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Mr. Alan Tonks

Standing Committee on Environment and Sustainable Development

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● (0905)

[*English*]

The Chair (Mr. Alan Tonks (York South—Weston, Lib.)): Good morning, members of the committee.

Mr. Pentland, Mr. Bruce, thank you for being here.

Today we'll continue our overview of the Annex 2001 agreement. Both Mr. Pentland and Mr. Bruce are great authorities in many areas, not the least of which are those matters related to the Great Lakes Water Quality Agreement, the International Joint Commission, the boundary agreement. We're very appreciative, Mr. Pentland and Mr. Bruce, that you would give us the time to share your thoughts on the Annex 2001 agreement and associated matters around Great Lakes water quality issues, diversion issues, and so on. So thank you very much, on behalf of the committee, for being here.

With that, we'll begin. Have you flipped a coin with respect to who will go first? You'll bow to the gentleman on your left.

Mr. Bruce, the floor is yours, and thank you once again for being here.

Mr. James Bruce (As Individual): Thank you very much, Chairman Tonks, and honourable members of the committee. It's a great pleasure to have an opportunity to meet with you this morning to discuss this issue of the Great Lakes annex agreements.

In 1967 I was appointed chief of the Great Lakes division in then Energy, Mines and Resources, and I was the first director of the Canada Centre for Inland Waters, in Burlington. Since then I've retained a really major concern for protection of waters of the Great Lakes-St. Lawrence system. Fortunately, to provide that protection we've been able to use and build upon the Boundary Waters Treaty of 1909. One way we did that was through negotiations of the Great Lakes Water Quality Agreements of 1972 and 1978.

Once again, however, debate is raging about the quantities of water in the system and how best to retain the large values—ecosystem values, economic values, social values—of the waters. The most recent attempt to address this concern is this pair of draft agreements pursuant to the Great Lakes Charter annex of 1985. While the effort is commendable, I contend that the resulting drafts are seriously flawed and a revised approach is needed. I'm delighted to see that the Ontario government may have come to something of the same conclusion.

I will address four main flaws in the draft agreements and will especially suggest an alternative basis for proceeding on these agreements.

The first flaw I would like to mention is that there is an inherent problem in one of the main concepts proposed in the agreements. Basically, the drafts propose to compensate for withdrawals of quantities of water—an action that would be fairly vaguely defined in the agreements as a “resource improvement to the ecosystem”. In other words, water could be drawn for diversion out of the basin, or for consumption in the basin, provided the proponent somehow improves the ecosystem.

One of the problems is how to balance these two. It's sort of like apples and oranges. You have water withdrawals, and you're not compensating for it by putting water back in; you're compensating for it by some kind of ecosystem improvement, whatever that may be. In addition, if these improvements require funding, many people have considered this to be something like the selling or commodification of the water withdrawn, because they're compensating for the water withdrawn by paying for these ecosystem improvements. So trying to balance the resource improvements against taking quantities of water is an inherent problem in this whole thing.

My second point concerns the impact of additional losses of water from the system. It's often been said that losses of the magnitude of individual takings, or even the cumulative effect of a number of them, would result in only a centimetre or a few centimetres off the lake levels. I think it's more instructive to think of what this would do to the flow of the channels between the lakes, and from Lake Ontario out to the sea—the St. Lawrence.

It has to be recognized that every gallon or litre of water taken from the lakes above Niagara Falls—Lake Erie, Lake Michigan, Lake Huron, and Lake Superior—results in a reduced flow over the falls, and a reduced flow by a gallon down the St. Lawrence. This is less water for production of the vital hydroelectricity at the power plants at Niagara, Cornwall, Massena, and at Beauharnois in Quebec.

It's very hard to estimate the costs and the value of that, because the value of the power goes up and down with the time of day and the season of the year. But as a rough guess, if about 5% of the average flow were lost by water takings from Lake Erie and the upper lakes, this would result in an annual loss of about $40 million worth of hydro power in Ontario at Niagara, and about $15 million per year to Ontario in the upper St. Lawrence.These figures do not include the probable equal loss to New York State at these locations, and the downstream losses to Quebec on the St. Lawrence.

● (0910)

Perhaps even more seriously, the most likely action to replace the hydro power would be to fire up coal-burning power plants, further increasing the regional air and water pollution problems and contributing more to the burden of greenhouse gases in the atmosphere.

Other economic impacts, in addition to those on hydro power, would be on shipping, where depth of water available in the connecting channels is very critical, especially in the shallow Detroit and St. Clair rivers and in the port of Montreal.

My third point about the flaws is that these proposed agreements for taking more water come at a time when we are, I think, seeing the early effects of greenhouse-induced climate change in reducing Great Lakes levels and flows.

The Intergovernmental Panel on Climate Change has determined that it was only about 1970 when the global trends in climate could be attributed almost completely to human-caused greenhouse gas increases. Before then, signals from natural causes, like changes in the sun's energy reaching the earth, volcanic emissions, and so on, were important factors. But they are now, from 1970, overwhelmed by the greenhouse gas increases that have been put up there by human activities. Of course, the climate of coming decades will be determined mainly by the increasing greenhouse gas concentration. So the period since 1970 is a foretaste of things to come.

In the Great Lakes system, we have seen the flow of the Niagara River decrease by about 7% since 1970. This has been mainly due to increased evaporation in the cold season from the upper Great Lakes. They have experienced higher surface temperatures with the warming climate, and with higher surface temperatures you get more evaporation. In addition, they have less ice cover, so there's more water surface open for evaporation to take place. This loss of about 500 cubic metres or 17,000 cubic feet per second between 1970 and 2000 has been attributed about 80% to climate change and about 20% to increased water consumption and diversions upstream of Niagara.

Future water losses from the system due to climate change are inevitable, I believe. But the rate of loss is a bit uncertain because of uncertainty in future climate projections. This strongly suggests to me that additional diversions and consumptive uses would be very unwise in the face of the likelihood of less water and major uncertainties in how much less water we're likely to see in the Great Lakes system in the future.

A fourth concern is whether the proposed agreements give more protection to the Great Lakes waters and the ecosystem than we now enjoy through the Boundary Waters Treaty of 1909 and, in Canada, the acts that were passed pursuant to the Boundary Waters Treaty, the International Boundary Waters Treaty Act, and the recent Bill C-6.

I'll remind you that article III of the International Boundary Waters Treaty states that:

> no further or other uses or obstructions or diversions, whether temporary or permanent...affecting the natural level or flow of boundary waters on the other side of the line shall be made, except by authority of the United States or the Dominion of Canada within their respective jurisdictions and with the approval, as hereinafter provided, of the International Joint Commission.

Article VIII of the treaty, as you will recall, goes on to require the IJC to be governed by the principle that the U.S.A. and Canada are to have equal and similar rights to the use of waters defined as boundary waters.

● (0915)

These provisions are claimed to be inadequate by some proponents of the draft agreements on two grounds: that the IJC approvals are limited to very large uses, and that groundwater within the basin and tributary rivers is not covered. However, it's quite clear from the wording that the first of these charges is not necessarily so; that is, the IJC's consideration is limited to very large uses. If one or both federal governments refer any water takings or diversions to the IJC, no matter how small, the commission would be required to consider it according to the guidelines of equal or similar rights of the two countries to the Great Lakes water. Of course, in practice, only sizeable consumptive uses or diversions would be referred by their government to the IJC, but that's exactly what is envisaged in the Great Lakes annex agreements. Only diversions greater than 3.8 million litres per day, or consumptive uses greater than 19 million litres per day, would be subject to any review by a joint international body.

The second objection that people have is that the Boundary Waters Treaty does not deal with groundwater and tributary river removals within the basin. The IJC, in its 2000 report—the figures that were compiled by my colleague and others for the IJC—suggested that only 5% of the withdrawals from the basin that affect the lake levels and flows come from groundwater and only 5% come from tributary streams; 90% comes from the lakes themselves. Thus, from the point of view of Great Lakes levels and flows, these groundwater and stream withdrawals are of quite minor importance.

Groundwater and tributaries may, however, be very important to nearby communities back in the basin and are generally dealt with in each jurisdiction. The IJC has taken groundwater factors into account in some cases, and there's no reason why they couldn't. Thus, the Boundary Waters Treaty could, I would submit, if fully implemented and fully used, provide a high level of protection for the waters of the Great Lakes ecosystem. The new agreement would, I believe, seriously compromise the equal and similar rights to the use of the Great Lakes water provision, because most of the diversions being proposed are really on the U.S. side. It would also compromise, in a way, the performance of the IJC on its treaty duties because the agreements would set up an eight-state, two-province body to review these large diversions and consumptive uses.

Finally, let me say that if these serious flaws make the draft annex agreement unwise, especially for Canada, is there a way in which they could be rewritten or revised to be acceptable? I think if they revised these based on two quite straightforward principles, we could have a very good set of agreements that would be supportive of the Boundary Waters Treaty and of the protection of the waters of the system.

The first goal or principle would be no additional net loss from the Great Lakes. If a state or province wished to divert water out of the basin or have it consumed within, it would be required to replace the amount they take out by mandatory water conservation measures within the lakes' watershed. Now, this would not pose insuperable problems since citizens on both sides of the basin are very profligate water users, using two or sometimes up to four times as much water per person as people in European countries. Many water conservation measures could be used, and indeed, in appendix 2 of the draft agreement there's an excellent optional list.

The second principle should be that return flows of used waters do not violate the water quality objectives of the Great Lakes Water Quality Agreement of 1978 and do not permit foreign invasive species to enter the lakes system.

● (0920)

I believe that adoption of these two principles as a basis for a new agreement would give jurisdictions some flexibility. They could still withdraw some water provided they made it up in conservation measures, and it could lead to a state and provincial agreement based on a sound foundation, rather than on the shifting sands that they're now based on. I think this would truly protect the waters and ecosystems of the Great Lakes-St. Lawrence Basin and complement the Boundary Waters Treaty.

Let me summarize very briefly. The main flaws are as follows. First, basing the agreement on compensation for water taking by resource improvement is, I believe, a fundamental mistake. Second, effects of additional losses on the flows of the rivers will be much more pronounced than those on levels and can have significant economic impacts, especially on hydro power production and shipping. Third, any additional diversions in consumptive uses might be very unwise in the face of the uncertainties of climate change and the likelihood of less water in the system. And fourth, the proposed agreements may provide less rather than more protection than we now have under the Boundary Waters Treaty of 1909 and, in Canada, the acts pursuant to that.

So the recommendation is, first, to focus on the full implementation of the International Boundary Waters Treaty Act, and secondly, to significantly revise the state-provincial agreement to address two primary goals: (1) achieve no additional net loss from the Great Lakes; and (2) ensure that return flows of used water do not violate the water quality objectives of the Great Lakes Water Quality Agreement of 1978.

It is very gratifying to see that the Province of Ontario has rethought their position somewhat on this and have announced that they are going to go back into the negotiations in January with a much stronger position. And I hope they will take on board something along the lines of what is being proposed here and may be proposed by your committee later.

Thank you.

The Chair: Thank you very much, Mr. Bruce.

Before we go to Mr. Pentland, members of the committee, I need some direction. We did have the press release this morning that was provided by the provincial government on the announcement that Mr. Ramsay has made and that Mr. Bruce has referred to. It is only in English, and I would need permission and seek permission from the committee to distribute these. Is that okay? At least we can have a cross-reference with respect to the—

An hon. member: No.

The Chair: No, you don't want to. Okay, we'll have them translated and we'll have them sent out to members of the committee.

Thank you.

Mr. Bruce, thank you very much for that. That input is extremely helpful.

Mr. Pentland, perhaps you would like to take over from this point.

Mr. Ralph Pentland (As Individual): Thank you very much, Mr. Chairman, committee members.

Before I start, I should note that I'm speaking as an interested and concerned citizen only. In the past, I've co-chaired three International Joint Commission committees on this topic. The most recent one was about two years ago. At this time, however, I'm not associated with any government agency or organization involved in the issue.

My most recent exposure to this issue came about a few months ago, when I was contracted by the Woodrow Wilson centre in Washington to analyze the proposed agreements and report my findings. I did that at a meeting in Washington on September 14 of this year.

Jim gave you some idea of how this issue fits into the broader Great Lakes context. The Great Lakes net water supplies and water levels face a number of uncertainties, not just diversions, related to climate change, unpredictable future consumptive use patterns, potential diversions and other forms of bulk removal, and possible modifications to the connecting channels. What's most disconcerting is that each and every one of these factors points in the same direction, to a lowering of levels in supplies and outflows.

For that reason, the International Joint Commission in its year 2000 report on protection of the waters of the Great Lakes concluded that there should be a bias in favour of retaining the water in the basin and using it more efficiently and effectively. They also suggested that no water should be removed from the basin unless it can be demonstrated with certainty that the integrity of the Great Lakes ecosystem would be preserved.

In the analysis I did for the Woodrow Wilson centre, I arrived at two primary conclusions.

First, if the draft agreements were implemented in their current form, they would, for the first time, put Great Lakes water in its natural state up for sale.

Second, the draft agreements would risk starting the region down a very slippery slope that could seriously jeopardize both the economy and the ecology of the entire region, and perhaps the two countries.

The draft agreements originated with concepts recommended by a Denver law firm in 1999. In essence, that firm suggested that decisions regarding new or increased withdrawals of water, either for use in the basin or for removals from the basin, should be based on a common benefits standard. Jim has talked a little bit about what that means in terms of apples and oranges and so on.

There are clearly two unreasonable assumptions underlying that common standard. The first is that anybody, anywhere in the world, has the same right to Great Lakes water as do basin residents. The second is that one could equate damages caused by a diversion with an improvement to water or some other resource within the basin, such as wildlife, fisheries, or water quality.

Although it's buried deep in the bowels of the agreement and renamed "resource improvement", that standard, which came forward in 1999, is still the most critical feature of the proposed regime. The reason it's so important is that it's the enabling provision. It's enabling in the sense that it's the provision that opens the door very wide to removing water from the basin. It not only opens the door very wide, but may actually put it up for sale, potentially making it a commodity or good, subject to interstate and international trading rules.

Admittedly, there are other provisions in the agreements that selectively plug some, arguably even the majority, of the leaks, but the most fundamental flaw in the agreement is the fact that it starts with an inappropriate assumption and a common standard that opens the door very wide to removals, with no limits on the quantity of water that can be removed, the duration of the removals, the purpose of the removals, or the geographical region to be served by the removals.

At the time the standard was proposed in 1999, I was asked by a staff member at the Council of Great Lakes Governors for my opinion. I'll just repeat four of the points I made at that time.

First, it's absolutely impossible to compensate for bulk removals in the sense of being able to maintain enough resilience to cope with such future unpredictable stresses as climate change.

Second, we cannot at this time quantify the negative effects of bulk removals in order that they could be mitigated. Consultants like me could make a case for almost anything, but they would in reality be meaningless.

Third, one might argue that the Great Lakes ecosystem could be compensated by doing something else good in the same or some other area, but that would merely encourage harmful bulk removals and at the same time excuse other bad environmental actors from meeting their responsibilities. While environmentalists might like the idea initially, they would eventually realize that it's conceptually self-defeating environmental policy.

Fourth, with respect to the primary objective of discouraging or preventing large-scale irreversible diversions, it would have the opposite effect. It would end up being a "water chasing dollars" approach, and once the public figured that out, it would become extremely bad politics.

● (0925)

Before the council chose a specific way forward in the Great Lakes Charter annex in the year 2001, they had the advice of not only the Denver law firm but also the International Joint Commission. The IJC recommended very different approaches for in-basin and out-of-basin withdrawals, and a regime centred on preserving ecosystem integrity. Others have suggested regimes based on no diversions or no net loss of water.

Any of these would have been preferable starting points to the resource improvement or water for sale standard. The superficial appeal of the resource improvement approach is obvious. Citizens outside the basin would get access to Great Lakes water, and those inside would somehow be convinced that the Great Lakes are being improved, even as the water disappears.

Despite all the obvious flaws with the resource improvement standard, when the council issued Annex 2001 three years ago and initiated negotiations on the agreement, they unfortunately chose that standard as the central feature. The good news is that they also added some other safeguards recommended by the IJC—for example, those related to return flow, cumulative impact, and conservation. The bad news is that the return flow requirements are very much weaker and fuzzier than those recommended by the IJC.

When the draft agreements came out for public review, my concerns became even greater than they were in 1999 and 2001. There are really three primary tests, plus a few other conditions, that would have to be satisfied to remove water from the Great Lakes Basin. The way I think those tests would be interpreted eventually is as follows. First, I think the resource improvement standard, as defined, eventually would be interpreted as a water for sale sign. It necessarily implies an exchange of money, or at least bartering, with the proceeds going toward meeting the responsibilities of resource abusers or to agencies dealing with resource abusers or abuses within the basin.

Second, the return flow requirements will discriminate, probably quite arbitrarily, between who gets to buy and who does not.

Third, the cumulative impact requirement is a very loose way of deciding when to stop selling, especially when the term "impact" is limited to "significant".

My copy of *Webster's* dictionary defines the word "sell" as "to give up...for money or other valuable consideration". Reading that definition. along with the way the resource improvement standard is to be applied in the agreements. leaves no doubt, at least in my mind, that the draft agreements do in fact put Great Lakes water up for sale. But for what price? If one has to figure out how many buckets of water are equivalent to a dozen ducks in order to set that price, the logical conclusion would have to be that the price would have to be entirely arbitrary.

Let's look at who gets to buy. In my Woodrow Wilson essay, I gave several examples of wiggle room, or possible loopholes, in the return flow regime. By the way, I went back yesterday and looked at them again. I stopped enumerating them when I got to the seventeenth loophole.

I'd be the first to agree that at least some of these examples are arguable, as are several others that have been pointed out to me. All I'm trying to say is that I, or anyone else, could interpret the many return flow provisions either very stringently or very loosely, and make a good case for saying yes or no to almost anything.

If that's the case, the choice of buyers will also be quite arbitrary. If you contrast that with the IJC proposal, it made it very clear exactly how much water must be returned and exactly where it will be returned. Their recommendation read:

> The governments of the Great Lakes states andOntario and Quebec shall not permit any proposal for removal of water from the Great Lakes Basin to proceed unless the proponent can demonstrate that...there is no net loss to the areafrom which the water is taken and, in any event, there is no greater than a 5% loss....

Let's look at when they might stop selling. Based on numerous studies and workshops over the past several years, it's quite clear that the use of the cumulative impact concept in a regulatory or quasi-regulatory way in the Great Lakes water level context will pose serious conceptual problems as well as difficult scientific challenges. The simple fact is that nobody knows how to define the straw that will break the camel's back, and even if they could, nobody can convince me that any government would allow proposals to proceed until that point is reached, and then suddenly prohibit all further water-dependent development.

I'd now like to deal very briefly with this slippery slope issue that I mentioned earlier. Why would these agreement take us onto a slippery slope? In the first instance, the agreements would facilitate several small diversions to nearby communities right away, to places like Waukesha County in Wisconsin, Lowell in Indiana, and urban sprawl around Chicago and Milwaukee. In fact, some people suggest that may be the tail that's wagging the dog. That in and of itself would not likely be a major problem. The amount of water involved would be very small. I'd venture a guess of, in total, something like 1% of the Chicago diversion. But those smaller diversions will have established the respectability of new and formerly sanctioned removals.

● (0930)

If the proposed regime is really as flexible or elastic as I have concluded,we all know that elasticity will eventually be stretched to, and likely even beyond, its limits. Sothe precedent of small and formally sanctioned diversions, combined with a conceptually flawedregime that will necessarily be applied quite arbitrarily, will eventually lead to larger diversionsover longer distances. In the water business, no means no, but maybe almost always ends up being yes.

At this stage in my slippery slope, the diversions may or may not still be contained within the agreement jurisdictions of the States. There won't be any diversions in Canada, and there is no physical possibility of that happening. I'm talking about the States now.

The more serious problems will likely come about when the Great Lakes jurisdictions begin to be accused of discriminatory practices under interstate commerce or international trade rules. They can still try to say no, but they may not be successful. If the agreements do proceed in their current form, with the unreasonable assumption that anybody anywhere in the world has the same right to Great Lakes water, at some point in the future, some or all of the restrictions could be struck down as being disguised protectionism, and Great Lakes water could flow to anyone who can afford it.

I'm not a lawyer myself, but for those wishing to explore the legal risks in greater detail, I refer you to the IJC task force report in 2002 or to a recent analysis by Steven Shrybman done for the Council of Canadians. I think it's a very good analysis, the Council of Canadians one. For the first time, it's a legal analysis on the topic that I could understand.

Over the longer term, the slipperiness of the slope will be accentuated by the fact that, by merely entering into the agreements, some existing safeguards will be weakened. For example, even though the relevant Boundary Waters Treaty provisions will continue to exist, they're less likely to be invoked where there is state-provincial agreement. As well, existing protections afforded by the public trust doctrine in the United States portion of the basin will be weakened because the agreements do not include any public purpose or other standards required by the public trust.

In my Woodrow Wilson essay, I considered five basic alternatives. The first one is basically the no-diversion option of no diversions or other forms of bulk removal, combined with wise use inside the basin. The second one is the IJC recommendations, which were built around preserving ecosystem integrity, plus very strong return flow requirements. The third is a no-net-loss option, the fourth is the status quo, and the fifth one is the draft annex agreements.

The options are presented according to my assessment of the level of protection they would provide to the Great Lakes ecosystem, with the option of no diversion or other form of bulk removal providing the highest level of protection, and the draft agreements the lowest level. The IJC and no-net-loss options would lie somewhere between the two, but either would be preferable to the draft agreements.

I'll clarify a few things about those rankings. Why do I rank the IJC recommendations well ahead of the draft agreements? In the draft agreements, as I said earlier, the resource improvement standard starts by opening the door very wide for removals by allowing trade-offs between different components of the ecosystem, and then very selectively plugs some, but not all, of the leaks. In the IJC proposal, the ecosystem integrity standard only leaves the door for diversion slightly ajar, and then closes it even further with very water-tight return flow requirements. The IJC proposals also begin from the more sensible assumption that standards that treat in-basin uses and out-of-basin removals differently are reasonable.

The no-net-loss option would obviously provide better protection than the draft agreements, because it would place an absolute cap of zero on net removals. No net loss could be achieved in a number of ways, including a requirement for a 100% return flow or by limiting the amount of water removed from the basin to the amount of water saved through water conservation in the basin.

By the way, the last few diversions that have taken place from the basin have been done on the basis of no net loss. It's not “no net loss” in the way that Jim explained it, but “no net loss” in the sense that they were required to return 100% of the water. In essence, they were allowed to borrow the water, but they had to return it. The last few have taken place, since about the last ten years, on that basis.

I ranked the agreements well below the status quo because they would both loosen the removals regime and weaken some existing safeguards.

I should say a few words about the press release from Ontario. I guess you don't have it in front of you, or some of you do and some of you don't, but yesterday they did put out a press release. They started from the assumption that the agreements are very much weaker than their own laws in Ontario.

They said:

> We have listened to feedback from stakeholders, First Nations and the general public.... Ontario remains committed to its provincial law that bans diversions. For the purposes of the Annex agreements, Ontarians, and the McGuinty government, clearly want a “no diversions” agreement, or the position of “no net loss” as proposed by the International Joint Commission. In addition, we regard conservation measures as significant for the protection of Great Lakes waters. Ontario is not prepared to ratify the agreement in its present form.

● (0935)

I would view this announcement as quite a positive step forward. It's certainly setting out a very sound negotiating position, at least, for the next round of negotiations that begin in January.

Thank you. That's all I have for now.

The Chair: Thank you very much, Mr. Pentland and Mr. Bruce. We appreciate that input.

Just to the point that both of you raised, we now have copies of that press release in both languages. Do I have permission to have that distributed now? Okay. Thank you very much.

We'll now go to questions.

Mr. Mills, would you like to lead off, please.

● (0940)

Mr. Bob Mills (Red Deer, CPC): Sure.

Welcome, gentlemen.

My first question goes back probably quite a bit in terms of where Canada is at in regard to understanding our aquifers, our groundwater, understanding the positive and negative charge of these aquifers. In exploring that with Environment Canada, I find that we're pretty much a long way behind many, many countries in understanding just where we're at.

It depends where you are in Canada, and certainly some areas....

My first question would be, what is your opinion of that? Is this not putting the cart before the horse? Before you even made a decision on this, wouldn't you have those facts, that science, in your hand?

Mr. Ralph Pentland: I did a report on groundwater in the Great Lakes Basin about a year ago for the Monk Centre at the University of Toronto, together with an American counterpart, Gerry Galloway, who used to be with the IJC in the U.S.

You're right, in a sense. We did conclude that our knowledge of groundwater is very, very bad, but I can't agree with you that it's not as good as that in other countries. In the last decade I've worked in seven or eight different countries, and I'd suggest that even though our knowledge is very bad, it's better than it is in most other countries and may be sufficient for policy purposes.

The main problem with groundwater in the Great Lakes context and in terms of diversions, and so on, is that the groundwater divide does not coincide with the surface water divide. So if you're making decisions about where and when to divert water, it's difficult. We don't even know where the groundwater divide is, but we do know that in most places it's different from the surface water divide.

For the moment, the policies that are laid out are all in terms of diversions from the surface water divide, even though the groundwater divide may be different and may be moving. In fact, it does move with time as you suck water out of the groundwater.

So yes, we do have a deficiency of data, but it's better than in most other countries and may be as good as it's going to be in the next decade or two.

Mr. Bob Mills: I guess that doesn't really reassure me that we have the science in place before we make some of these major decisions.

Again, I believe we have the technology now to get the science. It would seem to me that's what you would push before you could make any decisions, whether it's the Great Lakes or any aquifer anywhere.

Secondly, as you mention, Mr. Pentland, this becomes a commodity. Obviously we're well aware of the southwest U.S. and the huge shortfall they have in water, and where their aquifer is and how in the next few years....

Do you see any possibility that, as a commodity, that could be sort of a long-term threat or a mid-term threat? Is that where we're really going with something like this?

Again, it would seem to me that we should be alert to that very early on and not let that happen. Of course, in our experience with NAFTA and the rules and the challenges compared to softwood lumber, if water becomes a commodity like that, obviously I think we would have a lot of concern.

Mr. Ralph Pentland: I think it's a very valid concern, and one you should have. I see it as a slippery slope; it's not going to happen overnight. You're not going to say that tomorrow we're going to decide to move water to Texas, but it will happen gradually. With an agreement of this sort, it could happen gradually; you'd have small ones, then bigger ones, and bigger ones.

I did spend some time with the Texas Water Development Board a few years ago, and I know they have plans on the shelf for getting water from the Mississippi River over to that part of the country. Certainly, getting water into the Mississippi would not be difficult, because you have a Chicago diversion with a flow right now of 3,200 cubic feet a second, but a capacity of 9,000 cubic feet a second. If somebody were to approve an increase in the Chicago diversion, then at the same time somebody implemented plans to take water from the Mississippi over to that part of the country, it could happen. It's fairly feasible for it to happen. You just mentioned that the groundwater under seven of those states is 150 feet lower at the moment.

It's something you should very much worry about. I'm not accusing anybody of anything here, but certainly that agreement, with its resource improvement standard and its loopholes, would certainly take you in that direction, if you wanted to go in that direction.

● (0945)

Mr. James Bruce: I'd like to add to Ralph's comment that the Southwest and Midwest of the United States are likely to experience even drier conditions with climate change. That might come on fairly quickly, in which case we would be faced with this kind of problem in decades, not centuries.

Mr. Bob Mills: My final question is that when you talk about taking water out and improving an ecosystem, it seems to me you're saying that it would be extremely difficult to measure. Secondly, who's going to pay for that measurement? Again, it would seem nice if a consultant were honest, but we could get a consultant to tell us that it's been improved and another one to tell us that it hasn't improved. Whoever is paying the bill can set it. I was involved in some consulting in the past, and it's pretty much the case that whoever is paying the bill will get the result they want.

Again, I think you're agreeing that it would be very difficult to measure that sort of thing and to enforce it.

Mr. Ralph Pentland: The problem is that it doesn't talk about an ecosystem improvement, but about an improvement to the water resource and water-related resources in the basin. What it's in fact doing is encouraging a trade-off between different resources, a trade-off between water and wildlife or water and fish. In fact, by definition, that's bad for the ecosystem. What you're doing is trading off components of the ecosystem against each other. That's the absolute worst thing you can do to the ecosystem. I can say a priori that's a bad thing to do. I don't have to measure it; it's just a bad thing to do.

Mr. Bob Mills: Thank you.

The Chair: There are a couple of minutes left in your round, if anybody else wishes to ask a question.

Mr. Epp.

Mr. Ken Epp (Edmonton—Sherwood Park, CPC): Thank you.

I find this presentation quite interesting. You talked about a net zero change in flow. I wonder whether you've done any work with respect to the physics of evaporation. From what I know of it, the rate of evaporation increases as the area increases, so if you spread the water more thinly, then of course the rate of evaporation is going to be faster. Actually, if you were to divert the water, the return to the atmosphere would be increased if you increased the area exposed to the surface. The other factor, as you indicated, is of course the temperature; the higher the temperature the higher the rate of evaporation.

I remember computing many years ago that we'd get 110 tons of water per acre when it rained one inch. I get 1,000 gallons of water off the roof of my house with one inch of rain. So the rate of return via that normal hydro cycle is quite significant. I wonder whether you've done any studies, or studies have been made, with respect to that way of returning the water back to the lakes as compared to actually having it run back in terms of a water channel, or whatever you use to actually use the water instead of going through the vapour cycle.

Mr. James Bruce: Starting in 1962, I did some work on the water balance of the Great Lakes system for the American Association for the Advancement of Science, and I've worked on that since. One of the things that are very different about the Great Lakes compared to small water bodies is that they have a large amount of heat storage; so they warm up over the summer months and fall, and then in the winter they're much warmer than the overlying air. That results in very large evaporation rates in the winter months. If the temperature goes higher, then, as you say, Mr. Epp, the evaporation goes up. And as the ice melts in the upper lakes, the amount of water exposed to evaporation goes up.

Now, the question of how much of that comes down in the basin in the form of snow or rain is a very interesting question. The thing about the Great Lakes Basin is that if you look at it on a map, the boundaries of the watershed are, in most cases, not very far from the lakes themselves. The lakes form fully a third of the total area of the basin, so most of the snow and rain that may be a result of evaporation from the Great Lakes fall outside the basin or beyond the boundaries of the basin. Some fall within the basin, as in Buffalo, for example, or along the Lake Huron shore, but most of it falls outside the basin. So it's really lost water.

The records over the past 30 years or so show that the evaporation loss in the cold season has really dominated the trend in the levels of the lakes and the flow at Niagara.

● (0950)

The Chair: We're going to have to go to Mr. Simard.

Mr. Simard.

[*Translation*]

Mr. Christian Simard (Beauport—Limoilou, BQ): You appear to be saying in your extremely interesting presentations that the present agreements do not really comply with the precautionary principle. In fact, you both agree on that score.

You seem to have more faith in the International Joint Commission than you do in the agreement between the provinces and the States, when in fact a number of legal opinions maintain that the IJC exercises no real control, is not really interested in diversion on a massive scale and, given the current state of the law, is not in a position to have accurate information on diversion or system changes. Furthermore, it would have no control over the way in which States divert or manage their water.

Even Great Lakes United, the organization that speaks for all NGOs in the Great Lakes vicinity, seems to prefer a bad agreement between the States to no agreement at all, or to the status quo.

Truly we are on the horns of a dilemma. As the saying goes, you're damned if you do, damned if you don't. Both sides come out on the losing end.

Is there some way for the people who live along the St. Lawrence and in the Great Lakes basin to break out of this impasse?

[*English*]

Mr. Ralph Pentland: The issue you're raising is an interesting dilemma, as you say. There's been a lot of debate about whether it's better to have a state-provincial agreement or a federal agreement, or amendments to the Boundary Waters Treaty, or other ways. In fact, the Ontario press release—which you probably haven't seen yet—says at the end that they would prefer a provincial-state level negotiation to a federal one, because if the federal government did it they would have to deal with the federal government, and the federal government in the U.S. would look after the interests of other parts of the U.S. and not just the Great Lakes states.

So this is an interesting dilemma, as you say. I guess the ideal situation would be if the states and provinces could or would negotiate an agreement that would actually protect the Great Lakes. So far they haven't been able to do that, but if they were able to do that, say with a no-diversion or no-net-loss agreement, and if the two federal governments and the IJC and everybody agreed with that, it would be the ideal situation, wouldn't it? If there were an actual agreement in place negotiated by provinces and states, implemented by provinces and states, but with the concurrence of the two federal governments, and with the IJC technically agreeing that it was a good thing, it would be the ideal situation, I guess. The question is whether or how you get to that situation.

Mr. James Bruce: I might add a couple of points.

We have to remember that the IJC is, in a way, a creature of the two federal governments. If issues get referred to it by either of the two governments, they can address it. If they are not referred to it by either of the two federal governments, then they don't have a good opportunity to address it.

My feeling is that the wording of the Boundary Waters Treaty is stronger and more direct than any of the wording in the annex agreements. If the governments do want to make use of that IJC mechanism, they could, given the wording of the Boundary Waters Treaty.

I think we have to remember that under the IJC and the Boundary Waters Treaty provisions, there are three members of the commission from Canada and three members from the United States. Under the annex agreements, there are eight states and two provinces. The way the thing is now worded, the two provinces are only advisory on many issues. They don't have a clear vote on whether more water is diverted at Chicago or somewhere else. It's an eight-to-two situation, with the two not having a lot of power. Under those circumstances, the question of whether that's a more favourable regime to Canada than a three-to-three arrangement through the IJC is something we should think about.

● (0955)

[*Translation*]

The Chair: Mr. Simard.

Mr. Christian Simard: Where do you stand on this matter? You say that we need to give it some thought. Have you done so? You seem to be leaning more in favour of the IJC. Personally, I have my doubts.

Elsewhere, I find it rather odd that under the current agreement, diversion is prohibited. However, it's possible that up to 5% of the water could be diverted, and that's an enormous amount. At first glance, it would not appear that the precautionary principle... Users are exerting so much pressure that one has to wonder how it will be possible to preserve the basin for future generations. As I see it, that is the crucial question on a continent-wide scale. When either you or Mr. Pentland—I'm not sure which of the two—compare the situation to that of the Aral Sea, I have to say that it sends shivers up my spine.

However, if you're more a proponent of the IJC and agreements, I'd like to know if... I believe you said you don't have an answer at this time and that you want to give the matter more thought.

[*English*]

Mr. James Bruce: Let me start, and Ralph may want to comment.

What I had proposed in my final remarks is that we do make more use of the IJC until the provinces and states come up with a stronger agreement. The IJC does have the capability, if the federal governments want to use it, to prevent serious loss of water from the Great Lakes. I also then suggested that if the provinces go back to the negotiations, as Ontario has said it will, they should go back on the basis of either no net loss or no diversions and on the basis of protecting the water quality of the return flows. Those two principles should be the key principles in any revised annex agreement.

Mr. Ralph Pentland: Maybe I'll just add a little bit, specific to the 5% that you mentioned.

At the moment, there are no rules specifying 5%. The 5% was a recommendation by the International Joint Commission to the states and provinces. In other words, they recommended that a negotiation take place toward a return flow of 95%, which means they're going to allow a 5% loss. You have to appreciate that's already quite a compromise. As you say, even the 5% could be a problem.

David Schindler, who is a very well-known, award-winning environmental water scientist, suggested at a meeting in Toronto recently—as you do—that even the 5% could be very bad. If there's no limit to the amount of water, then even 5% could eventually be a problem.

So the 5% was already a compromise. It's not a rule that's in place; it was a recommendation from the IJC to the states and provinces. It may be very well that this committee or the federal government will want to take a stricter position. In fact, Ontario seems to be leaning toward a stricter position than that. They're looking for either no diversion or no net loss.

So people are worried, as you are, about the 5%.

● (1000)

The Chair: Mrs. Simard, one minute.

Mr. Bigras, one minute. No? Fine, thank you.

I'm going to the other side now.

Mr. Wilfert.

Hon. Bryon Wilfert (Richmond Hill, Lib.): Thank you, Mr. Chairman.

Thank you, gentlemen, for coming.

I have a couple of points.

First, I'd just say by way of comment that, living in a part of the country where the Oak Ridges Moraine has been and continues to be a very important issue, from both my municipal and federal days I can tell you that I'm very familiar with the impact on the three main rivers that flow into Lake Ontario—the Humber, the Don, and the Rouge—and the impact on aquifers, particularly from any type of development, as well as issues dealing with diversion of water.

I'm somewhat concerned about where the public purpose and the public trust come in. In your comments you mentioned these agreements would weaken both the public purpose and the public trust. Can you elaborate on that?

In the press release from the Ontario government, which I welcome, they clearly state that if the federal government is involved directly with the United States, it opens up the wider picture. Maybe this is what some Americans would like, for us to talk about water generally. What role do you see the federal government playing?

At the moment, we seem to be.... We've made it extremely clear, and the Minister of the Environment has been emphatic in the House, in saying that we oppose any bulk water diversions. But what is the role, effectively? Is it referral to the IJC? Is it, in fact, consultations with Ontario and Quebec? Is it direct representations to the American government? What's the best option?

At the moment, I think we as a government are extremely clear as to what our position is. It's trying to make sure that Ontario, Quebec, and clearly the eight border states get the message that we will not support diversions of any kind.

I think the tip of the iceberg—and I'll complete with this, Mr. Chairman—is the Chicago diversion issue, where only about a third of it is being used at the present time. It wouldn't take very much to have a very negative impact on the water levels.

I guess we'll start off with the public trust.

Mr. Ralph Pentland: I'll start with the public trust.

The public trust is a legal concept in the United States, not so much in Canada. When I did my Woodrow Wilson piece in Washington, the theory was that a Canadian and an American were supposed to do these two papers and go to Washington to debate the issue. The unfortunate thing was that we, a Canadian and an American, did the two papers, and we went there and agreed on everything.

The public trust doctrine was dealt with at great length by Mr. Olson, who is an environmental lawyer from Michigan. It's a concept in U.S. law. It has been for approximately 25 years.

I'll just mention some of the standards that are required by public trust in the U.S. for a water diversion:

> It must be for a primarily public, non-private purpose. It must be consistent with public trust uses or needs such as navigation, boating, swimming, fishing, or other recreational purposes. The present and future uses of the water must be protected; this means planning for the foreseeable and unpredictable future. It must not impair the public trust uses or resources. The di minimis harm rule does not apply; “nibbling effects” cannot be ignored.

Within the U.S. it's clear, the public trust.... The main essence of his thesis was that this public trust doctrine was being greatly undermined by these proposed agreements. He was very serious about that.

He's a man who has been fighting Nestlé for many years about a particular issue in the U.S., and doing it very successfully. He's very well known and a very prestigious lawyer in the United States.

Public trust, within Canada, is sort of notable by its absence. It doesn't exist in any federal or provincial laws except for two environmental protection laws in the northern territories. It's a concept that could be developed and gain some recognition in Canada. But at the moment, it's sort of notable by its absence.

I'll let Jim handle the other one.

● (1005)

Mr. James Bruce: I get the more difficult one here.

What should the federal government do? I think it's very important to clearly state your position—I think the government has done that to some extent—and convey that position to all of the parties concerned: the provinces, the states, and the U.S. government.

Then second, be willing to refer to the IJC any issue you think might result in significant removals from the lakes, so that the Boundary Waters Treaty, which is very strongly worded, can be invoked to prevent any unfortunate loss of water until such time as a state-provincial agreement can be strengthened.

Those are the roles that I would like to see the federal government play. First of all, come out strongly for your position; and second, don't hesitate to refer things to the IJC if you think they might even slightly violate the no-diversion provisions.

Hon. Bryon Wilfert: Well, Mr. Chairman, then other than what we have already stated—and you said we've done that clearly—would be the issue of the IJC, is there a timing issue that you think would be more appropriate than others, given that Ontario has now released their position? They're going to go back to negotiating in January. Is it helpful for the federal government to invoke that sooner rather than later, or should we simply watch and see what... obviously, consult, as the Ontario government said they would, with the federal government?

We often get accused of stepping on certain toes. Would it be, in fact, more beneficial to let the negotiations continue and, if at some point we don't see what we want, then intervene?

Mr. James Bruce: Well, I would suggest.... I was an assistant deputy minister in Environment for a long time, so I'm a bit used to thinking of these kinds of questions.

I think you should not intervene through the IJC unless an issue comes up, unless there's a specific proposal to divert more water out of Chicago, or a specific proposal to serve some municipality outside the basin, or a large consumptive withdrawal is proposed. If such an incident occurs before the negotiations between the provinces and the states have been completed, then I think you should intervene by referring that issue to the IJC, so that we don't.... These negotiations are not going to be easy for Ontario and Quebec. But I don't think you should intervene in those negotiations early on.

Hon. Bryon Wilfert: Thank you very much, Mr. Chairman.

Mr. Ralph Pentland: Could I just add that it would be helpful, of course, if the federal government were to state, through this committee or through the Minister of Foreign Affairs or whatever, a clear position before the negotiations reconvene, a position on the negotiations.

In that regard, when the annex came out in 2001, the federal government did come out with a very strong and appropriate statement saying why the annex was going to violate the Boundary Waters Treaty and this and that—a very good statement. That same sort of statement again today, maybe even a little stronger, might be in order, but before they recommence the negotiations.

Hon. Bryon Wilfert: Thank you.

The Chair: Mr. Scarpaleggia and Mr. McGuinty, I'll put your names for when we come back to the next round. We're out of time on this side now.

We'll go to Mr. Comartin.

Mr. Joe Comartin (Windsor—Tecumseh, NDP): Thank you, Mr. Chair.

Maybe just to follow up on that point, I'm not sure where, but both the Department of Foreign Affairs and the Department of the Environment were here before us a couple of weeks ago. They are preparing a response, Mr. Pentland, which they're supposed to issue by the end of this month.

In that regard, I'm assuming because of your comments that neither one of you has been consulted by either one of those departments?

● (1010)

Mr. James Bruce: Not formally.

Mr. Joe Comartin: Not formally. Are we getting any information through to them?

Mr. Ralph Pentland: Yes. We regularly communicate with people in those departments, but just to exchange views. As far as I know, neither of us is involved in the drafting of a specific response, but we do let our views be known.

Mr. James Bruce: I should say that my work on this topic has been supported by the Gordon Foundation. The Gordon Foundation has distributed to these two departments both my comments on the agreement and those of several other experts whom they engage to comment on the agreement. All these comments were reasonably critical of the present draft.

Mr. Joe Comartin: Mr. Bruce, I'm just a bit concerned about the recommendations you've made. The IJC representatives, when they were here—I think this is fair—and not only while they were here but in terms of the work they've done on the issue of diversion and bulk export over the last couple of decades, are very concerned about the lack of knowledge that we have about the Great Lakes system. I think a significant part of their position on a moratorium on any diversions is based on the need to get that research into place.

That said—and I see you're nodding in agreement with me—I'm concerned that your recommendation would in effect allow for diversions if there were corresponding conservation within the basin. I don't think that's the position of the IJC if you look at the totality of the history they've had on the issue in the last couple of decades. I'd just like a response from you as to whether you think....

I want you to rethink or maybe justify your position. I guess that's what I'm asking you to do.

Mr. James Bruce: Well, sir, I agree with you very much about the lack of really good, solid knowledge. We've had the issue of groundwater flows in and out of the lakes, both from quantity and quality points of view—quality being very important there. Our specific knowledge of the amount of water now being diverted and consumed is very chancy. The data that the IJC has cited is very approximate. We don't have a good handle on the amount of water we're losing through consumption in the Great Lakes Basin and we don't have a good handle on the groundwater contributions.

So I agree with you that more research is needed. That's partly why I suggest that a no-net-loss provision is really important. That is, if you take water out, you have to put the same amount back into that same lake system. That seems to me to protect the integrity of the ecosystem and the water availability for hydro power and shipping.

Mr. Joe Comartin: How much more time do I have, Mr. Chair?

The Chair: You have five or six minutes.

Mr. Joe Comartin: Great.

Let me just pursue that a bit, then. If we go the route of saying, okay, you're within the basin; you're going to conserve that 50% more that we use than most people in the world by far. In effect, by not having the same requirements for the people outside the basin to whom the water is going, are we not encouraging overuse—profligacy, I guess, was the word you used.

You haven't put that on as a requirement. We don't see the conservation requirement in your recommendation to the people the water is going to, the region the water is going to, outside the basin.

Mr. James Bruce: Yes, I intended it to apply there. In other words, if Wisconsin wants to divert water to a community outside the geographical boundaries of the basin, then Wisconsin is responsible for ensuring that the same amount of water gets put back into Lake Michigan, whether it comes from that community or by practising strong conservation measures in other water takings within that jurisdiction.

● (1015)

Mr. Joe Comartin: I guess I see the flaw in that. You're in effect imposing conservation on the residents within the existing basin as an excuse—to be that blunt—for diverting it out of the basin.

Mr. James Bruce: I would look at it in a different way. I'd suggest that it would be a provision that would make a jurisdiction very uneasy about diverting water outside the geographical boundaries of the basin, because then they would have to take water away from some of the people within the basin. So it would be a choice of that jurisdiction, but it would protect waters in the lakes and rivers.

I think it would be a very hard choice for them to make. That's why I think it would prevent those diversions out of the system.

Mr. Joe Comartin: I want to pursue one of the points you've raised as I don't think it has had enough notoriety applied to it—that is, the impact on our energy production.

One of the things that have surprised me as I've watched this develop since the annex was released for public consumption is that I've not heard any expression of concern from the U.S. states—New York State, in particular—on the impact it's going to have on their hydroelectric production. Have I missed anything, or have they in fact just not responded?

Mr. James Bruce: I've heard individual expressions of concern, but no official expressions of concern by the Great Lake states. I think Ontario, New York State, and Quebec would all suffer seriously from loss of hydro power production for any significant amount of water taken out of the lakes.

Earlier the question of a 5% reduction was discussed, and I tried to give you some figures about how economically large it would be in terms of hydro power production if we lost 5% of the water.

Mr. Joe Comartin: Has anybody done an analysis on the effect on New York State if it went as high as 5%?

Mr. James Bruce: It would be about the same as it is for Ontario, because they produce power equally at Niagara Falls, and again, at the Cornwall-Massena plant on the St. Lawrence.

Mr. Joe Comartin: I have one final point on the economic consequences. You made no reference to the impact of lowered water levels on the fisheries sector. Have you seen any analysis on that?

Mr. James Bruce: I have not. It's a more difficult issue to address.

Mr. Joe Comartin: That's not just a question of the impact of the loss of the water. It's also the question raising the water temperature in the Great Lakes generally, which lower waters end up producing.

Mr. Pentland or Mr. Bruce, perhaps you might know about this. I know certainly the environmental movement on the U.S. side of the border has been pretty strong in their opposition to the annex in the charter. Has there been any shift or any movement by any of the states, either individually or collectively, in their positions as a result of the reaction? We know we have a letter from the Attorney General in Michigan, but is there any other indication that they are recognizing that these negotiations have taken us on a wrong route?

Mr. Ralph Pentland: I think they stick pretty close together. Publically, they won't say anything. I know there are concerns.

Anecdotally, I had a call from the New York legislature when they were going to have public hearings. They almost begged me to come and criticize the agreement. So I have that kind of anecdotal evidence, but publicly I don't think you have anybody, other than the Attorney General of Michigan, who has come out against it.

I might just add a little bit about the energy situation in New York. I know many of the industry associations in the U.S. have come out against the agreement. I think you are going to hear the complaints through those kinds of associations as opposed to through the states themselves, because they kind of have to stick together at least until it falls apart.

● (1020)

The Chair: I'm going to have to break it there, Mr. Comartin. We are out of time.

We are going to go back to Mr. Richardson in a five-minute round.

Mr. Lee Richardson (Calgary Centre, CPC): Thanks, Mr. Chairman. I'll try to be brief, so that we can get the other fellows in.

I would just like to thank you both very much for coming, Mr. Bruce and Mr. Pentland. I think this has been a remarkable presentation, and we on the committee, in a few minutes, have benefited from what obviously is years of research, study, and reflection. I very much appreciate the testimony you brought and the way you've presented it, as well. It's very clear.

And may I add our thanks—I'm sure Mr. Bruce wouldn't mind—to the Gordon Foundation for having supported your work, and I suppose, to a somewhat lesser extent, to the Woodrow Wilson International Center in Mr. Pentland's case. I was encouraged to hear that his proposed opponent in the Woodrow Wilson International Center debate tended to agree with many of his findings.

I really have nothing to question in your remarks. I was curious about one thing, stemming from what Mr. Comartin was just saying with regard to the hydroelectric generation.

Maybe I could take off from your point, Mr. Pentland. You said it is absolutely impossible to compensate for bulk removals. “Absolutely” is a pretty strong word. To what extent do these hydro projects affect...? Is there any way to quantify the negative effects that they might have on the lakes? Is there any relevance, by way of comparison, or are the negative effects of bulk removal just so small as to not be relevant?

Mr. Ralph Pentland: When I said it's absolutely impossible to compensate, it was in the context of it being absolutely impossible to compensate for removals in the sense of being able to maintain enough resilience to cope with future unpredictable things, such as climate change.

Mr. Lee Richardson: Yes, I accept that.

Mr. Ralph Pentland: On hydro generation and other uses, such as fisheries, navigation, and so on, it's relatively easy to calculate the impacts on those kinds of things. In fact, we do it all the time in Great Lakes regulations studies. There's a major study going on in Lake Ontario regulation right now, for example, where they do tie down the impacts of various lake level and outflow changes on things like hydro and navigation, shore property, beaches, fisheries, and other things.

So that's done all the time, but you don't really do it in this case, because you have nothing specific. Diversions might be 10 cfs or they might be 100,000 cfs eventually, so it's uncertain as to what it is you're evaluating. If one knew exactly what kind of diversion you were talking about, it would be relatively simple to evaluate the impact of that on things like hydro, navigation, and so on, where there is an economic value.

It's a little more difficult calculating the impact and the cumulative impact on ecosystem things, the relationship between living things and so on. That's more difficult, but the economic things are relatively simple to do.

Mr. James Bruce: I believe you were asking, sir, if the hydro projects themselves have an impact on the ecosystems.

Mr. Lee Richardson: Yes, essentially, but I don't want to drag this out. It was more of a curiosity raised from Mr. Comartin's questioning. Is there any relevance, any balance here, if we're causing this kind of damage?

Mr. James Bruce: No, I think the ecosystems may have been affected when hydro plants were first put in at Niagara Falls and along the St. Lawrence, but they've been in there for a long time and the ecosystems have adjusted nicely to the change in flow regime that these hydro power plants have caused. At the moment, I think you could say their impact on the ecosystems is virtually undetectable, yet they're a very clean source of energy for all of us.

Mr. Lee Richardson: Thank you.

The Chair: Thank you, Mr. Richardson.

Mr. Scarpaleggia.

Mr. Francis Scarpaleggia (Lac-Saint-Louis, Lib.): Thank you, Mr. Chair.

I have basically three questions and they're not of a technical nature. I would like to access your combined wisdom and get your impressions on some general issues.

I had the opportunity to go to UNESCO last week and spoke with some individuals who were involved with global water issues and the recent “Water for People, Water for Life” report, which you're familiar with. The impression I received from them in terms of North America—of course we discussed Canada, but I'm sure it applies to all of North America—in regard to our concern with conservation is that they had a pretty dismal view of it. My first question was, are we making progress? We talk about conservation and the principles of it within this agreement, but are we making progress, and what needs to be done and what can be done?

Second, it appears to me that you both have done work on both sides of the border. I'd be interested in knowing your impression of how Canadians view water vis-à-vis how Americans might view water. And here I'd like to draw the parallel with cultural products, because I have done some work on heritage issues. In Canada we view television programming and other cultural products as culture, whereas in the United States these things are viewed as products. I'm wondering if you find the same situation in the U.S., which might affect whether or not American legislators are cautious vis-à-vis their policies on water. In this case I'm just linking up with the comments of one of my colleagues about the use of the precautionary principle in the United States vis-à-vis water.

Third, you mentioned that the science is very good in Canada, that in North America water science is very good compared to the rest of the world, or you seemed to say that. Does the federal government have the resources to do necessary scientific work on water? Should we be doing more? Could we become the leaders in water science in the world and export our expertise around the world?

I was thinking of David Schindler. Mr. Pentland mentioned David Schindler, and I remember David Schindler a few years back coming up to Parliament Hill. He was quite upset that the federal government was shutting down the experimental lakes area, because he thought the government should be doing more work on water science. Should we be doing more as a federal government on science?

● (1025)

Mr. Ralph Pentland: I'll start, but Jim can probably add more on the science than I can.

The Chair: Yes, one minute.

Mr. Ralph Pentland: Progress on conservation, there's no way to measure that. There's an OECD report that came out about three or four years ago comparing conservation in all the countries of the world, and we do stack up rather badly.

Just in the Great Lakes context, though, the latest data on water use in the Great Lakes Basin in 1998 shows a reduced amount from the year 1993. That may be because of bad data, it may be because heavy industry is leaving the basin, or it may be partly due to conservation, but at least water use seems to have levelled off, perhaps maybe even dropping in the Great Lakes Basin.

As for Canada's view versus the U.S. on water, I see that as more east versus west rather than Canada versus the U.S. In the west, water is something to use and use it all. There, whether it's Canada or the United States, water is something you use all of, and in the east it's something to preserve and protect, and most of the uses are in situ uses for navigation, hydro, and so on. So the difference is more there.

In the particular case that we're talking about, the problem is that the diversions issue is a U.S. issue. There's no place to divert water to in Canada. So the big difference is that they want to divert water, they want a regime that will let them divert water; we want a regime that won't let them divert water.

Let's let Jim handle the science question.

Mr. James Bruce: I would tend to agree with David Schindler that water science in Canada has suffered serious losses since the 1980s, especially in the federal government. The water agencies that Ralph and I worked in have largely disappeared, and research on water has seriously declined.

At the same time, a certain amount of additional research has been supported by the granting councils like NSERC and universities on water. So there has been some upsurge in the universities, but it doesn't compensate for the decline in water science in the federal government.

● (1030)

The Chair: Mr. Simard and then Mr. McGuinty.

[*Translation*]

Mr. Christian Simard: One can always accuse me of being a copycat, but I truly believe that's the case. I'd also like to thank you for the quality and thoroughness of your briefs. I found them truly edifying. To my mind, they are the product of a lifetime of work and reflection.

I have two questions pertaining to two separate matters. First off, either Mr. Bruce or Mr. Pentland spoke about Lake Champlain and about the fact that Vermont was a possible signatory to the agreement, since Lake Champlain is part of the St. Lawrence Basin. As far as Quebec is concerned, the St. Lawrence River is part of the St. Lawrence-Great Lakes Basin, although it has its own basin. Moreover, nearly one third of all of Quebec's major waterways flow into the St. Lawrence.

At what point does the agreement apply or not apply? Have you given that matter any thought or obtained any pertinent information? Maybe you have not, but from a legal standpoint, the answer isn't obvious. I'd like your opinion on the subject.

My second question concerns commodities. When is bulk water processed into water that can be deemed a commodity? This does not appear to be spelled out clearly in the agreement. I don't quite yet understand how we can be certain that bulk water is not included in the NAFTA. That's not clear to me.

[*English*]

Mr. James Bruce: Maybe I'll take the first question and let Ralph talk about commodification.

One of the curious things about the annex agreement is that although it says that the St. Lawrence is part of the agreements down to Trois-Rivières, it does not include Vermont, and Lake Chaplain, and the Richelieu, which is a very curious geographical issue. And for the St. Lawrence downstream of Trois-Rivières, you need to consider what is happening in Lake Champlain and in Vermont. The main concern, I suspect, along the St. Lawrence may be the question of availability of sufficient depth of water for shipping in and out of the port of Montreal and also the loss of hydro power at Beauharnois. I think those are the most immediate concerns from a relatively small loss of water from the system.

Mr. Ralph Pentland: On the question of commodification—I hate to try to play lawyer, I'm not a lawyer, but I base this on what little I know about the topic—most of the trade agreements, NAFTA, GATT, WTO and so on, treat certain types of water as if they are commodities already, automatically. Water in products, bottled water up to a certain size and so on, is already treated as a commodity automatically. So all the same rules apply that apply to any other product.

Then you get drinking water. Drinking water is a grey area in the sense that some people in the U.S., for example, say you already pay for your drinking water and therefore it's already commodified; we've already commodified it, so all the rules are going to apply. Of course, that's not true because you don't pay for drinking water, you pay for drinking water services. You pay part of the cost of getting the water to you and delivering the waste from your house, but you don't pay for the water. So that's a false argument. Drinking water is not commodified.

But once you commodify water in its natural state.... I've argued, the Council of Canadians has argued, and Jim Olson has argued—many people have argued—that this agreement would in fact commodify water in its natural state, and then throw into the mix the NAFTA, GATT, and WTO rules and so on. So one should be a little bit careful about how you structure these agreements so that you don't commodify water, obviously.

● (1035)

The Chair: Mr. Bigras, one minute.

[*Translation*]

Mr. Bernard Bigras (Rosemont—La Petite-Patrie, BQ): You spoke at length about shipping on the St. Lawrence River. Have you also looked into the quality of drinking water? It's a known fact that in the Montreal area in particular and elsewhere in Quebec in general, over three million Quebecers draw their water directly from the St. Lawrence or one of its tributaries. Therefore, an anticipated drop in the river's water levels could very well have an impact on the quality of people's drinking water, particularly in the case of Quebecers, which could result in a need to invest more in infrastructures. Have you considered this possibility?

[*English*]

Mr. James Bruce: There is no question. You are correct, sir, that if you have less water, the concentration of the existing pollutants in that water becomes higher and this can become a problem. The amount of reduction that we've been talking about, unless the Chicago diversion is tripled in size, might be a bit hard to detect in terms of water quality, but there's no question that there would be a negative impact on water quality in the St. Lawrence.

The Chair: Mr. McGuinty.

Mr. David McGuinty (Ottawa South, Lib.): Thank you, Mr. Chairman.

Thank you for coming in. It's good to see you both again.

I want to pick up on some comments made by a number of questioners about where we're at and where we're going.

I put a question to Mr. Gray when he was here a couple of years ago. Having reviewed his report from 2000 or 2001 and its update of August 2004, the thing that screams out on every single page under every recommendation is the fact that we just don't know.

I appreciated your comment, Mr. Pentland, in response to the question from Mr. Mills, that it's important to have real baselines and not fictitious ones in terms of how well we're doing as a nation state compared to other actors out there in terms of what we know and what we don't know about water.

This seems to me to be another in a series of flashpoints. Here we have a flashpoint issue where there is risk around exporting bulk water. This morning on the front page of the local paper there is a flashpoint about the quality of 5,000 lakes within an hour and a half radius of this city, chiefly in the Outaouais and the Quebec region, where these lakes are now showing advanced signs of eutrophication. People are becoming increasingly scared about water quality and the potential and possibility of pharmaceuticals appearing in the drinking water.

Perhaps I will ask you for the first two things that you would recommend happening on a national level. For example, is the systemic challenge here that we haven't priced water properly? I haven't heard much in our debates and discussions, Mr. Chairman, since we started this debate on the economics of this question. Is the growth in the use of water rights and water permitting and water auctioning in the southwest a good thing? Is Ontario's move to look at water pricing for abstraction licensing a good thing?

This is the other issue I want to throw on the table. I hope we would all agree that there probably isn't enough science and technology and science funding left. This has been diagnosed for over a decade. However, there is work going on all over the place. The Monk's doing work, you're both doing work, and the provinces are doing work. The states are doing work, and the federal government is doing work, and perhaps the question of coherence and the integration of that work should come first.

What two things should we be doing first?

The question I put to Mr. Gray was, for example, this. Should we be launching a national water project or a NAFTA water project?

Mr. Ralph Pentland: Thank you.

Perhaps we'll both say a little about this.

We've talked before about water pricing. Of course, that's been an issue for a long time in Canada. It's better than it was 30 years ago, but it's not there yet. We still probably in our municipal supplies pay 70% or 80% of the price of the delivery at this point in time. I don't know; I'm just guessing. If you had the price right you would certainly have improvements in terms of both quality and quantity.

Water rights are handled differently in Canada and the United States. In western Canada we have a water rights system where you get a right to use a certain amount of water, and if you don't use it, it goes back to the state. This is different from the system in the United States. They have a prior appropriation system where, if they get a water right, they get to keep it whether they use it or not. A large part of the problem in the southwest United States is that they have a lot of these prior appropriation rights and they use them even though they don't use the water because they want to keep them. Now they're starting to sell these waters.

It's good in the sense that water is flowing from lower-valued uses to higher-valued uses, but it's bad in the sense that they're messing up the water system because they have the rights in the first place when they don't really need them. Even when they use them, they're using them to grow hay, etc. Their legal system is the largest part of the problem in the U.S. southwest. They could solve their problems by fixing their legal system, which they can't do because of politics.

Perhaps I'll let Jim add something.

● (1040)

Mr. James Bruce: One of the things I think should be considered is to restore, to some extent, the level of water research monitoring and study within the federal agencies. Water is a public good, and what we have seen in the trends in water science in Canada is a significant decline in the capability of the federal agencies. At the same time, we have seen some increase in the capability at the universities. The problem is, it seems to me, that if you don't do that study within the federal agencies, you don't have the basis for making wise choices and decisions about water management. I would say that the trend has been unfortunate in terms of helping federal agencies make sound water policy.

The Chair: Okay. Thank you very much.

We're out of time. We have three final questions—Mr. Comartin, Mr. Paradis, and Mr. Watson.

Mr. Comartin.

Mr. Joe Comartin: Thank you, Mr. Chair.

I'm sorry, Mr. Bruce and Mr. Pentland, I didn't thank you for coming when I started. I have a bad habit of not doing that. We do appreciate having you here.

Mr. Pentland, you stated twice that it would be practically impossible—I don't know if it would be uneconomical or from an engineering standpoint—to divert water out of the basin within Canada. Perhaps you could just explain that. And then secondly, are you aware of any demand within Canada for diversion into other areas such as we're having in the Great Lakes states?

Mr. Ralph Pentland: I don't know of any demand within Canada for diverting water out of the Great Lakes Basin. It's just the population pressures in Canada. Canada's population tends to press on the U.S. border like a screen, so there's nobody there to divert water to, north of the lakes.

I didn't add anything about the economics of water export internationally, which perhaps is a topic you might be interested in. Some of you may or may not be aware that the Province of Newfoundland did a study on that about two years ago and determined it would be uneconomical to divert water even from Newfoundland, and they're best situated to export water from Canada. So if it would be uneconomical from Newfoundland, it would certainly be uneconomical from anywhere else in Canada to send water to another country, other than the U.S.

Mr. James Bruce: I can remember during some of the debates leading up to NAFTA being at a water meeting, and one of the senior advisers to the negotiator from Mexico was saying they were hoping, out of NAFTA, that some access to Canadian water might be available to the very dry northern states of Mexico. I think they were thinking more of the Columbia Basin than of the Great Lakes, but still that desire to have water from a water-rich area like Canada to a very water-poor area like northern Mexico is there.

Mr. Joe Comartin: You were asked, I think by Mr. Wilfert, about whether there was some way the federal government could send a clearer message. I'm just wondering about this. You didn't respond at all that the federal government take the position that the 5% formula be repudiated. At this point we simply are clear it's a moratorium until we know more. Is that fair? Would you advocate that the federal government take that position?

● (1045)

Mr. James Bruce: Yes, with some hesitation I would advocate it. I do know that the IJC, through long negotiation, arrived at that position, but in my view, the no-net-loss approach makes more sense for the protection of the ecosystems, the hydro power production, the shipping capability, and so on in the Great Lakes Basin.

Mr. Ralph Pentland: The Canadian government has responded twice on this issue. I'm not sure if you are aware of the second time, but when the annex came out there was a strong statement in opposition to many of the features of the annex. At the time the IJC report came out the Canadian government, the Minister of Foreign Affairs, made a statement about the IJC report, which you may want to have a look at.

Basically what they said is, we don't like the 5%, but we might be able to live with it.

Mr. Joe Comartin: Could you tell us, Mr. Pentland, when that was? I have not seen that. I saw the first response.

Mr. Ralph Pentland: That was in 2000. It was a letter, I guess.

Mr. Joe Comartin: My understanding is the 5% formula is not based on science. In particular, you heard the IJC come forward with reasonably accurate scientific analysis that the water in the basin only replaces itself to the tune of 1% per year. So do you agree that the 5% is not based on science?

Mr. Ralph Pentland: The 5% is based on science, in the sense that if you look at withdrawals of water within the basin and consumptive use within the basin, consumptive use is about 5% of the withdrawals. So they applied the same 5% to diversions, ostensibly to create a non-discriminatory situation. So you have 5% losses within the basin, and 5% outside. The 5% is based on the consumptive use as a proportion of withdrawals.

The Chair: I'm going to have to interrupt that, Mr. Comartin, so we can finish our questioning.

Mr. Paradis, and Mr. Watson.

[*Translation*]

Mr. Denis Paradis (Brome—Missisquoi, Lib.): Thank you, Mr. Chairman.

I too would like to begin by congratulating the witnesses on the clarity of their presentation. I found it totally refreshing.

Now then, Mr. Chairman, I believe Mr. Pentland referred to Lake Champlain in his presentation. This body of water is located in my riding of Brome—Missisquoi. Therefore, I'm certainly interested in issues that pertain not only to Lake Champlain, but also to Lake Memphrémagog, as both of these lakes straddle the Canadian-US border.

Quebec, Vermont and New York are signatories to an agreement respecting Lake Champlain and Lake Memphrémagog. It differs somewhat from this proposed agreement on the Great Lakes, because it pertains more to water quality. What steps can the various parties take to improve water quality in the Great Lakes?

That agreement makes no provision for diverting water from the basin and that fact sets it apart from the agreement currently under consideration.

In your opinion, how might this qualitative agreement—and I'm all in favour of negotiating these types of agreements—be combined, since you do refer to Lake Champlain in your submission—with the other agreement that Quebec would be called upon to sign with Ontario and eight US states?

Secondly, Mr. Chairman, it's been my observation that when negotiations are undertaken, there are usually two positions and the parties try to reach some kind of agreement. In the case of the IJC, it's a three-to-three arrangement, and in the case of this agreement, it's an eight-to-two situation. Therefore, the dynamics are entirely different in this case.

Where should the Canadian government or the IJC stand on this matter? In this instance, we have two Canadian provinces and eight US states that are involved in negotiations and trying to reach an agreement, while the federal government and the IJC are excluded from the process. Shouldn't our side be more involved given that, as you mentioned earlier, the US is more interested than Canada in bulk water exports?

● (1050)

[*English*]

Mr. Ralph Pentland: On the issue of Lake Champlain and Lake Memphremagog, I'm aware of the water quality agreements there. In my written version I talked about an omission in the agreement. As Jim mentioned, because the agreement goes down a certain length of the St. Lawrence, Lake Champlain and Lake Memphremagog should have been included because of the geographical area. Therefore, Vermont should have been included in the negotiations, but weren't. So that's one question.

There's a broader question here about the roles of the provinces, the federal government, states, and so on in water matters. When I first started working in the federal government some 40 years ago, they did almost everything on boundary waters. Over the years, the provinces and states gradually gained more and more capability. We found that in many cases it was better to let the provinces and states work out their little disputes all by themselves, because there were hundreds of these things and they were able to do it. Over time they got better and better at it. It may be that over the four decades or so we've gone too far.

Here you have a case where provinces and states are negotiating in an area of almost exclusive federal jurisdiction. Diversions from boundary waters is a question of almost exclusive federal jurisdiction. We've gone to the point where we have eight states negotiating with two provinces—a very uneven situation to start with—and the two provinces are negotiating from a weak position, essentially because the Americans can more or less do what they want.

In this case, we'll have to wait and see. If Ontario is able to negotiate the kind of agreement they've set out in their press release, that will be very good, and everybody will be happy. If not, there's the possibility that the eight states will go it on their own and just leave Ontario and Quebec out of it. They can do that; there's nothing stopping them from doing that. If they do that, the federal government will have to take a strong stand of some sort.

The Chair: Thank you, Mr. Paradis.

Final question, Mr. Watson.

Mr. Jeff Watson (Essex, CPC): Thank you, Mr. Chair. Eventually I'll get this whole questioning process figured out. My apologies here.

The Chair: The chair will also, Mr. Watson.

Mr. Jeff Watson: Thank you.

My hat's off to the two witnesses here today. You've both done excellent presentations, and I appreciate your being here. I'll make my questions very brief so you have more time to answer than I do to ask the questions.

First—and you may have already answered this—you said diversions are a U.S. issue; they want the water. So is this agreement, as written, a unilateral mechanism for water withdrawals that goes around the IJC?

The second question I have is about the Boundary Waters Treaty supremacy over the annex. We heard testimony about the U.S. State Department suggesting that there be a non-abrogation clause that puts Annex 2001 within the parameters of this. Have you heard about that, and will it be enough to ensure that the Boundary Waters Treaty prevails over Annex 2001?

The third one has to do with referring to the IJC. If only one country refers, if we continue to refer these issues, there will be no binding action that comes from the IJC. So what benefits accrue to us by referring to them?

How about that? I've been waiting two hours to construct these.

Some hon. members: Oh, oh!

Mr. Ralph Pentland: On the first one, yes, it's basically a unilateral initiative. There are two agreements. The compact is the binding one, and it's strictly U.S., eight states. The Canada-U.S. one is non-binding, and one could say it's a gentleman's agreement. Basically you have a unilateral U.S. initiative here.

The Boundary Waters Treaty would prevail over the agreement, but in a practical sense it wouldn't. The Boundary Waters Treaty would have more legal authority, but the agreement might be more important because it would just happen gradually, and we wouldn't get around to invoking the Boundary Waters Treaty.

Jim.

● (1055)

Mr. James Bruce: I was going to point out that a number of people, including a large number of environmental groups from U.S. and Canada, have called for specific reference to the Boundary Waters Treaty in the agreement. At the moment, it's silent on whether the Boundary Waters Treaty would take supremacy. But the environmental groups on both sides of the border have been saying we have to include the supremacy of the Boundary Waters Treaty, or the idea that anything done under the agreement has to be entirely consistent with the Boundary Waters Treaty. So there's a lot of pressure to build that into any agreement.

As Ralph says, there is a good possibility that things will happen gradually and circumvent the Boundary Waters Treaty. It will really give Canada an enormous amount of protection if we can ensure that it's met.

The Chair: Mr. Watson, you have a couple of minutes for an equally well-phrased question.

Mr. Jeff Watson: I didn't get the question answered on the IJC. If one country refers to it, what benefits accrue to us? There will be no binding action that comes from the IJC.

Mr. Ralph Pentland: I don't have time to check it, but I think the wording in the treaty is that if there were a diversion proposal, one country could refer it to the IJC and the IJC would have to approve it before it happened. Canada could make a referral to the IJC and the IJC would have to approve the diversion. It's fairly strong in that respect, but it's weak in other respects. The Boundary Waters Treaty arguably doesn't cover groundwater and tributaries, so it has some loopholes. That's why Steven Shrybman's legal analysis suggested there was a need for something else to fill those gaps.

The Chair: On behalf of the committee once again, Mr. Pentland and Mr. Bruce, thank you so much for coming in. I think the comments of committee characterized the appreciation we have collectively for your being here today. You will now leave it with us, and we will benefit, I'm sure, as we put our report together from the comments you have made. Thank you so much.

Mr. Epp.

Mr. Ken Epp: Thank you. I think you would find unanimous consent for a motion I'd like to propose.

As we know, the Sierra Club has just recognized Minister David Anderson and also Clifford Lincoln by giving them an environmental award. I think it would be appropriate for this committee to send congratulations to them. I would therefore like to make a motion that, perhaps, you could write a letter to each of them informing them that this committee is congratulating them.

The Chair: Do I have unanimous consent?

Some hon. members: Agreed.

The Chair: Thank you very much.

Members of the committee, before we adjourn I would remind you that next Thursday we are going to have the Canadian Environmental Law Association and Great Lakes United here. They will bring a different perspective to this discussion. I would point out that we are moving to the draft report ,so I would like to leave time next week for discussion of the draft report.

Mr. Bigras has asked if it would be possible—and I'm going to seek your guidance—to have the Union québécoise pour la conservation de la nature also come in. I would suggest that we combine them with the two deputations that are coming in and then we could have them together. If I have unanimous consent on that, I think we can move toward next week, which would be a discussion of the report.

Mr. Comartin.

Mr. Joe Comartin: I thought we had Elizabeth May coming as well from Sierra. There is a difference between Sierra and Sierra Legal; they are different in their positions.

The Chair: Oh, I see. Yes.

That would be three, but we would add the—

Mr. Joe Comartin: And I'm fine with adding the Union québécoise pour la conservation de la nature.

The Chair: Thank you. I have unanimous consent.

We stand adjourned.

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