make sense to you?

Mr. SMITH. Indeed it does.

The CHAIRMAN. Staff will be directed to begin the fact gathering and recommendations as to what action we can or should take and we will certainly be in continual contact with the Corps and will keep you informed.

I do agree with Mr. Mosher as he stated it is obvious that some way we have to begin to do something about this.

This diversion, while it is temporary, may not help, but it is something I consider better than nothing.

Are there any questions?

Mr. Edelman is recognized.

Mr. EDELMAN. A few background questions.

First, with respect to the investigation that you are suggesting, I would assume any kind of investigation of this nature would require the cooperation of Canada.

Mr. SMITH. Well, that is a real question, sir.

Mr. EDELMAN. It would appear to me to be impossible to ascertain the type of information we would need concerning the loss of power or any other aspects without directly addressing these questions to Canada.

Mr. SMITH. Certainly, if we had Canadian cooperation in such a study, it would be a better study, I would assume.

I think probably a lot of data is already available strictly within the United States.

I would anticipate that the Canadian Government would not agree to join with us in a joint study. That is my problem on this.

I think they would be reluctant for fear that it is, in a sense, a compromise of their basic position.

I would prefer to see us develop what we can from our own present resources. Maybe in the process of doing that, whoever is doing it would need to go to the Canadian Government or some parts of the Canadian Government with certain questions or whatever and try to elicit data.

I just do not want to raise any false hopes that the Canadian Government will greet with enthusiasm any thought of a joint study of this kind.

Mr. EDELMAN. That is the point I was getting at.

It is conceivable the study itself will be considered to be another delaying tactic rather than an honest attempt to resolve the problems that exist now.

The second question we would ask concerns whether the diversion would be subject to the 1909 treaty.

Mr. CROOK. If I could, I would like to respond to that.

We have never conceded, of course, that the Garrison diversion is subject to the Boundary Waters Treaty.

You are familiar with some of the labyrinthine passages in that treaty.

As you know, article 2 was drafted to hedge bets on this particular question, but I think one point has not come through clearly this morning. The point that we are concerned about, that is, the lawyers at the State Department, is that there are agreements other than the Boundary Waters Treaty involved here. The Canadians have asserted a legal opinion on previous occasions that any increase in the diversion would put us in violation of our commitments for an equal apportionment of water for power at Niagara, and that it would place us in violation of our agreements concerning the international portion of the St. Lawrence. They might also suggest the diversion is unlawful under customary principles of international law, at least as practiced by the United States, insofar as it would affect downstream power generation at Montreal.

Now, as Mr. Smith has said in his testimony, Mr. Chairman, the U.S. Government has never conceded the validity of any of these arguments, and we are certainly not going to do so here today.

Mr. Chairman, we do attach some importance to the United States acting in a fashion that is in conformity with its international undertakings. We had conceived of this study not as a delaying tactic, not as a means to study something that everybody already knows, but simply as a device for us to be wholly confident of the relationship between our conduct and our legal obligations.

We would just like to be sure, Mr. Chairman, what the impact of this is going to be. If it turns out there is no impact on the Canadians or there is a minimal impact, then from the standpoint from our Department, we would look at this legislation with a different light.

Mr. EDELMAN. Let me follow through.

The purpose of this investigation then is to make a determination as to whether we are in position where we should be negotiating with the Canadians. However, if the investigation comes back and the recommendation is no because the Canadians interest is not affected as we see it, then we are in the position where we cannot negotiate without establishing a precedent.

Let me go over that again and make the point clear.

If the investigation comes back and says that the Canadian interests are not a factor, then we are in a position because of possibly establishing a precedent that we cannot negotiate with Canada, is that correct?

Mr. CROOK. I see the point you are making, sir.

What we would have might be a tradeoff between the interests of the policy people such as Mr. Smith whose interest is in maintaining a cordial and productive functioning relationship and the legal peo-

ple such as myself who might attach somewhat greater importance to preservation of principles and precedents than might others.

What the outcome of that tradeoff would be, I do not know, sir.

I, personally, would have no great fear of undermining our legal position by negotiations with the Canadians on this subject if we were convinced there was adequate prospect of success.

It is not beyond the mind of man to protect our legal position.

Mr. EDELMAN. That is the key. Where there has been preliminary talks either to or subsequent to the investigation, that would lead to the conclusion that perhaps the Canadians and the United States would come to some agreement notwithstanding the position of the Canadian Government and the United States Government with respect to establishing a precedent.

If that understanding could be reached, then we could go forward or decide exactly what to do.

Mr. CROOK. Sir, if there is a willingness on both sides to see progress along those lines, and if there was a sincere recognition and the conviction of the good faith of both sides, I think it would not be beyond the mind of man to work something out.

The CHAIRMAN. Mr. Crook, you made a very good statement all the way through, getting back to your initial statement about the need for more facts.

When I was in Canada meeting with the technical people, the Canadian membership of the International Joint Water Boundary Commission, I was very impressed with the data and tables and information that they had.

This was far more detailed, far more comprehensive, far more back into history than anything we had, and I checked it with a few other sources, and they seemed to feel that way, too, that the Canadians are far better informed on the Great Lakes and the St. Lawrence Seaway than we were on our side.

I think a study by the Corps of Engineers or an appropriate agency should not take so much time.

We do need more information to see what happens.

For example, this morning we did not have any comparative statement as to the loss of power versus loss of property damage.

That should not take very long to get that kind of information and when we are in a better position we can agree amongst ourselves and we ought to proceed as Mr. Edelman wanted to do, to begin some negotiations and see if we cannot come to some understanding to modify the treaty, bring it up to date in some way or at least come to some kind of agreement where we spread out the benefits as well as the disadvantages of the Great Lakes water level, both high and low.

Mr. TRAXLER. Mr. Chairman, if I may.

Mr. Smith and Mr. Crook, you were apparently here when General Bachus talked to us and discussed the diversion of Hudson Bay tributaries, where the traditional flow into Lake Superior increases the water levels in Lakes Huron and Michigan.

What treaty governed at that time, and permitted them to reverse the flow of those tributaries?

Mr. CROOK. Sir, that diversion is under the control of Ontario Hydro. As I recall it was originally put into effect unilaterally in the late 1930's or at least it was contemplated in the late 1930's.

It was authorized in a 1940 agreement at a time of the national defense emergency in Canada.

There is an executive agreement between the United States and Canada that has been in force for 34 years authorizing this diversion.

I would like to raise a question regarding some of the information that General Backus may have given you.

Now let me say that I am not an engineer. I do not know the numbers involved that precisely, but we have been led to believe, sir, that over the last 2 years in a period of particularly high water levels, Ontario Hydro has shut down or at least very substantially reduced the level of this diversion. Rather than diverting the water into Superior, they have been storing extra water in Lake Nipigon.

We have been under the impression, at least in the period of greatest concern to us, the most recent period of high water levels, 1973 and 1974, and perhaps the latter months of 1972, the diversion has been effectively shut off. Ontario Hydro has been most cooperative in doing so.

General Bachus or his people may have some better information here than we do but we have been under the impression that the diversion has been substantially curtailed during the last 2 years.

Mr. TRAXLER. One other question.

How are disputes resolved under the areas of treaties we have with Canada relating to the Great Lakes?

Mr. CROOK. Well, sir, there have been no disputes, as such.

The International Joint Commission, which is the six-member Commission with Mr. Christian Herter as the U.S. Chairman, has operating jurisdiction over discharges from the two points where the levels of the lakes are controlled, that is, the outflow through the St. Marys River and through the St. Lawrence.

General Bachus indicated to you earlier that he serves as the U.S. Chairman on each of those Boards of Control.

In addition to that forum, sir, there have been direct discussions between the two Governments, Mr. Smith and the officers subordinate to him, and their corresponding Canadian counterparts.

I guess those are really the two institutional means.

Mr. TRAXLER. Thank you.

The CHAIRMAN. If there are no further questions or comments, Mr. Smith, I thank you and your associates for standing by.

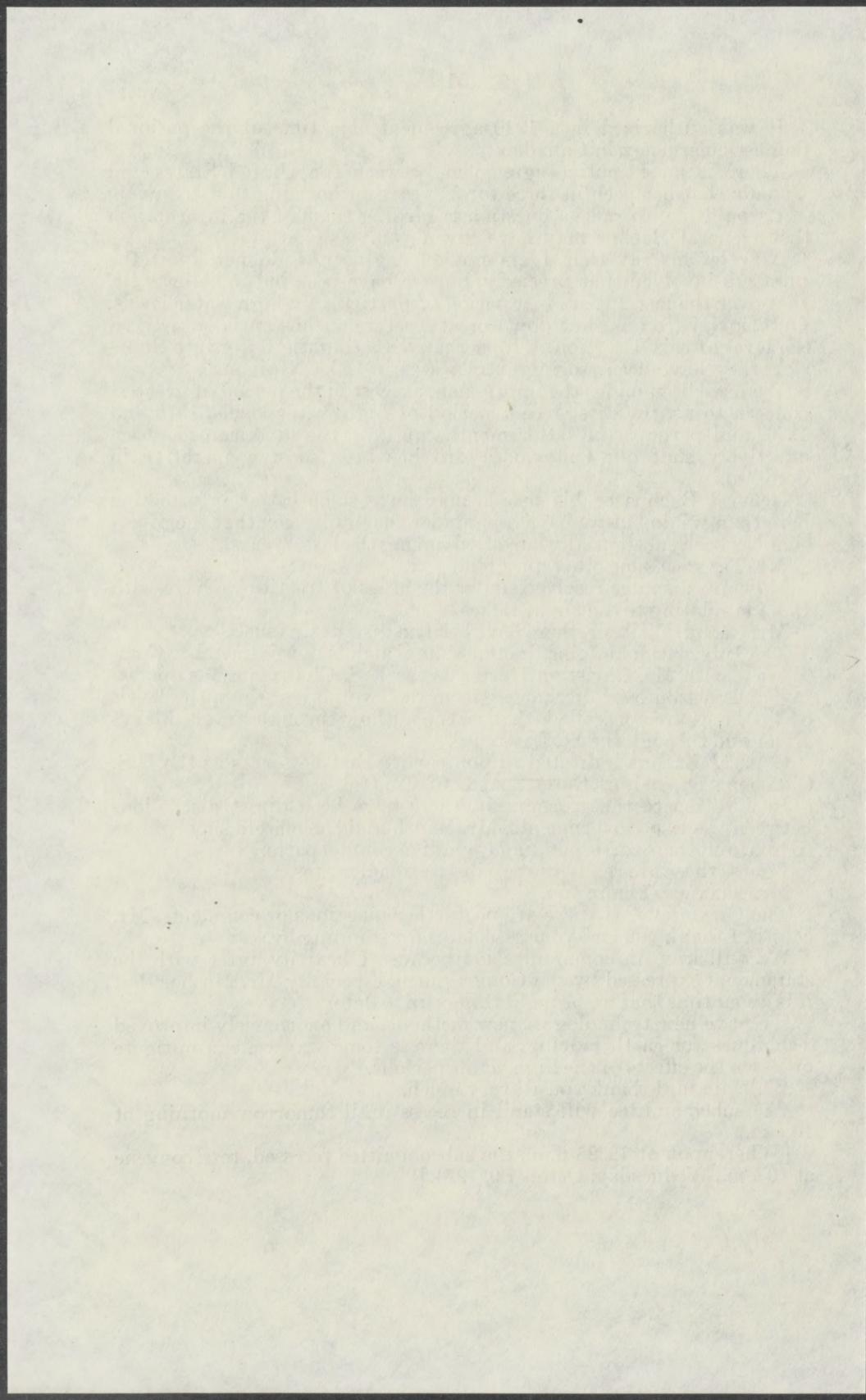
We will keep in communication because I heartily agree with the statements expressed by the Congressmen, especially Mr. Mosher that it is about time that we brought things up to date.

We have new technologies, new methods, and enormously improved techniques for earth moving, and there is some way we can mitigate or lessen the effects of the high water periods.

Well, again, I thank you all very much.

The subcommittee will stand in recess until tomorrow morning at 10 a.m.

[Whereupon at 12:25 p.m., the subcommittee recessed, to reconvene at 10 a.m., Wednesday, October 9, 1974.]



DIVERSION AND WITHDRAWAL OF ADDITIONAL WATER FROM LAKE MICHIGAN INTO THE ILLINOIS WATERWAY

WEDNESDAY, OCTOBER 9, 1974

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON WATER RESOURCES
OF THE COMMITTEE ON PUBLIC WORKS,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10:15 a.m. in room 2167 Rayburn House Office Building, Hon. Ray Roberts (subcommittee chairman) presiding.

Mr. ROBERTS. The subcommittee will be in order.

This morning the Subcommittee on Water Resources resumes its hearings on H.R. 12015, 12744, and 13254, legislation to permit the diversion and withdrawal of additional water from Lake Michigan into the Illinois Waterway.

Yesterday the subcommittee received testimony from the Corps of Engineers, the Department of State, and interested Members of Congress. This morning the subcommittee will conclude its hearings with the remaining witnesses, including additional Members of Congress.

It is our pleasure this morning to have as our first witness our distinguished colleague, the gentleman from Ohio, Congressman Charles Vanik. Will you take the stand and be assured we appreciate your coming over to testify and appreciate having the chance to do business with you.

STATEMENT OF HON. CHARLES A. VANIK, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Mr. VANIK. Thank you. Mr. Chairman, I want to apologize for my delay. As you know, we are beginning the tax program in the Ways and Means Committee this morning and I was shuttling between the two committees.

Mr. Chairman, I appreciate very much this opportunity to appear before the committee on behalf of several bills to increase the amounts of water that may be diverted from the Great Lakes by way of the Illinois Waterway. As a Member of Congress representing a district with a boundary on Lake Erie, I am especially glad to have the chance to convey to the committee the experiences and frustrations of my constituents who suffer so severely from the fluctuating water levels of the Great Lakes.

Because we are dealing with multiple factors of rainfall and evaporation, connecting channel shapes and sizes, domestic use and con-

sumption, and a geographical area of well over 100,000 square miles, problems are escalated into complex and variable situations that seem to defy human solution.

As the Corps of Engineers has already testified, increasing the outflow of water through the Chicago diversion will not end the Great Lakes current high water problems. It would, however, bring some small measure of relief, on the order of several inches, to 40 million Canadians and Americans who live in the now flood-stage Great Lakes basin.

Although several inches may seem inconsequential to someone not from the Great Lakes, I assure you it is not. With Lake Erie 22 inches over its long-term average at the end of August, the thousands of home and property owners that reside along its shores, both Canadian and American, are anxious for even the smallest decrease in the unprecedented high water levels. Even 1 inch can help slow the relentless erosion damages that occur daily all around the Great Lakes.

But is this shoreline damage really great enough for us to consider this small increase in outflow diversion?

The disastrous fall storm of 1972 caused \$22 million in damage in my State of Ohio alone—and even this was concentrated in only several counties in the southwestern end of the Lake Erie basin.

Since then, my area has suffered a steady, day in, day out loss that must, by now, add up to millions of dollars of additional damage.

In addition, Mr. Chairman, millions of dollars of private and public money is spent on programs to halt the constant shortline erosion that the exceedingly high waters bring.

Your committee has heard a great deal of testimony on the need for breakwalls, revetments, coffer dams, and the like—all designed to prevent the fury of the lakes from reaching the shores. Private citizens often spend thousands of dollars apiece—and I know that every Great Lakes Congressman has received desperate letters from these citizens—in what usually turn out to be useless attempts to save their land and homes.

Railroad ties, poured concrete, truckloads of broken cement, and sandbags have all proven to be, at best, only short-term deterrents to the wrath of storm-driven high water.

This continuing toll of shoreline damage to public and private property makes it painfully clear that we cannot allow the situation to go on untreated. Although H.R. 12015 and the bills related to it will not end shoreline damage, it can start the way toward at least a decrease of that damage.

The authority of the Congress to legislate such an increased Great Lakes diversion is not at question. Our distinguished colleague from Michigan, Mr. O'Hara, yesterday discussed the history of the Chicago diversion and very adequately explained the very clear language of the last Supreme Court decision which bears on the case. It is clear that this legislation is within the purview of the Congress.

The bill itself, Mr. Chairman, is careful to provide for special contingencies that may arise—it contains a variable and responsive formula that the Chief of Engineers will apply to regulation so that the diversions will not exacerbate possible low water levels on the lakes,

nor will any increased diversion through the Chicago Canal be allowed when conditions downstream, in the Illinois Waterway and the Mississippi River, are at flood stage.

The Corps has already testified that the channel of the diversion has previously withstood water flows of the maximum allowed under this legislation.

The great beauty of this bill, Mr. Chairman, is that there is no appreciable cost to the American public. While dams and floodgates and other regulatory controls would cost hundreds of millions of dollars, this legislation can make use of existing facilities at no cost to make at least a small dent in today's tremendously high water levels.

Obviously, one of the big obstacles to this legislation has been the resistance of the Canadians to any diversion of water from the Great Lakes. Presumably, they are concerned that one the floodgates are opened and the precedent is set, they will never be closed, even during normal and low water periods. The legislation, however, would be self-regulating and would prohibit diversions at times when the water is needed in the lakes.

Mr. Chairman, we Americans and Canadians talk a lot about what good neighbors we are. We brag about our unique and nearly unsupervised 3,000 mile border. But I think we should look a little harder at the facts.

Instead of talking a lot together, we need to work together better. In many ways, our level of cooperation on the Great Lakes is deplorable.

We have just had another Great Lakes pilots' dispute which held up ship traffic on the lakes—largely because the two nations have a different system of pilot reimbursement.

I have frequently complained that the administration was holding up progress in stopping pollution on the Great Lakes. I have pointed out that impoundments and inadequate appropriations have even threatened the ability of the United States to meet the deadlines established in the Great Lakes Water Quality Agreement signed in Ottawa in April 1972.

But at least the United States is trying to construct consistently high-quality treatment plants. As the International Joint Commission's report of this past April notes, there is a big difference between American and Canadian definitions of adequate treatment.

The two definitions of adequate treatment result from different approaches to the control of pollution of waterways in each country. Canada requires that the treatment of waste discharged to the waterways be adequate to prevent pollution of individual receiving streams. This could be primary, secondary or advanced treatment according to the effects on water quality in each case.

The United States, on the other hand, requires a minimum of secondary treatment. This approach has been strengthened by the 1972 Water Pollution Control Act which stated:

"It is the national goal that the discharge of pollutants into navigable waters be eliminated by 1975. * * *"

In another area, the two nations do not agree on what does and does not endanger water quality. For example, several years ago our Surgeon General banned the use of NTA—a chemical which was to be used

in detergents—because it might be carcinogenic. Canadian health authorities have found nothing wrong and have permitted the use of NTA.

While this particular item is quite small and does not constitute a danger to, say, the drinking water of the city of Cleveland, it is another sign of the failure of the two Governments to cooperate on Great Lakes issues.

Because of my concern about what the Canadians are dumping into the Great Lakes, I plan to offer an amendment to the Safe Drinking Water Act to encourage international cooperation in setting drinking water standards.

While the bills before you deal with Lake Michigan, which is totally within U.S. boundaries and really not subject to the 1909 treaty, the Canadians have objected to diversions because outflows from Lake Michigan affect the water levels of the lower lakes.

But, unexplainably, they have taken a different position on international inspection of the Canadian reaches of the St. Lawrence Seaway when the International Joint Commission's study teams hoped to include it in their comprehensive water levels report. This is certainly inequitable.

The Canadians have felt free to take unilateral actions on waterways totally within their jurisdiction. The Welland Canal was closed during the winter of 1972—one of the worst possible winters to close the canal—after almost no consultation or notice to the United States. When they closed the Welland Canal it had the effect of backing up water on Lake Erie, and a part of our damage in 1972 could have been caused by the containment of water by the Welland.

It is not enough for our two countries to speak grandly of our neighbors the Canadians or our brothers to the south. We must put this supposed fraternity to work at solving American and Canadian problems.

Instead of simply refusing to consider the enormous problems that the United States faces with high water level erosion, Canadians must be willing to come to a middle ground—just as our country must be willing to do on other problems of interest to Canada. Instead of willingness to examine with the United States any other measure which might be taken to control water levels, why could not Canada at least understand the need for a test of a Chicago diversion plan?

In view of these past actions on the Canadian side, I believe that we need to negotiate a new, more comprehensive and effective Great Lakes treaty. I believe that we should proceed to enact this diversion legislation, while inviting the Canadians to negotiate a new Boundary Waters Treaty.

We may want to provide that the American decision to proceed with the diversion can be considered a negotiable issue in any future treaty—just as we may want to negotiate items such as the Ogoki, definitions of water quality, and drinking water safety.

Thank you, Mr. Chairman.

Mr. ROBERTS. Thank you very much.

Mr. VANIK. I have deleted some material in my text.

Mr. ROBERTS. Without objection, your full statement will appear at this point.

[Statement referred to follows:]

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THE STATE OF OHIO

Mr. Chairman, members of the committee: I appreciate very much this opportunity to testify before the committee on behalf of the several bills to increase the amounts of water that may be diverted from the Great Lakes by way of the Illinois Waterway. As a Member of Congress representing a district with a boundary on Lake Erie, I am especially glad to have the chance to convey to the committee the experiences and frustrations of my constituents who suffer so severely from the fluctuating water levels of the Great Lakes.

Because we are dealing with multiple factors of rainfall and evaporation, connecting channel shapes and sizes, domestic use and consumption, and a geographical area of well over 100,000 square miles, problems are escalated into complex and variable situations that seem to defy human solution. As the Corps of Engineers has already testified, increasing the outflow of water through the Chicago diversion will not end the Great Lakes current high water problems. It would, however, bring some small measure of relief, on the order of several inches, to 40 million Canadians and Americans who live in the now flood-stage Great Lakes basin.

Although several inches may seem inconsequential to someone not from the Great Lakes, I assure you it is not. With Lake Erie 22 inches over its long-term average at the end of August, the thousands of home and property owners that reside along its shores, both Canadian and American, are anxious for even the smallest decrease in the unprecedented high water levels. Even 1 inch can help slow the relentless erosion damages that occur daily all around the Great Lakes.

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The disastrous fall storm of 1972 caused \$22 million in damage in my State of Ohio alone—and even this was concentrated in only several counties in the southwestern end of the Lake Erie basin. Since then, my area has suffered a steady, day-in, day-out loss that must, by now, add up to millions of dollars of additional damage.

Mayor Richard Daley testified before this committee in April of 1973 that another devastating storm over the Great Lakes that spring caused \$12 million in damage to the Chicago area alone.

The second highest water levels in history were in a disastrous year that began in the spring of 1951. Damage estimates for that period amounted to \$61 million according to the National Shoreline Study. The Corps of Engineers estimates that a recurrence of similar storms in the same Great Lakes shoreline region would cause a minimum of \$120 million in property damage. This figure does not include consideration of the development that has occurred on the shoreline since the end of 1952.

In addition, Mr. Chairman, millions of dollars of private and public money is spent on programs to halt the constant shoreline erosion that the exceedingly high waters bring. Your committee has heard a great deal of testimony on the need for breakwalls, revetments, coffer dams, and the like—all designed to prevent the fury of the lakes from reaching the shores. Private citizens often spend thousands of dollars apiece—and I know that every Great Lakes Congressman has received desperate letters from these citizens—in what usually turn out to be useless attempts to save their land and homes. Railroad ties, poured concrete, truckloads of broken cement, and sandbags have all proven to be, at best, only short term deterrents to the wrath of storm-driven high water.

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Obviously, one of the big obstacles to this legislation has been the resistance of the Canadians to any diversion of water from the Great Lakes. Presumably, they are concerned that once the "floodgates" are opened and the precedent is set, they will never be closed, even during normal and low water periods. The legislation, however, would be self-regulating and would prohibit diversions at times when the water is needed in the lakes.

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The two definitions of adequate treatment result from different approaches to the control of pollution of waterways in each country. Canada requires that the treatment of waste discharged to the waterways be adequate to prevent pollution of individual receiving streams. This could be primary, secondary or advanced treatment according to the effects on water quality in each case.

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In another area, the two nations do not agree on what does and does not endanger water quality. For example, several years ago our Surgeon General banned the use of NTA—a chemical which was to be used in detergents—because it might be carcinogenic. Canadian health authorities have found nothing wrong and have permitted the use of NTA. While this particular item is quite small and does not constitute a danger to, say, the drinking water of the city of Cleveland, it is another sign of the failure of the two Governments to cooperate on Great Lakes issues. A recent report prepared by the city of Cleveland and a number of Cleveland area universities raises very serious questions about the quality of drinking water in my area. In one series of tests, the study found that:

The results do present the fact that although the water is bacteriologically safe, it is not free from objectional and possibly injurious material.

Because of my concern about what the Canadians are dumping into the Great Lakes, I plan to offer an amendment to the Safe Drinking Water Act to encourage international cooperation in setting drinking water standards.

While the bills before you deal with Lake Michigan, which is totally within U.S. boundaries and really not subject to the 1909 treaty, the Canadians have objected to diversions because outflows from Lake Michigan affect the water levels of the lower lakes. But, unexplainably, they have taken a different position on international inspection of the Canadian reaches of the St. Lawrence Seaway when the International Joint Commission's study teams hoped to include it in their comprehensive water levels report. This is certainly inequitable. The Canadians have felt free to take unilateral actions on waterways totally within their jurisdiction. The Welland Canal was closed during the winter of 1972—one of

the worst possible winters to close the canal—after almost no consultation or notice to the United States. Decades ago, the Canadians unilaterally established the Ogoki diversion into Lake Superior.

It is not enough for our two countries to speak grandly of “our neighbors the Canadians” or our “Brothers to the South.” We must put this supposed fraternity to work at solving American and Canadian problems. Instead of simply refusing to consider the enormous problems that the United States faces with high water level erosion, Canadians must be willing to come to a middle ground—just as our country must be willing to do on other problems of interest to Canada. Instead of willingness “to examine with the United States any other measure which might be taken” to control water levels, why could not Canada at least understand the need for a test of a Chicago diversion plan?

In view of these past actions on the Canadian side, I believe that we need to negotiate a new, more comprehensive and effective Great Lakes treaty. I believe that we should proceed to enact this diversion legislation, while inviting the Canadians to negotiate a new Boundary Waters Treaty. We may want to provide that the American decision to proceed with the diversion can be considered a negotiable issue in any future treaty—just as we may want to negotiate items such as the Ogoki, definitions of water quality, and drinking water safety.

Mr. ROBERTS. Let me congratulate the gentleman on such a fine statement and a great summary of the problems and recommendations. It is always good to have you.

Mr. VANIK. Mr. Chairman, I know the awareness of the gentleman from Texas on the water problem. I might say that I am contemplating a visit to your State later next month, and one of the really wonderful things that I see achieved in your State is the containment of water and the development of water resources.

I remember once having a discussion on an oil question with one of the Senators from Oklahoma who talked about oil of the Texas-Oklahoma area and water of the Great Lakes. We are talking about a tradeoff. I think that providence in that situation has done a great deal to increase the useful value of your fine State. And here we have a situation where an excess of water is contributing to a reduction of the productivity of our State, of its value, and of its usefulness because of the increasingly large size of the flood plain which is extending further because of the high level waters of the Great Lakes, which seem to be almost a constant problem.

Mr. ROBERTS. While you are there, I hope you will see some of the Great Plains area. We are undergoing a terrific loss of water. We are unable to produce the food we might because we do not have water. Our water table is so low we cannot pump the water, and sooner or later we are going to have to take some of that water somewhere and put it in the great western area, if not in Texas, some of the other areas. If the Romans could do it 2,000 years ago, and some of those aqueducts are still standing—I know you have seen them on the African plain—we certainly ought to be able to do it with our machinery and ability and engineering knowhow.

Mr. VANIK. Mr. Chairman, as you know, one of my colleagues, Mr. Kerwin, was a great advocate of developing great resources in the country. I have come over the years to become a strong supporter of the program of increasing the resources of the land by distributing its energy, by distributing its raw materials, and I quite agree that we have got to maintain adequate programs to insure adequate water supplies when we try to control connected waters in other areas.

Mr. ROBERTS. Off the record.

[Discussion off the record.]

Mr. ROBERTS. Next we hear from Senator Robert W. Mitchler, State senator, State of Illinois.

Mr. Mitchler, we are pleased to have you before the subcommittee.

STATEMENT OF HON. ROBERT W. MITCHLER, CHAIRMAN, WATER POLLUTION AND WATER RESOURCES COMMISSION, STATE OF ILLINOIS; ACCOMPANIED BY JOHN HENRY KLEINE, EXECUTIVE SECRETARY; AND MORRIS FELDMAN, CHICAGO DISTRICT WATERWAY ASSOCIATION

Mr. MITCHLER. Thank you, Mr. Chairman. My name is Senator Robert W. Mitchler. I am the chairman of the Illinois Water Pollution and Water Resources Commission. This is a legislative commission in the State of Illinois. Its membership is 16 in number. The appointments are made by the majority and minority leadership of both the house and the senate. We have both house members, senate members and public members.

Our responsibility is, as I term it as chairman, to serve as the watchdog on water quality and water resources in our State of Illinois.

The matter of diversion of water from Lake Michigan or the use of the water from that very fine lake for the people of the State of Illinois has been a major subject of our commission for many years. The commission was originated in 1965.

We did not know that we could be here because as vice chairman of the Illinois Commission on Atomic Energy, I was committed to be in Springfield for 2 days of hearings on powerplant siting, which really correlates in a way with our water pollution and water resources commission.

Our commission has already testified before this committee supporting Congressman Dan Rostenkowski's legislation that was submitted earlier for increase in the diversion of water from Lake Michigan. We are in general agreement with Congressman O'Hara's bill. I might say also that Illinois has had a distinguished gentleman from our State appear before your committee, Mayor Richard Daley of Chicago, and although at times because of geographical makeup of our State, I am not in full agreement with him, I certainly am very proud of the work that he has done with the city of Chicago as it relates to Lake Michigan.

In the city of Chicago, in the borders, 80 percent of the shoreline of Lake Michigan is open to the public. I think that is something that we should be aware of, whereas from the northern limits of the city of Chicago up to the Wisconsin border, the top that is in the rest of the State, only about 20 percent has public access. That speaks very well for the mayor and his attitude toward Lake Michigan.

The mayor is also interested in having diversion of Lake Michigan water when needed, not only for the city of Chicago, but also we recognize that is needed for what we call the tree towns, suburbs, and possibly future use for the health and welfare of the people.

As you mentioned, Mr. Roberts, about the need for the farming, I think that we take too lightly the value of water and the need that we have. To many of us in this country, just turn on the faucet, and

we have good clean fresh water, either hot or cold. And you take it too lightly that it is such a precious commodity. One of the big benefits in using Lake Michigan water and increasing the diversion would be the west suburbs, which are experiencing a sharp drop in the water tables, to have sufficient water for the growing population.

The northeastern section of the State of Illinois is the rapid growth area.

This is pointed out by the fact that there is a general decrease in the enrollment in our elementary and secondary school systems in Illinois, in every place but the northeastern section where it is experiencing about an 18- to 22-percent increase. So you see there is going to be a great need for more water for the people.

Another benefit for the water quality would be the Illinois River system. We are going to supply your committee with charts of the inland waterway, and particularly the Chicago district waterway area.

I have with me today Mr. Morris Feldman, who is vice chairman of the Chicago District Waterway Association and also one of the program directors.

I believe we should give careful consideration to the diversion of Lake Michigan water to our inland waterway areas.

Now what this would do, first of all it would provide a constant and steady flow of good, clean water in our waterways for the shipping. I know down at Pekin and Peoria we hit the greatest opposition to any legislation that would provide diversion of water from Lake Michigan into our waterways. They fear flooding because they have experienced some very tragic floods in those areas.

But as I left Illinois yesterday, I was told that the shipping in the Pekin area and Peoria area, in the middle of our State, is experiencing difficulty because of the low water table in the waterways, the Illinois River. So in addition to providing a level of water, also the quality of water would be increased when you bring in good, clean, fresh water from Lake Michigan.

I would like to point out that we are having hearings in our State. We had Illinois coal 1 and Illinois coal 2. Our water pollution commission held 2 days of hearings in Southern Illinois University in relation to coal gasification. This is a process that Illinois is working on very closely, seeking to cooperate with the Federal Government, and projecting this new design of coal gasification. That is taking the coal of which Illinois has a tremendous supply, and converting it into natural gas.

This needs the hydrogen out of water. A coal gasification plant in Illinois would require as much water per day as a town of 700,000 people. In southern Illinois when we projected this to them, we said how would you like a city of 700,000 population dumped here within a matter of 6 months to a year, and knowing that that amount of water would be required? Southern Illinois has some very fine lakes we have constructed through the Army Corps of Engineers, but these too find a low table and certainly we must look to our large bodies of fresh water because in coal gasification not only do you need an abundance of water, but you need good quality water.

Now, if you in your wisdom feel that coal gasification is one of the answers in solving our energy problems, then Illinois must have the

opportunity of tapping the Great Lakes reservoir. Increased diversion is estimated to cause less than an inch lowering of the lake's water level. We are not going to make Lake Michigan dry by any means.

I believe that we in Illinois speaking from the expertise that we have developed in our commission, can say that Canada, our good neighbor to the north, has an abundance of water. The Great Lakes are filled. They have much water. We in Illinois, and I know many of the other States, are going to look to these sources of supply of good, clean water that we may have it for our future use and future needs.

Before closing, I would like to introduce the gentleman to my left, former State representative in the Illinois General Assembly, Mr. John Henry Kleine. We are so fortunate to have him serve as our executive secretary with the water pollution and water resources commission.

Mr. Chairman, I appreciate very much being able to summarize these prepared statements that we are submitting to you with the charts.

We come here from Illinois to offer our hand of friendship and in cooperative effort to look at diversion of water from Lake Michigan. It is not something that is going to flood everybody out in all waters of the State, but properly controlled through proper Federal and State agencies working together I believe that future generations can benefit even more than they have in the past from this great body of good, clean, freshwater that we have in Lake Michigan.

Mr. ROBERTS. Thank you, Senator. It is nice to have you. I was a little disappointed that you did not specifically point out one need for that water. I flew by helicopter up and down that waterway you were talking about, going through the city of Chicago, and it is an open cesspool if I ever saw one. They can certainly use some of that to flush out some of that down in the river. I think we ought to be doing it, and I appreciate very much your interest in this problem as well as the lake problems. It is nice to have you with us.

Mr. MITCHLER. Thank you, Mr. Chairman. Clarence Klassen—I know you are familiar with him—he always said dilution is not the solution to pollution. But I think it helps a great deal.

Mr. ROBERTS. You bet. Thank you, gentlemen, very much.

We are delighted to have our colleague, Mr. Rostenkowski, the author of one of the major pieces of the legislation. Congressman Dan Rostenkowski of Chicago, it is nice to have you with us.

STATEMENT OF HON. DAN ROSTENKOWSKI, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. ROSTENKOWSKI. Thank you very much. You know we have problems in the Great Lakes area, and I am coming here merely, Mr. Chairman, to ask permission that Mayor Daley, who has testified on this legislation in the past, be permitted to again extend his remarks into the record and spread them on the record. He is sorry that he cannot be here this morning, but he has asked me to ask you for this permission.

I certainly appreciate your courtesy. I know this great Committee on Public Works has as I understand it since last evening's vote,

become even a greater committee. I am hoping that this legislation will be considered favorably, and as early as possible in that we will have a bill that will help alleviate the myriad of problems we have in the Great Lakes area.

Mr. Chairman, as you know, I have long been interested in the problems of the Midwest's greatest natural resource, the Great Lakes. In particular, I have been concerned over the present severe lake shore erosion and other problems due to the high water level of all the lakes, Lake Michigan in particular.

The present situation, we are told, is due to abnormally high rainfall and melting snow contributing water to the lakes without adequate evaporation or outflow from the lakes. Because of this, the water level of the lakes has been steadily rising in the past few years. This trend is expected to continue. The resulting severe erosion on the shores of the lake has caused flooding and much wind and wave damage.

I am especially disturbed with the damage the high lake level is causing to the entire lakeshore. In particular, I am concerned with the more than 24 miles of public lakefront in Chicago where the water is damaging public beaches and recreational areas. In addition, much private property is being dissipated all along the shore.

The problem of increased inflow is aggravated by the present restriction on the amount of water permitted to be diverted into the Illinois Waterway at Chicago. The present limit is set by a 1967 Supreme Court decree which was made at a time of low lake water levels and is designed to protect the level of water in the lakes from being excessively depleted. This decree, however, is clearly not relevant to the existing problem. The problem today is not too little water but too much. All parties concerned agree that the lake levels are too high.

While H.R. 13254 would go far in alleviating the present problem, I think it would also answer the objections of the areas surrounding the Illinois waterways and other downstream areas. These areas fear potential problems with floods due to increased flow into the Illinois waterways. By requiring the Chief of the Army Corp of Engineers to survey downstream conditions and possible effects of any change in the flow through the waterways before acting, this bill should prevent any increase of flooding. Indeed, it would benefit these areas more than the present system.

H.R. 13254 would not completely ease the problem of high water in the lakes but it would definitely be a step in the right direction. At the same time, this bill would generate several other benefits in addition to lowering the lake level. An increased water flow through the Chicago River and the Sanitary Ship Canal would improve the quality of the water by "flushing" out the river. With improved water quality, the recreational value of the waterways would be greatly enhanced. Increasing the flow of water would also aid navigation on these waterways which is always hampered by low water levels. Increased water supply could also provide additional water for Illinois' coal gasification projects.

The most significant effect of this bill, of course, is to permit a more rational approach in determining the amount of water diverted from Lake Michigan into the Illinois waterways. Our bill would allow the Chief of Engineers much greater flexibility in meeting the problems of the lakes. Thus, while this bill would not decrease the level of the

lakes when water is needed in the lakes, neither will it cause the lake to be flooded because of artificial and arbitrary controls. Since H.R. 13254 effectively considers all the interests of all the States of the Great Lakes region, I urge its speedy adoption by this committee.

[Mayor Daley's statement follows:]

STATEMENT OF HON. RICHARD J. DALEY, MAYOR, CITY OF CHICAGO, ILL.

Dear Mr. Chairman: I appreciate the opportunity to be able to submit this statement to the Subcommittee on Water Resources on behalf of the three bills—H.R. 12015, H.R. 12744 and H.R. 13254—which would provide for the increased diversion of water at high water levels from Lake Michigan into the Illinois Waterway.

The purpose of the proposed legislation is to reduce the erosion of the Lake Michigan shoreline in Illinois, Indiana, Wisconsin, and Michigan and to improve the quality of water in the Illinois Waterway.

This is a subject on which the mayors of other municipalities along Lake Michigan and a large number of citizens have expressed to me their deep concern.

High water levels have created critical erosion and flooding problems along much of the shoreline of Lake Michigan. In Chicago alone, late in 1972, the rise in water, accompanied by slashing wind and wave action, caused more than \$12 million in damage. The Army Corps of Engineers have predicted that the level of Lake Michigan will continue to be high in 1975 causing continued erosion and flooding.

Because 24 miles of Chicago's 30-mile lakefront are parks, most of the destruction in Chicago has been to property used by the public. This includes the undermining of paved beach areas, washouts of sidewalks, the erosion of seawalls including the one built to protect the internationally known Adler Plantarium, flooding of park lands, the tossing about of huge limestone blocks which had been placed to secure the shoreline, and mile after mile of destruction. All of this critically damaged Chicago park shoreline actually serves, not only the more than 3 million people of Chicago, but additional millions of nearby residents and visitors.

In addition to the destruction of public facilities, however, there has been much destruction to private property in Chicago, and continuing damage is threatened. High water level waves and winds have resulted in the flooding of the ground floors of private residential buildings, including high-rise structures, and adjacent major thoroughfares. Multimillion dollar buildings have been in jeopardy because the high water levels have subjected them to almost continuous battering by waves. At several locations in the Chicago area, major roadways have had to be closed on occasion and are threatened with being washed away by the lake.

The millions of dollars of erosion damage in Chicago is, of course, but a portion of the destruction that has taken place along the Lake Michigan shoreline in Illinois, Indiana, Wisconsin, and Michigan. We are all familiar with the photographs of homes and other buildings either already destroyed or about to be washed away by the lake in Beverly Shores, Ind., St. Joseph, Mich., and numerous other locations. The States and municipalities which border Lake Michigan and the other Great Lakes must turn to the Federal Government for help to alleviate this grave erosion problem.

Many steps must be considered and taken. One of the most significant is the action proposed by the three bills before this subcommittee which would authorize the State of Illinois and the Metropolitan Sanitary District of Greater Chicago, under the direction of the Secretary of the Army, to increase the diversion of water from Lake Michigan into the Illinois Waterway during high water levels from the present 3,200 cubic feet per second to 10,000 cubic feet per second.

This additional controlled diversion would help to reduce the level of Lake Michigan, thereby reducing the amount of shoreline erosion. At the same time this controlled diversion would improve the quality of water in the Illinois Waterway, which includes the Chicago, Des Plaines, and Illinois Rivers.

It is important to note that this increased diversion would be under the direct control and supervision of the Secretary of the Army to safeguard against any flooding from the Illinois Waterway. This matter is of obvious concern to the people who live along this waterway system. It, therefore, must be emphasized

that any increased diversion would take place only when the Secretary of the Army made the determination.

Increased diversion would alleviate seasonable low water problems which sometimes hamper navigation in the Illinois Waterway. It also would improve the water quality of the Chicago River and the sanitary-ship canal so that they might be used for recreational purposes, including boating and fishing, by large numbers of people. The land along the rivers could be beautified with nature-study areas, walk trails, bicycle paths and parks. The ecology of the entire waterway system could be greatly enhanced for the benefit of many people—and the day could come when fishing in the Chicago River could become a pastime enjoyed by everyone.

These bills provide that the authority for the controlled increase would be for a 5-year period. Before the end of this time, the Secretary of the Army would report to the Congress on the results of the diversion.

Increased water diversion from Lake Michigan into the Illinois Waterway should be part of the Federal Government's regulatory plan to avoid high water levels in all the Great Lakes. Water diversion into the Illinois Waterway is not the only action the Federal Government should take to protect the shoreline of Lake Michigan but it is a significant one. It may not greatly lower the level of the lake, but it will lower it and there will be less erosion and destruction.

In 1959 Congress passed a bill to increase the water diversion from Lake Michigan into the Illinois Waterway. Unfortunately, this bill was vetoed. If it had been signed into law, we could have been using the past 15 years to better combat the rising level of Lake Michigan. It is imperative that we do not reject this opportunity which the Federal Government has once again for increased controlled water diversion.

The Great Lakes are the greatest natural resource of the North American continent. They directly benefit 40 million people who reside close to their shores in the United States and Canada. Because of this beneficial relationship, until recently, we have not had to think in terms of ways to protect public and private property from destruction from these lakes.

Now the time is here. The tens of millions of Americans who live along these lakes need help which only the Federal Government can provide. On behalf of the people of Chicago and on behalf of other municipalities whose mayors have relayed their concern to me, I urge the distinguished members of this subcommittee to assist us by recommending the passage of one of the three water diversion bills.

Thank you for the opportunity to express my views.

Mr. ROBERTS. Off the record.

[Discussion off the record.]

Mr. ROBERTS. Thank you.

Our next witness is Ms. Joanne Alter. We would like to know, are you representing the Metropolitan Sanitary District of Greater Chicago as an official or are you on your own?

STATEMENT OF JOANNE ALTER, TRUSTEE, THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO

Ms. ALTER. No; I am trustee of the metropolitan sanitary district, and I am submitting a statement of president John E. Egan and the metropolitan sanitary district board of trustees.

Mr. ROBERTS. Thank you.

Ms. ALTER. We do have two specific recommendations.

The Metropolitan Sanitary District of Greater Chicago supports bills H.R. 12015, H.R. 12744, and H.R. 13254.

An increase in diversion of Lake Michigan waters, if properly controlled, can be useful in improving the water quality of the Illinois River and other downstream waterways; increase the domestic water supply of suburban communities and counties in northeastern Illinois; allow added production of hydroelectrical energy at our Lockport

generating station; and lower to a small degree the level of Lake Michigan.

The bills would enable the Department of the Army to divert water from the Lake Michigan watershed above the 3,200 cubic feet per second average presently authorized.

While they would authorize an increase in diversion so as not to exceed a 10,000 cubic feet per second annual average, there are also in these bills some restrictions that could cause operational difficulties.

The instantaneous maximum diversion under these bills would be limited to 11,000 cubic feet per second "whether by way of domestic pumpage, storm runoff from the Lake Michigan watershed, or direct diversion from the lake." This is a severe restriction.

Presently, during moderate to heavy rainstorms in which as little as one-half to three-quarters of an inch of rain occurs, it is normal and necessary for the discharge at the Lockport Powerhouse & Controlling Works to exceed 11,000 cubic feet per second for periods of hours. We have combined sewer overflows—

Mr. ROBERTS. Who is responsible for these and who built them?

Ms. ALTER. The combined sewer overflows are very serious problems in our area and one which we have submitted a long range plan to deal with. This is our deep tunnel plan.

When you flew over by helicopter, it must have been immediately after a storm where the interceptors had been bypassed with combined sewer overflow. The sewer capacity did not take the complete storm flow.

Mr. ROBERTS. Let me say, if we were doing our job, we would not let you do it.

Ms. ALTER. We will be back here, I hope, very soon with a very exciting and very revolutionary proposal to build a deep rock tunnel to retain and convey combined sewer overflows to reservoirs and quarries, where they will be kept until the rain stops and the plant can carry it, this will eliminate combined sewer overflow polluting our waterways.

Mr. ROBERTS. I believe someone submitted some preliminary information on that.

Ms. ALTER. I believe the committee knows about it.

Mr. ROBERTS. Excuse me for interrupting.

Ms. ALTER. It is an extremely important point, and I am very thankful that you brought it up.

But the maximum instantaneous discharge is a problem for us. In heavier storms, instantaneous discharge has exceeded 24,000 cubic feet per second, with subsequent sustained flows in the order of 16,000 cubic feet per second. A restriction to 11,000 cubic feet per second would, undoubtedly, cause more frequent discharge to, and pollution of, Lake Michigan from the canal system, in order to prevent severe flooding and attendant health hazards within the sanitary district.

Mr. ROBERTS. I think you are going to be restricted by this because Canadians are not looking very favorably on doing anything.

Ms. ALTER. Right now we have to meet a 5-year average of 3,200 cubic feet per second, which means that if we go up to 24,000 cubic feet after a storm, then we can put a "cork" in the system—at the North Shore Channel locks, Chicago River locks and O'Brien locks. At present, we are not allowing any controllable diversion from the lake for

the purpose of upgrading the water quality within the system. This will allow us to compensate for very high instantaneous diversion and to reach the average of 3,200 cubic feet per second over a 5-year period.

Mr. ROBERTS. It is our hope we are going to get some favorable consideration up there.

Ms. ALTER. Even with increased reversals to the lake, it is probable that such a limit at Lockport, Ill. would cause flooding in areas removed from the discharge control points.

The Metropolitan Sanitary District of Greater Chicago recommends that the 11,000 cubic feet per second instantaneous discharge limit be held in abeyance pending completion of the storm water tunnel and reservoir system. This system, which we call "TARP," is designed to control and treat combined sewer overflow and control storm water runoff. Until completion of the control system, the instantaneous rate limit needed to avoid discharge of the canal system to Lake Michigan is 24,000 cubic feet per second.

Another problem is section 2b and 2c and the use of the word "Direct." When flooding exists downstream, or the level of Lake Michigan drops below its average monthly level since 1860, the diversion rate from Lake Michigan shall not be greater than 3,200 cubic feet per second. If this language means 3,200 cubic feet per second from the Lake Michigan watershed, then, this is a severe restriction on us, because it would cause extensive flooding upstream from Lockport, Ill.

However, if the words "from Lake Michigan" are interpreted as "direct diversion from Lake Michigan," then this does not present a severe restriction. The difference is that "watershed" includes storm runoff and flows into the canal upstream from tributary rivers which, in wet periods, can be as great as thousands of cubic feet per second.

The Metropolitan Sanitary District of Greater Chicago recommends that the bills be clarified to define the 3,200 cubic feet per second limit specified during low lake elevations and during incidence of downstream flooding as meaning direct diversion from the lake.

On behalf of the Board of Trustees of the Metropolitan Sanitary District of Greater Chicago, I urge that our recommendations be favorably considered.

In addition, we hope the committee will make use of extensive hydraulic data we have available at the sanitary district. We will be very pleased to make it available.

Thank you for the opportunity to appear here, and I certainly would like to answer any questions because it is a matter of major concern to the metropolitan sanitary district.

Mr. ROBERTS. I want to thank you for appearing here. You have been an excellent witness.

Let me ask you, where would the discharge be from this TARP? Where would you make your discharge?

Ms. ALTER. Through the plants, it would go through the system as it exists now. It is just that the polluted water would be detained within these tremendous deep rock tunnels up to 15 feet wide.

Mr. ROBERTS. Essentially the discharge into the river—

Ms. ALTER. But the effluent would be up to standard and we are meeting standards of Illinois Pollution Control Board now. So there would no longer be a discharge into receiving waterways of polluted water

during periods of storms. Of course the ramifications of technology answering man's needs in terms of environmental protection in this area are tremendous and very exciting for all of us who want to use the waterway as recreational as well as navigational resource.

I just hope that you are clear about the maximum instantaneous discharge limit. You see what happens now is that during periods of very heavy storms, we have to go up to 24,000 or else flood up to the sixth floor of the Hancock Building and release to the lake. In order to maintain 3,200 feet standard set by the Supreme Court decision, we put a cork in, and only count at the locks, and try to get back to our 5-year average of 3,200 cubic feet and that is tough going. I invite you and other members of the committee to visit our waterways control room where we have a big sign in red pen now, we are now at 3,220, 3,600 we are down to 3,200—we are now at 3,190 for a 5-year average, and we need leeway to operate within the limits.

Mr. TYLER. You have raised some issues that we were not aware of before and we will want to check further on problems of the Corps also.

Mr. ROBERTS. I am delighted to have our colleague and member of this committee, very distinguished member and able member, Congressman Hanrahan, who may want to make a comment. We have had an excellent witness. I am sorry you missed her. Do you have any questions or statements.

Mr. HANRAHAN. Thank you, Mr. Chairman.

I am sorry I did miss you, Joanne. I will definitely read your statement. We appreciate all the help that you have given us on our project.

I am sure you testified about increasing the cubic feet per second, the diversion—

Ms. ALTER. Yes, with certain definite qualifications, it would be in the interest of the metropolitan sanitary district to increase the instantaneous maximum diversion. Limitation, at this time would be technologically restricting.

Mr. HANRAHAN. I am not sure whether you covered this in your statement—

Mr. ROBERTS. She covered it very well.

Mr. HANRAHAN. But underground tunnel system—

Mr. ROBERTS. That is covered in her statement.

Mr. HANRAHAN. I am sorry I was late.

Mr. ROBERTS. It is a pleasure to have you.

Are there other witnesses who have asked to appear before this committee that are in the room? Additional statements received will appear in the record at this point.

The subcommittee stands adjourned, subject to the call of the chair.

[Whereupon at 10:51 a.m., the subcommittee was adjourned subject to the call of the chair.]

[The following were received for the record:]

STATEMENT OF HON. FRANK ANNUNZIO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. Chairman, the legislation before you today is very similar to H.R. 5542 which I cosponsored last year, and I give it my full endorsement. This legislation has been carefully drafted and provides a just and workable solution to a controversy which has raged for many years. In the 1950's when lake levels were at high levels, Congress twice enacted legislation to increase diversions

through the Sanitary and Ship Canal. Both times the bills were vetoed because of vague expressions of concern over interests of other Great Lakes States. The legislation presently before you has the support of many of the Congressmen from other parts of the Great Lakes.

Great Lakes shoreline property owners are suffering substantial losses because of the extremely high water levels of the lakes. They have been told that there was no recourse. A long overdue study on lake level regulation by the International Joint Commission was finally published recently and offered only half-hearted endorsement of further study. It did not, however, consider the possibility of increased diversions through the Chicago Sanitary and Ship Canal. This is a highly feasible aid which can be implemented immediately. There is no reason why eroding shorelines should be denied this remedy.

H.R. 12015 expressly provides safeguards to prevent the possibility of adverse effects on other areas. Diversions can be increased only during high water levels. Diversions cannot be increased when floods threaten the Illinois Waterway or Mississippi Valley. This legislation provides that the Corps of Engineers would maintain careful control over diversions.

In addition to providing relief to Great Lakes shoreline property owners, during the periods of increased diversion, the esthetic quality of the canal through the Chicago area will be greatly enhanced. Although Chicago has one of the country's most sophisticated sewage treatment systems, the Sanitary and Ship Canal is not a pristine stream. Nonetheless, it is a tremendous esthetic asset to the neighborhoods through which it flows. Perhaps it is not quite a Seine or a Thames, but any time a major city is blessed with a major waterway it is a truly valuable resource. During increased diversions, the canal will be much cleaner, more pleasant, and therefore a much greater asset to the city. When flows are reduced again, nothing will have been sacrificed.

STATEMENT OF HON. BARBER CONABLE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. Chairman, I wish to commend the committee for giving its attention to this legislation to alter the regulation of water flow through the Illinois Waterway, and I appreciate this opportunity to join in the support of it. I am concerned about the continuing high water levels on Lakes Ontario and Erie and this measure could provide some relief.

As we know, an order of the Supreme Court presently limits the maximum diversion of water from Lake Michigan into the Chicago Canal at 3,200 cubic feet per second. The proposal I support would permit that diversion to be increased to 11,000 cubic feet per second under appropriate conditions. Studies in recent years by government agencies have indicated that the waterway is capable of handling higher flows than the present limit without harm to the areas below in the Mississippi River system which receive the flow from this waterway. I understand that the recent annual study indicated that the flow could have been increased on 2 out of 3 days in the year without any danger of flooding to the receiving areas.

The bill which I and most of the Great Lakes Congressmen support would provide flexibility in control of the flow through the waterway. The Corps of Engineers would be able to increase the flow as high as 11,000 cubic feet per second so long as it did not have adverse effects on the waterway or areas below during high water or on the upper lakes during low water periods. The interests of all Great Lakes and Mississippi system areas would be protected.

At a time when the Lower Great Lakes are at record levels, I think it is incumbent upon Government to utilize every opportunity to provide relief from the extreme levels on the lower lakes. The high water levels on Lakes Ontario and Erie have resulted in millions of dollars of damage to shore properties in recent years. I realize that the basic requirement is for revision of the Lake Ontario control plan to release higher flows from the St. Lawrence Dams. This is a matter which is being continually pressed with the International Joint Commission and I intend to continue this effort. But the diversion at Chicago provides an additional opportunity for reducing the flows into the lower lakes and I urge this committee to recommend that Congress take such action.

STATEMENT OF HON. MARVIN L. ESCH, A REPRESENTATIVE IN CONGRESS FROM THE
STATE OF MICHIGAN

Mr. Chairman, as the Subcommittee on Water Resources is well aware, the problems caused by high water levels throughout the Great Lakes system is a matter of great concern to many lake shore residents. Consequently, we who support proposals dealing with diversion of water from the Great Lakes basin through the Chicago Sanitary and Ship Canal welcome this opportunity to urge favorable action on legislation which would at last start us toward a remedy for the high water problem.

The legislation you are considering is certainly not the ultimate answer to flooding and erosion problems plaguing many parts of the Great Lakes system. It is, however, another step that can be used to bring some measure of relief to lake shore residents. As you know, the bill (H.R. 12744) of which I am a co-sponsor, would modify a 1967 Supreme Court decision under which the maximum diversion through the Chicago Sanitary and Ship Canal was set at 3,200 cubic feet per second. It would permit diversion of up to 10,000 cubic feet per second from the Great Lakes system when Lakes Michigan and Huron are above their average monthly level and when there can be no danger of flooding in the Chicago River, the Illinois Waterway or the Mississippi River.

It is vitally important that we provide the flexibility for regulating lake levels to help protect shore residents from the effects of devastating floods and shoreline erosion. In this regard, the subcommittee is in the process of hearing very excellent testimony about the advantages of increased diversion. Some of the testimony has explained the history of high water levels—and low water levels too—which have adversely effected use of the lakes. Some testimony tells of the legal authority we believe exists for enactment of this legislation. And some of the testimony deals with the need for respecting the rights of our neighbors and friends in Canada. Moreover, we have also heard how any change in the water diversion rate must take into account the need to avoid flooding in the Chicago area, along the Illinois Waterway and in the Mississippi River Valley while we make certain there are no adverse effects on navigation and environmental considerations.

It is just as important, I believe, to express to you the human side of this complex issue. I ask that you consider the plight of the lakeshore resident who seeks relief from the constant fear and uncertainty that has become an unnecessary part of life along the Lake Erie shore. Many of these homeowners in my district in southeast Michigan have suffered extraordinary losses in recent years. It is no wonder they watched with a sense of trepidation as Lake Erie rose steadily through the spring to dangerously high record levels. Indeed, the Federal Lake Survey Center reported last summer that only once before—in 1883-84-85—did the levels continue to go up to extreme heights for 3 straight years. As a result, residents of my district are now openly recalling the devastation of the past few years when winter winds pushed Lake Erie waters to flood level causing widespread losses.

To help prevent such a disaster, the U.S. Army Corps of Engineers has erected temporary emergency protective barriers. However, these were badly battered in spring storms and at my urging some repairs are now underway. Nonetheless, residents in Monroe County, Mich., as in other adjacent shoreline areas, can rightly fear the possible danger of floods that could come in November.

Despite the bleak outlook, there is some good news. The water levels on all the Great Lakes with the exception of Superior dropped in September. As the Monroe Evening News noted in an editorial just last Saturday: "By November all lake levels are expected to drop still further, predictions for Erie calling for another 4-inch drop by then. November has been one of the more troublesome months on the western end of Lake Erie, with northeast winter winds capable of piling up water well above regular levels at almost any time. The dropping lake levels are welcome. They do not, however, indicate the dangers from flooding are over. If November levels hit the predicted figure, Lake Erie will still be some 36 inches above chart datum."

Quite obviously, Mr. Chairman, modification of the 1967 Supreme Court decision setting the maximum water diversion through the Chicago Sanitary and Ship Canal is not the only answer to the high water problem. Much of the lake level problem is due to natural phenomena that cannot be controlled by man. In the future, we can expect a more normal precipitation level and that evaporation will also normalize and give us lower lake levels.

The question that must be asked, however, is can we afford to wait? We are now in the third successive year of crisis and our people cannot be expected to wait for nature to provide a solution over the long term. We also cannot continue to lose our shorelines to erosion whenever storms churn up waves. In addition, Federal, State and local governments will continue to pay a heavy cost in terms of expenditures for protective dikes and disaster relief. Individual families will be forced to flee their homes and community life will be disrupted should we experience serious flooding. And, as mentioned earlier, the constant fear and uncertainty will continue for these residents as long as water levels remain at perilous levels.

As we all recognize, enactment of H.R. 12744 will only help in reducing the water level of Lake Erie by a matter of inches each year. This legislation is no cure-all when shore residents are threatened by water that is 2 or 3 feet too high. However, as my colleagues James O'Hara and Charles Mosher noted, every inch in reduced water level is of some help when the need is so urgent. This is an overdue step that will start us down the road toward more substantive, longer term policy that encompasses a number of steps so excellently presented by Congressman Mosher.

I will not take the time of the subcommittee to restate these proposals, but I do want to conclude my remarks with an appeal to the subcommittee for speedy and favorable action on this legislation, followed by equally speedy approval by the full committee and the House and Senate. We simply cannot afford to wait any longer. Our citizens deserve to have their needs met by a government that recognizes it has an important role to play in helping to prevent floods and erosion. I urge this committee not to disappoint the people who want to believe the government will respond to their needs.

STATEMENT OF HON. PAUL FINDLEY, A REPRESENTATIVE IN CONGRESS FROM THE
STATE OF ILLINOIS

Mr. Chairman, an increase in the level of water diverted from Lake Michigan down the Illinois River, from 3,200 to 10,000 cubic feet per second, must not be allowed. This is the opinion of the hundreds of downstream landowners who have suffered grievously from diversion-aggravated floods of all Great Lakes States other than Illinois, and of the Canadian Government.

The diversion plan would, in effect, merely transfer the problem of too much water from Lakes Michigan-Huron (treated as a single unit since their connection at the Straits of Mackinac is wide enough and deep enough to permit an unimpeded flow and exchange of waters), downstream to communities along the Illinois River. For those living along the lakeshore, out-of-sight and out-of-mind may be a solution, but to downstream farmers and city dwellers, it is no answer at all. A plan to alleviate suffering and loss in one area is not acceptable if it increases loss and suffering in another location.

The Chicago District Corps of Engineers readily admit that increased diversion is no panacea.

The annual hydrological cycle of the Great Lakes is characterized by higher net supplies of water during spring and early summer. This, therefore, would be the period of greatest diversion, possibly far above 10,000 cubic feet per second. But this is also the period of severe floodings along the Illinois River. The addition of 10,000 cubic feet per second at this time would be catastrophic. The lower 80 miles of the Illinois River alone, endures millions of dollars of damage every year under present diversion levels. The potential for future damage with a 10,000 diversion level is unthinkable.

The Corps' estimate is that a 10,000 cubic feet per second flow would result in a 1 $\frac{3}{4}$ - to 2-inch drop in the level of Lakes Michigan-Huron during the first year and a cumulative drop of 6 inches over 15 years. In no way do any possible advantages of such a small drop in the lake level equal the almost certain tragedy which this additional water would bring downstream. The Corps admits that no study has been made as to the effect of increased diversion on Calhoun County, Ill., where the Illinois and Mississippi Rivers converge.

Not only would downstream interests suffer from increased diversion, but so would those who depend upon the lake for their livelihoods. The International Joint Commission reports that navigation interests benefit most from higher lake levels and that hydroelectric power generation requires maintenance of minimum flows as large as feasible.

Reduction of the lake level must be considered for navigation interests during the sure-to-come low water cycle. At your hearings last year, many witnesses were already talking of planning for adequate navigational channels by deepening the Niagara and St. Lawrence Rivers.

During this low water cycle, which could begin within a few years, only another law would be required to stop the MSD from diverting the 10,000 cubic feet per second once it had come to depend upon the pollution control aspects of such a diversion.

The Metropolitan Sanitary District of Greater Chicago (MSD) should never come to depend upon diversion as the answer to its pollution problems. Proper water treatment facilities should be completed so that pollution control will never be an argument in favor of increased diversion. Surely no one wishes the Illinois and Mississippi Rivers to function as sewer lines.

Chicago depends on water-transported exports of Illinois-grown agricultural products for a good part of its economy. But with one mighty sweep of water down the Illinois River, it would ruin both the valuable agricultural land on which those products are produced and the navigation channels by which they are shipped out of the Great Lakes.

Landowners along the Illinois River will not tolerate another drop of water increase from Lake Michigan. Diversion solves no problems. It merely creates disastrous ones. Diversion above 3,200 cubic feet per second must not be allowed.

STATEMENT OF HON. EARL F. LANDGREBE, A REPRESENTATIVE IN CONGRESS FROM THE
STATE OF INDIANA

Mr. Chairman, I am happy to be able to submit this statement for the record on behalf of a bill I have introduced, H.R. 13254, to permit the diversion and withdrawal of additional water from Lake Michigan into the Illinois Waterway, and for other purposes.

As you know, the problems caused by the high water levels in the Great Lakes, especially Lake Michigan, have been around for years. In early 1973 the erosion caused by high water levels in Lake Michigan caused extensive damage to the Indiana shoreline and the shoreline of the city of Chicago. At that time the Senate of the General Assembly of the State of Indiana passed a resolution requesting the Governor of Indiana to declare the Indiana lakeshore area a disaster area, and that the seriousness of the problem be brought to the attention of the responsible members of the Federal Government. I am asking that a copy of the Senate resolution be included as part of my statement.

Although this occurred 18 months ago, Mr. Chairman, and although there has been some action taken to protect the shoreline on Lake Michigan, the problem of erosion and the threat of high water levels in Lake Michigan is still with us. Corrective action is needed to prevent a recurrence of the property damage and the threat to life and health of the lakeshore residents like that which happened in 1973, and I believe that the best and most economical way of taking the necessary corrective action is to pass H.R. 13254 or a similar bill to allow the Army Corps of Engineers greater latitude in regulating the diversion of water from Lake Michigan than the Supreme Court thinks suitable.

My bill would require the Chief of the Army Corps of Engineers to determine at least once a month the rate of water diversion from Lake Michigan into the Illinois Waterway which will best serve the purposes of protecting, improving, and promoting navigation in the Illinois Waterway, and of protecting the property along the Great Lakes. The Corps of Engineers would then be required to authorize, supervise, and direct the diversion of water at the rate they have determined to be best, but subject to certain limitations and parameters which are obviously necessary to protect properties bordering the Illinois Waterway. I urge this subcommittee and the full committee to act swiftly on this matter and to report a bill that will accomplish the goals contained in H.R. 13254. Only in that way can we be sure that a repetition of the flooding and massive erosion that occurred in 1973 will not happen again.

[Resolution referred to follows:]

A Senate resolution concerning the continuing flooding conditions along the Indiana shores bordering on Lake Michigan.

Whereas, the continuing flooding conditions along the Indiana shores bordering on Lake Michigan are further aggravating an already critical erosion problem, and

Whereas, particularly in and around the towns of Long Beach, Michiana Shores and Dunesland Beach, the situation has near catastrophic proportions, and

Whereas, the town of Long Beach has exhausted all of its resources and has gone into debt attempting to protect its water supply from flooding contamination and trying to keep access roads open so that the residents do not become isolated, and

Whereas, the destruction of property and disruption of services is endangering the health and safety of all of the residents of the area, and

Whereas, the conditions are such that it is imperative that the State of Indiana take official action, and

Whereas, The Honorable Governor Bowen in his role as Commander and Chief of the National Guard has already ordered the National Guard to said beaches for the purpose of protecting the property of Indiana residents, and

Whereas, funds available for such action by the National Guard have been exhausted: Therefore be it

Resolved by the Senate of the General Assembly of the State of Indiana, that Section 1. That we respectfully request Governor Bowen, that because of the flooding conditions he officially declare and designate the Indiana lake shore area bordering on Lake Michigan as a disaster area.

Section 2. That he communicate that fact to the responsible federal officials and urge them to take appropriate action, forthwith, in accordance with federal disaster relief laws which, among other things, would make it possible for the residents of the stricken area together with the towns, to obtain low interest loans to repair the damages to the residents' property, in particular, and the entire area in general.

Section 3. Be It Further Resolved that the Secretary of the Senate forward copies of this resolution to the Indiana Senators and Representatives in the Congress of the United States, the Governor of the State of Indiana, and the Clerks of the Town Boards of Long Beach, Michiana Shores and Dunesland Beach.

Adopted by Voice Vote this 27th day of March 1973.

JOHN F. SHAWLEY,
Indiana State Senator.
BETH VAN VORST GREENE,
Secretary of the Senate.

STATEMENT OF HON. ROBERT McCLORY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. Chairman, I am grateful for the opportunity to submit this statement to your subcommittee and to congratulate you and the other members of the subcommittee on the interest you are showing in the question of the exceedingly high level of water in the Great Lakes.

This hearing is particularly significant because of the record levels reached in Lakes Michigan-Huron which, according to Army Corps of Engineers Data are 22 inches above the long-term average for July of 1974. Further, the 6-month forecast of levels for Lake Michigan-Huron as contained in the Monthly Bulletin of Lake Levels shows that, in general, the lakes are expected to be above their long term and their 10-year average levels during the next 6 months. Indeed, the level of the lakes appears to be among the highest in many years.

Mr. Chairman, the high water levels in the Great Lakes—particularly in Lake Michigan—coupled with the threat of an even higher level later next spring and the potential damage from spring storms—emphasize the need for action to protect Lake Michigan shoreline properties. In addition, many of my constituents have experienced damage to their homes and are faced with additional damage in the coming months.

As a number of my colleagues representing districts bordering the Great Lakes and I have indicated in the past, there is urgent need for comprehensive action to control the water levels in Lake Michigan in order to avert further shoreline and property damage.

Mr. Chairman, in April of 1973 I testified before the Inter-American Affairs Subcommittee of the House Committee on Foreign Affairs urging support for the efforts of many interested members in obtaining greater cooperation between the United States and Canada on the question of controlling the amount of water flowing out of Lake Superior into the lower lakes. Since that testimony the Governments of the United States and Canada have requested the International Joint Commission to determine whether it would be practicable and in the public interest to further regulate the Great Lakes so as to bring a more beneficial range of water levels. I am pleased to report that the Commission's inquiry has entered its final phase with receipt of the technical report of the International Great Lakes Level Board.

That is one part of the solution. The other lies in an effort to increase the flow out of the lower lakes—particularly Lakes Michigan-Huron. To the extent that the flow from these lakes can be increased, the critical situation which now exists in Lake St. Clair and along the shores of Lake Erie will be improved.

In order to carry out this objective, I have introduced a bill—along with several of my colleagues—to authorize the State of Illinois and the Metropolitan Sanitary District of Greater Chicago under the direction of the U.S. Corps of Engineers to effect an increase in the diversion of water from Lake Michigan into the Illinois Waterway on a 3-year basis. My bill, which has been referred to this committee, is H.R. 5352.

This proposal will require a modification of the decision of the U.S. Supreme Court which presently limits the diversion of such water to 3,200 cubic feet per second. Under the terms of H.R. 5352, this diversion could be increased to a total of not more than 10,000 cubic feet per second.

It should be emphasized at this point that the proposed diversion of water out of Lake Michigan would not contribute to the flooding in the Mississippi.

I call attention to page 2, lines 14 through 17, where it explicitly states that "the Secretary of the Army shall not allow any water to be directly diverted from Lake Michigan to flow into the Illinois Waterway during times of flood in the Illinois, Des Plaines, Chicago, or Calumet Rivers." The Illinois River, of course, joins the Mississippi just a few miles north of St. Louis.

Mr. Chairman, this proposal, along with the companion proposals referred to earlier, are complementary and are both directed toward an imminent and critical problem affecting many of my constituents from the Wisconsin line to the south reaches of Lake County, Ill.

Millions of dollars of property are involved. The problem requires action now to the extent that it is humanly possible through governmental and private action in order to avoid the disastrous effects of the high water levels and storms which would erode and destroy shoreline properties as well as the structures which have been erected on or near the Lake Michigan shore.

Mr. Chairman, I am confident that my colleagues who represent districts bordering the Great Lakes—which are experiencing similar destructive action—would concur in support of the measures which I have proposed.

STATEMENT OF HON. ROBERT H. MICHEL, A REPRESENTATIVE IN CONGRESS FROM
THE STATE OF ILLINOIS

Mr. Chairman: I think I can speak for the majority of the people in the 18th District when I say that I can certainly sympathize with the plight of those citizens located along the shores of the Great Lakes. There can be no doubt that their problems with erosion and flooding are serious and of grave concern to all of us. However, the residents of my district are no strangers to the problems of contending with high water levels and flooding. The 18th District lies along the Illinois River and was ravaged by floods again this summer as a result of excessive rainfall and the resulting flood stage of the Illinois River and its tributaries. In fact, eight of the nine counties in the district were so severely affected that they were declared disaster areas and they are still in the process of recovering from the effects.

When this subcommittee held hearings on this same question in April of 1973, those areas along the Illinois-Mississippi Rivers were in the midst of spring flooding which caused millions of dollars of damage. Well, here we are 1 year later and those along the Illinois River system have again undergone substantial economic and personal hardships due to the flooding. The fact of the matter

is that this is not a unique problem, and we shouldn't try to solve the problems of one area by transferring them to another, especially if that transfer will worsen an existing problem.

In addition, I would refer the committee to the report issued by the International Great Lakes Levels Board which was presented to the International Joint Commission earlier this year. This comprehensive report is the result of years of research and study and the Board should be commended for the depth and scope of their efforts. It is interesting to note that an increase in the amount of water being diverted from Lake Michigan to the Illinois Waterway is not among their recommendations for solving the Great Lakes problem.

The Board's report does discuss a number of positive steps which may be taken to alleviate the problem. I think it is significant that the report states that "the most promising measures for minimizing future damages to shore property interests are strict land use zoning and structural setback requirements." The report goes on to say that their surveys indicated that development is proceeding at an accelerating rate along the Great Lakes shoreline. It would seem that regulations along these lines would do more in solving the problem than trying to shift the problem to areas which are having their own battles with flooding and erosion.

It should also be noted that diverting additional water into the Illinois Waterway will have relatively little effect on the level of water in the Great Lakes. At best, we would be talking about a matter of a few inches over a period of several years. The problem obviously requires a great deal more than that and I think everyone's interest would be better served by developing an effective solution that would solve the problem on a permanent basis and not transfer it to another location.

Mr. Chairman, I could list the numerous problems which would be created by diverting additional water from Lake Michigan to the Illinois Waterway. This list would include navigation, energy, and environmental problems as well as the increased threat of flooding to residents who reside downstream. However, I won't go into the details of these problems; they have been spelled out for the members of this committee before. It just doesn't make good sense to increase the already large amount of diverted water from Lake Michigan to the Illinois Waterway, an action which I believe would increase rather than decrease the problems of the U.S. waterway systems.

I thank the committee for the opportunity to go on record on the behalf of the residents of downstate Illinois who reside along the Illinois River and I urge this subcommittee to recommend that the proposals to increase the diversion of water from Lake Michigan to the Illinois Waterway be disapproved.

STATEMENT OF HON. TOM RAILSBACK, A REPRESENTATIVE IN CONGRESS
FROM THE STATE OF ILLINOIS

Mr. Chairman, Thank you for this opportunity to testify. I am here to register strong opposition to H.R. 12015, H.R. 12744, and H.R. 13254, which would allow increased diversions from Lake Michigan through the Chicago Sanitary and Ship Canal. Such increased diversions would be quite harmful to farmers in my district. I would like to have included in the record following my remarks a copy of a letter from Mr. Ross Yeoman on behalf of the County Board of Fulton County which expresses its strong opposition to the bills under consideration.

As you are well aware these bills touch on a very old controversy dating back to 1900 when the Sanitary and Ship Canal was first completed. The current rate of diversion was set by a Supreme Court ruling of 1930. There have been numerous attempts since then both in the courts and in Congress to either halt or increase the diversion. But the 1930 decision has stood.

We have a just regulation which has worked well for more than 40 years; let's leave well enough alone.

Opinions on the diversion have always been dictated by various economic concerns. The Canadians have traditionally opposed the diversion because every diversion out of the Great Lakes means that much less water to flow through their hydroelectric plants on the Niagara and St. Lawrence. In addition to the loss of revenue, even a fraction of an inch difference of water level can substantially alter the carrying capacity of ships on the lakes. This is of great

importance to both American and Canadian interests. I do not see any mention in these bills of consultation with Canada or the International Joint Commission. Such unilateral action would certainly not seem well advised.

The Great Lakes States have traditionally opposed diversion at Chicago because of shipping losses and other problems at low lake levels. Some of the Great Lakes members now seem to be supporting increased diversion because of the high water levels. A few years ago when levels were low they were adamantly against it. Hopefully the high levels will recede in a couple of years and these members will again be opposed to diversion.

As an immediate measure to stop shoreline erosion from the current high water levels, increased diversions would not be very significant. It would probably take 5 or 10 years of increased diversions to make as much as an inch or two difference. By then of course, the high levels should not be a problem and there may even be quite different problems resulting from lower levels.

The most vocal region on the diversion, however, is Chicago. I note that most of the sponsors of these bills are my Illinois delegation colleagues from the Chicago area. The Chicago Sanitary and Ship Canal was built for and serves the two purposes which its name implies; sanitation and shipping.

The current level of diversion is fully adequate for navigation. Higher water levels would not provide any benefit to shipping in the Illinois Waterway. This leaves sanitation as the primary reason for increased diversions. Chicago dumps all of its waste water into the canal to eventually flow into the Mississippi rather than putting it into Lake Michigan. Chicago has always sought greater diversion to flush out the canal. Less than 2 years ago, however, this committee in its wisdom produced legislation, the Water Pollution Control Act Amendments of 1972, which expressly prohibits the use of pollutions dilution as a substitute for adequate treatment. Chicago must treat its own wastes. It cannot drain the Great Lakes and flood the Illinois River to cover up the sewage which it has not adequately treated.

Finally we come to my region and the region that has probably had the least say so on the diversion issue. We are downstream along the Illinois Waterway. We have had Chicago's wastes flow past us that should have gone into Lake Michigan. We suffer from the floods that periodically hit the Mississippi Valley. The diversion from Lake Michigan has added to the flood levels.

I realize that these bills have provisions for maximum discharge during floods but it is the smaller floods and "normal" flows which would be most aggravated by increased diversion. There is a great deal of very fertile and very valuable agricultural land in the Illinois River Valley. Much of this land, however, suffers from flooding, high water tables, and high soil moisture. Very sizeable expenditures are made for levees, pumping and drainage systems. The greater the flow down the Illinois Waterway, the worse these problems will be. It is bad enough that we are subjected to Chicago's sewage without having our farmland flooded because they are not treating that sewage adequately.

Thank you Mr. Chairman.

LEGISLATIVE COMMITTEE, FULTON COUNTY BOARD,
Canton, Ill., October 3, 1974.

Hon. JOHN A. BLATNIK,
Chairman, Committee on Public Works, Congress of the United States, House of Representatives, Committee on Public Works.

GENTLEMEN: On behalf of the County Board of Fulton County, Illinois, I wish to present their opposition to the diversion and withdrawal of additional water from Lake Michigan.

This opposition is based on our feeling that the periods during which high water is present on Lake Michigan is the same periods that high water is present in Fulton County. Adding additional water to our flood prone areas would only be a detriment to us. In addition, these high stream levels increase the flow from the river beneath the levee through underground sand deposits. The amount of water that flows has almost a direct relation to the water depth of the river.

We therefore ask that the bills not receive a favorable report and that those areas with the high water problems not transfer them to Down State Illinois.

Yours truly,

ROSS YEOMAN, Chairman.

STATEMENT OF HON. GUY VANDER JAGT, A REPRESENTATIVE IN CONGRESS
FROM THE STATE OF MICHIGAN

Mr. Chairman, I strongly urge approval of H.R. 12744, a bill to provide for flexibility in administering the diversion of water from Lake Michigan into the Illinois Waterway.

Within the confines of current technology and equipment, flexible diversion at Chicago constitutes the sole means of relieving property owners on Lake Michigan of the constant destruction of shoreline resulting from extremely high lake levels. It should be borne in mind that the bill is also concerned with the welfare of those persons and groups having an interest in the Illinois Waterway, and that the authority which it extends to the Chief of Engineers, Department of the Army, is carefully limited.

This committee is thoroughly familiar with the devastation wrought by high lake levels. Residents of the area are deeply disturbed that the 10-year study of lake levels' regulation undertaken by the international Joint Commission failed to produce a practical approach to meet this problem. They are keenly interested in passage of H.R. 12744, and I urge the committee to report this bill promptly to the House.

Thank you for this opportunity to present my views. I greatly appreciate the committee's continuing attention to the problem of shoreline erosion on the Great Lakes.

STATEMENT OF GENE HOLLENSTEIN, CHIEF HYDROLOGIST, DEPARTMENT OF NATURAL
RESOURCES, STATE OF MINNESOTA, ON BEHALF OF THE STATE OF MINNESOTA, ON
H.R. 12744

Currently the diversion of water from Lake Michigan through the Illinois Waterway is governed by a decree of the U.S. Supreme Court dated March 1, 1970. Pursuant to the terms of this decree the maximum allowable diversion is 3,200 cubic feet per second.

The decree allows the State of Illinois to make application for a modification "so as to permit the diversion of additional water from Lake Michigan for domestic use when and if it appears that the reasonable needs of the Northeastern Metropolitan Region for water cannot be met from the water resources available to the region."

It is the position of the State of Minnesota that this provides adequate flexibility and that granting wide discretion to the Corps of Engineers to determine the magnitude of the diversion is not desirable at this time.

Furthermore, even if this State could agree in principle with H.R. 12744, it would still disagree with the specific standard used to limit the Corps' discretion and with the language of section 3 of the bill.

Section 2(c) of the bill states that the "Chief of Engineers shall not allow water to be diverted from Lake Michigan at a rate greater than 3,200 cubic feet per second when the level of Lakes Michigan and Huron has fallen to or is below the average monthly level since 1860." This standard has two technical defects. First, it is not based on an absolute elevation. The average monthly level since 1860 obviously will vary. In fact, it may change considerably upon the implementation of proposed plans of the International Joint Commission. Second, it does not consider the point at which damages begin to occur around Lake Michigan. It is felt that this elevation should be the determining factor for permitting further withdrawals.

Section 3 of the bill apparently directs the Corps of Engineers to determine the feasibility of increasing the diversion above the maximum proposed in section 2 of the bill. This seems to go beyond the scope of the remainder of the bill. Perhaps this difficulty could be remedied by inserting the words "to that" between "diversion" and "provided" in line 7, page 3.

