House of Commons
CANADA

Standing Committee on Natural Resources

RNNR • NUMBER 004 • 1st SESSION • 39th PARLIAMENT

EVIDENCE

Tuesday, May 30, 2006

Chair

Mr. Lee Richardson

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● (1105)

[*English*]

The Chair (Mr. Lee Richardson (Calgary Centre, CPC)): Thank you; I think we'll begin. I was going to wait until we had a couple more, but we now seem to have more than a quorum. So I will welcome our witnesses today. In the interest of their time and ours, we'll get started, and if there's any other business we want to conduct, we will do that at the end of the meeting.

The format, as we discussed earlier, is that we hear from the witnesses for about half an hour—in this case, about 10 minutes each—for opening remarks and then open it to the committee for questioning.

The notion of this gathering and those for the next month would be to ascertain areas of interest to the committee and further background information, and really to educate us on the pressing issues of the day as they relate to natural resources. We'll attempt to define what topics we might want to pursue in greater depth in the fall.

With that, let me introduce, first of all, Ralph Pentland, who is a consultant and former director of water planning and management at Environment Canada and the author of the 1987 Federal Water Policy. We have Ian Campbell, who is senior project director for the sustainable development policy research initiative at the Privy Council Office, and David Brooks, director of research at Friends of the Earth Canada.

Gentlemen, thank you for coming. With that, I would like to ask you to proceed in the order I presume you've discussed amongst yourselves. Please go ahead.

Ian, are you going to start?

Dr. Ian Campbell (Senior Project Director, Sustainable Development, Policy Research Initiative, Privy Council Office): Thank you. Ten minutes to cover everything there is to say about water is a pretty tall order, so I'm going to skip through very rapidly.

[*Translation*]

If you don't mind, I will be speaking mainly in English. However, I will gladly answer your questions in French.

[*English*]

I'm not going to cover in great detail a whole lot of things. I'll say a few words about the Policy Research Initiative, to start with. We're a more or less independent research organization, currently reporting to the Privy Council Office, conducting medium-term horizontal policy research.

We've been working on fresh water in that context for a little over two and a half years, which is getting towards the normal lifespan of a PRI research project. Our current plan would have us moving out of water and into something else, as yet undefined, probably sometime this fall.

Over the course of the summer we'll be trying to decide what that next topic should be. It may well be water phase two, but it'll be a new phase, if that's the case. Otherwise the PRI typically also has projects in things such as North American linkages, various social issues including population aging and life course flexibility, social capital, and others.

I'm going to skip over the two slides in the deck on water facts and water data. I think you can look at those at your leisure, and with the other materials we've provided you have lots of facts about water at your fingertips.

I don't need to belabour the point: Canada's got a lot of water; it's also got a lot of land, and some of that land doesn't have a lot of water. I think that's about the gist of it: we've got a lot of water; it's not always where we want it to be when we want it to be.

Jurisdiction over water in Canada, as with most natural resources, is predominantly provincial, but it is shared. The federal government has the Fisheries Act, navigation, international issues, and a few other hooks into the world of fresh water.

In terms of how the federal government has tried to organize itself and articulate its role in water over the years, there was the Canada Water Act in 1970; there was a policy statement on inland waters in 1978; there was the Federal Water Policy in 1987, which still stands as the official policy document; there was the Federal Water Framework in 2004, which is the product of an interdepartmental collaboration that was aiming essentially at producing a classification and inventory of what federal government departments were doing in the world of fresh water.

We had our conference a couple of weeks ago—a conference on water policy in Canada. Both of the gentlemen with me were there, along with 340-some other people.

One of the key issues that have not been fully explored so far is the issue of aboriginal water rights. It has been suggested that none of the treaties explicitly extinguished rights to water in Canada. Rights to land may have been extinguished, and other rights may have been extinguished, but water rights were never mentioned in any of the treaties, and therefore there may be an issue around aboriginal water rights.

The 1987 Federal Water Policy, as I said, still stands as the most recent formal policy statement from the federal government. It was an excellent document—very far ahead of its time, I think, in a great many ways. But it is almost 20 years old and has reached a point where it could probably withstand a little bit of renovation and a new coat of paint. There are a few things it covered that, when you think back and say, twenty years ago people were actually worried about.... Climate change is in there, preservation of wetlands is in there, and lots of other key issues that are still key issues today were in the 1987 policy.

A few things that were not really in it, or were not very deeply covered in it and would perhaps be given greater importance today, are alien invasive species, which were mentioned in the policy but not given the level of concern that would show if the policy were redone today; some classes of chemical pollutants, particularly pharmaceuticals and personal care products, which include shampoos and other things like them; various persistent organic pollutants. We're hearing a lot of worry, just in terms even of the article in yesterday's *Globe and Mail*; it had a front-page article about perfluorocarbon compounds. There are various emerging chemicals of concern. Some of these chemicals have been around for a long time, but the concern about them is emerging.

And I think the use of water for fossil fuel extraction, particularly in Alberta, of course, is also an emerging issue of interest. It is not something that was done, or at least not worried about so much 20 years ago, but it's clearly an issue for some people today.

● (1110)

You can look at water issues under a few broad headlines. One of them would be water quality; that's certainly one of the factors that prompted a great deal of interest around water in the past, and it continues to. Lake Winnipeg currently is eutrophicating, that is to say, experiencing algal blooms, in the same way as Lake Erie did 30 years ago when people were talking about the Great Lakes dying. Well, Lake Winnipeg is now in the same condition—not this time due to phosphates and detergents, but to nutrients, largely from agricultural operations and, to a lesser extent, from cities.

There are other issues around water quality. We've done some work on one approach to controlling pollution, which is called water quality trading. There has been a lot of work done on controlling end-of-pipe pollution, where you can actually measure it, and you can attribute it to a particular treatment plant or a particular industry.

The big problem in most watersheds that have problems—though not all watersheds in Canada have a problem—is most often non-point-source pollution, which is agricultural run-off, run-off from roads, run-off from golf courses, and run-off from various non-point sources, which are much harder to measure and much harder to control. And that's where a lot of the concern is today.

Another banner headline would be water allocation, which is what you do with the water you've got. And here it's important to remember that water is not water in all cases. Water that is salty is not fit for drinking. Water that is polluted is not fit for drinking, but it may be perfectly fine for flushing toilets or irrigating fields. So water comes in different qualities, and each quality has different uses. And if you're going to talk about water allocation, you have to remember that you're talking about allocation of different qualities of water, not just water in general.

That said, there are different approaches to water allocation in Canada, and one of the more interesting approaches, which I think bears some watching over the next few years, is in southern Alberta, where a water rights market has developed, where people are actually able to sell their right to extract water from the river to other people who might want more.

There's a paradigm that has emerged over the last 20 years. It was hinted at in the 1987 policy—although not quite with these words—and has come to be known as integrated water resources management. It's an approach that tries to balance all the various uses and needs at the same time. Essentially, it's sustainable development applied to water resources. One of its key characteristics is community consultation; indeed, it very often heads in a direction of community-based decision-making, which is a trend in the management of a great number of natural resources that are inherently local. I think one of the challenges in integrated water resources management is to get governments at all levels, as well as the non-governmental actors, working together in a collaborative framework.

I won't talk about transboundary issues a whole lot. You have other people here who are far more qualified than I am to address transboundary issues. I'll just note that the map provided in the deck does not include the extensive international boundary along the Yukon, Alaska and B.C. border. For many people today, the key issue around transboundary water has not changed in the last 20 years and is still whether or not bulk water export is covered under NAFTA and, therefore, whether we have the power to prevent bulk water export to the United States. Many people would argue that as long as a court has not ruled on it, we don't actually know what the answer is. Other people will say that it's quite clear, one way or the other.

● (1115)

On the international aspect, I'll just say a couple of very brief words about the United Nations millennium development goals. Canada has signed on to this. Two of the targets under goal 7—goal 7 is to ensure environmental sustainability—relate to water and waste water. There is some progress on these targets. If you look at the chart on page 12 of the deck, the patches in green are patches in the world where we're not doing too badly, but you'll notice there are significant areas, particularly in Asia and Oceania, where progress is really quite poor. Achieving clean drinking water for the world's population is a major humanitarian goal, certainly.

Climate change obviously has a lot to do with water resources. Climate is essentially temperature and precipitation, so it's temperature and water. If you're going to talk about climate change, you have to talk about water, and if you're going to talk about water in the long term, you have to talk about climate change.

Climate change is expected to have variable effects across the country—floods in some areas, droughts in others. Some of the key effects that are expected are glacier melt in the Rocky Mountains, where the glaciers feed some of the prairie rivers, which may, therefore—if they do not run completely dry—run a lot lower than they have been running. Hydroelectric generation capacity in the country may well be affected as river flow becomes reduced and perhaps erratic; we may have movements of invasive species; we may have declining water levels in the St. Lawrence Seaway, which will affect shipping; and there are a host of other impacts that might occur and that need to be planned for in some way.

There are many future research needs around fresh water. There is a great need for natural and physical science research. We need to understand the toxicology of some chemicals in the environment. We need to better understand aquatic ecology. We need to better understand climate change impacts. Most of all, perhaps—and it is perhaps a key part of the federal role—we need a lot more monitoring and inventory, particularly of groundwater. That is going on—the work is being done in that area—but it's a big country; it's a lot of ground water to map and inventory.

On the social science and economic side, we need to find ways of encouraging efficiency in water use; we need to address aboriginal rights and needs; we need to find ways of making community-based decision-making work; we need, again, to look at climate change impacts and adaptation from a socio-economic perspective; and we need to look at a number of other issues.

That's a very broad-brush, 30-second survey of water issues in Canada. I'm sure I've left most key issues off the survey; there are just too many to cover in 10 minutes. I'll stop there.

● (1120)

The Chair: Well, I thought you did a remarkable job in 14 minutes, but I didn't want to interrupt you, because it is a broad field. Thank you for that. That was quite a good survey.

David, are you going to continue?

Dr. David Brooks (Director of Research, Friends of the Earth Canada): Yes, I'll go next.

I'm with Friends of the Earth, which is one of Canada's national environmental groups, which is to say that we tend to focus on national issues—among them water, biofuels, Canadian mining firms as they operate abroad, and international financial institutions.

There's no shortage of environmental groups in Canada, as you've probably already remarked. What makes Friends of the Earth unique is the fact that we're one of 70-odd members of Friends of the Earth International, an organization that I've been associated with since the mid-1970s in one way or another. It's a remarkable collection of environmental organizations, which used to be dominated by North America and Europe, and now, heavily, by far, a majority are countries from the south that are playing actively, and with whom—although each group is independent—we exchange ideas.

Let me go on now to my topic. I want to speak to you today about—I guess it would fall under this area of research that Ian mentioned—an alternative approach to water resources, an approach that goes by the name of “water soft path,” *la voie douce de l'eau*.

The water soft path is a unique approach in that it begins from the objective of achieving sustainability in our use of water in Canada. The concept is known not around the world but in most places in the west. But there is another unique aspect: Canada is the first place to actually undertake water soft path analysis, the first study anywhere in the world to see how far we can push this. It's a study being led by Friends of the Earth Canada, under my direction. It's composed of three parallel components, each at a different scale.

In Nova Scotia, researchers from the Arthur Irving Academy for the Environment at Acadia University are looking at the Annapolis Valley, a watershed scale.

All the way across the country, in British Columbia, researchers from the POLIS Institute at the University of Victoria are looking at several urban areas. It's municipal scale.

And maybe bravest of all, researchers from the faculty of environmental studies at the University of Waterloo are taking on the whole province. It's a provincial-scale analysis.

I left the committee copies of a journal that contains an article I co-authored, a general introduction to water soft paths; and also a pamphlet, which we have not yet translated, but the last couple of pages talk about the analysis itself, just to give some details as to how you actually undertake these analyses.

Since you have that, what I want to do in the next 10 minutes is to tell you what's really special about this approach. Why is it that we call it unique? How does it really change conventional planning? I maintain that it inverts conventional water planning and water analysis in four ways.

First, for water soft path analysis, the starting point is not a lack of water supply, it is an excess of demand. Analysis always starts by looking at the demand for water and looking at it in a particular perspective. In most cases, we don't want water as such. Drinking water is the main exception.

To choose an example, we don't really want water in what used to be called, and I think still is the best name, our water closets. What you want is to get rid of the stuff. You want a safe and effective method of sanitation. Maybe you can do that with something other than water.

For the most part, the great user of water in industry is not water as such, it's cooling. You want to cool the water, or in the case of electrical generation, condense the steam. It's not water you want.

As a useful little figure, only about 20% of the water used in a brewery ends up in the bottle. It's a very important 20%, I admit, but the other 80% is just part of the process.

● (1125)

Even farmers don't have a demand for water—and by this I mean delivered water, or water that comes through a pipe—they just want to have good crops.

So rather than looking at water as a commodity, we look at it as a service. This greatly expands the alternatives and the techniques that can be considered. Some of them don't require any water at all.

The second difference relates to what I mentioned earlier, that water sustainability—or more broadly, its ecological sustainability—is not something we check after making water plans. If it is not sustainable, it is not a soft path. Therefore, we allocate water to the ecosystem first. We make sure the system is sustainable; we make sure we have a ongoing healthy ecosystem before we allocate any water to human uses.

Third, the preservation of water quality is not something that's dealt with by treatment plants, or something where we use the water and then worry about how we're going to clean it up; rather, soft paths take the preservation of water quality as equally important to saving water quantity. Both quality and quantity need to be conserved.

Therefore, we try to provide water in its uses at a quality that's required. Ian already mentioned that different qualities of water have different uses. Just intuitively, it doesn't make any sense to take water from the environment, treat it to drinking quality standards, and then use it to flush water closets or, to use the more common term, toilets. You're taking something to high quality and immediately plunging it to low quality. That could instead be done with something you take off the roof or from something you get from your washing machine.

In general, the principle is to make every output the input to something else and, finally, to run whatever you have through a relatively benign biological or natural treatment system—the technique is called biomimicry, as with an artificial wetland—and then return it to the environment in as good a state as when it was withdrawn.

Fourth and finally, in what is perhaps the most important change from conventional practice, we do not begin our look to the future from the present and then project forward. To use the old line, you simply can't get there from here; it's the wrong approach, as you build in too much of what was going wrong.

Soft path analysis chooses a point 30 or 40 years in the future, and at that point it creates a model of a society that is larger in size and population, with a bigger economy, with the numbers you would get from Statistics Canada if you asked what Canada is going to look like 30 years from now. You can just take those numbers. But we model it to be as water efficient as possible, to see what we can do to create that future by minimizing the water inputs, but while still ensuring that it works.

Then we use a technique that is called backcasting—it's a created word, obviously designed to contrast with forecasting—to find a route that connects that modelled future with the very real present. You have to get from one to the other, but we do it by starting out there and coming backwards. It's the connection—both a physical connection, in that this is what you have to build, and a policy connection, in that this is what you have to make it—that is literally the soft path. But it's not just any connection. In addition to being ecologically sustainable, it must also be economically efficient, socially acceptable, and of course, politically feasible.

● (1130)

Backcasting is the most innovative and by far the hardest part of soft path analysis. Dreaming does not get you an acceptable answer. If soft path results—and I use a plural very specifically.... There can be lots of routes from the future to the past, and many of them may satisfy soft path criteria; it's not a deterministic approach. But if these results are to have any impact, the policies and the activities we advocate have to be not just believable but also attractive to the population.

Maybe now it's clear why we call this a soft path, *une voie douce*. One reason is that this approach takes a lot less concrete and a lot less steel, and it's much softer on the environment. But the main reason is that the soft path uses a lot more human ingenuity, innovation—thinking ahead to solve today's water problems, rather than trying to overcome them with bigger and better projects. We try to work with nature rather than overcome it.

I can't tell you right now how far we're going to get with our three-pronged water soft path analyses—the watershed in Nova Scotia, several urban areas in British Columbia, and the province of Ontario—because it's this summer when the hard number-crunching is going to take place. However, based on analyses elsewhere with which we think there is great comparability here, we know we could cut current water use by a third just by applying conventional economic analysis that is comparing the cost of cutting demand with the cost of new water supply.

As a guess—an informed guess, but still a guess—we think we can cut another third through application of water soft path principles. To qualify this, you won't get those savings in a year or probably even in a decade. Water soft paths define a different objective and identify a different course for the long term. That's what planning shall do, but it's not a very good approach if you have a flood right now or are expecting a drought next summer. It isn't going to work in that term; it's a long-term planning method.

In closing, I want to thank the committee for the invitation to come to speak to you today. I'd also like to thank the Policy Research Initiative. It was the first federal agency to recognize the potential of water soft paths, and I have always found—I spoke at the conference they held two years ago, and again at one that was held just a few weeks ago—that they have done more than any other agency to help get this idea on to...I can't say the public agenda yet, but the agenda of people who are worried about water in Canada.

I look forward to future meetings with you, when I'll be able to tell you about our results. Thank you very much.

The Chair: Thank you very much, Mr. Brooks. Again, that was well done. I'm sorry about the constraint on time.

We'll now call on Mr. Pentland, who as I mentioned is the former director of water planning and management at Environment Canada and author of the previously mentioned 1987 study of federal water policy.

Mr. Pentland, thank you.

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

I was asked to speak about binational challenges, Canada-U.S. challenges. That's a very big topic, obviously—at any given time, 30 or 40 issues dealing with water are going on between our two countries—so I'm going to focus today on a few water quantity issues between the two countries, and some institutional aspects or considerations with respect to that.

You hear a lot in the media about our thirsty neighbours to the south. In fact, they are not very thirsty. They probably withdraw about 30% of the water that's renewed in the country every year, and they actually consume less than 10% of the water they have, so they don't have a water shortage problem. What they have is a problem of respect for the hydrological cycle, as I've said in here.

What happens in many cases is that they withdraw water from one place, use it, and put it back someplace else. They end up mining the water where it was to start with, and they end up with problems.

There are a lot of high-profile cases like that. Lately, there are communities just outside the Great Lakes basin that, due to urban sprawl, are doing this. They're mining groundwater, and as a result, they're trying to get water from the Great Lakes basin to satisfy their need when, in fact, they have much better local solutions.

It happens on a much bigger scale in the southwest. In the Ogallala Aquifer area, under seven states, their groundwater levels are being reduced by about 150 feet, but it's the same issue. When you take water out of the groundwater and don't replenish it, the groundwater table keeps going lower and lower, the quality gets worse, and the cost of extracting it becomes higher and higher. That's the issue.

In the 1960s, if any of you go back that far, there were a lot of continental schemes proposed to move water from northern Canada—or the Yukon and Alaska—down into the U.S. Many of those proposals were done by private enterprises, and they were really lines on a map. They were never analyzed in any detail, and if they were, the few that were analyzed turned out to be very poor economics. You'd probably get back a dime for every dollar you invested in a project of that kind.

There are some very interesting cases involving communities on the two sides of the border that share common water systems. I mentioned a few of them. There are three or four cases. Those are local water sharing arrangements. They work very well; they don't threaten anybody; they don't involve diversions between river basins. They're just practical things that work, and there are no problems with them.

What is the issue, then, between the two countries in terms of water quantity? I was making the case that it's not major export by inter-basin transfer and it's not local water sharing. What it is—and it's becoming more and more serious each year—is the uneven demands on the water that we share. We share the Great Lakes, the Red River, the St. Marys River, the Milk, the Columbia, and so on. We're having uneven demands on these water bodies that we share. That's the real issue in the next decade or two; it's not moving water from Alaska to California, I don't think.

I gave three examples of these issues. The first is the Great Lakes. In this case the eight Great Lakes states and the two provinces negotiated an agreement on how to control diversions from the basin and how to control water use within the basin.

The public reacted very negatively to the initial version of that agreement. Some of you, actually, were on the committee on environment and sustainable development that looked at that issue about a year and a half ago. The committee put out a very good and useful report that helped to crystallize that issue.

The problems with the initial draft were that...it started with the free trade assumption that everybody in the world has the same right to this water, and then it went on. It had a questionable resource improvement standard. It had a very leaky return flow regime. It also significantly weakened existing forms of protection.

The public reacted very negatively in both countries. As a result, the negotiators went back to the table, and this time Ontario took a very strong stand. A very much improved version of that agreement was signed last December; it is really based on a prohibition on inter-basin diversion, with minor and well-defined exceptions.

You can see from that example that even a lot of the environmental organizations were on the wrong side of that issue. You can see the danger, I think, if Canadian governments and non-governmental organizations and others are not well equipped and alert. That sort of thing could very easily slip through, with very bad consequences for the Great Lakes and Canadians in the long run.

● (1135)

The second example is in the Red River valley, between North Dakota and Manitoba.

Last year the U.S. Bureau of Reclamation asked for comments on a water supply study in which they looked at means of meeting the water supply needs in the Red River basin. They looked at some diversions from the Missouri, they looked at a diversion from Lake of the Woods, and they looked at some in-basin options.

Again Canadians reacted quite negatively, those who commented. The bureau has recognized in their response to those comments that if they were to divert water from the Lake of the Woods, which is shared between Canada and the U.S., they would have to go through the International Joint Commission and have a study and get approval by the commission. That would be required under the Lake of the Woods Convention.

My third example is in the St. Mary and Milk River basins, between Montana and Alberta. It's a very hot issue right at the moment; there's a real controversy brewing there.

There is a water sharing arrangement between Canada and the U. S. that goes back to the Boundary Water Treaty; it's actually embedded right within the Boundary Water Treaty. That controversy really led to the Boundary Water Treaty in 1909. There's an apportionment agreement built right into the treaty. That was followed up in 1921 by the IJC's making it more specific in an order.

But in the last few years Montana has been running out of water, and they've come back looking for a better deal. The IJC had a committee look at this issue over the last year, and they came out with their draft report in April. They've asked for comments, and the comments are coming in between now and the end of June.

It's potentially a very explosive issue in that part of the continent. But basically, if you look at it, what it comes down to is that Montana's infrastructure is very inefficient. They have old conveyance channels that are broken down and not conveying water very well. Their irrigation efficiencies are about half as good as those in Alberta, and they're trying to solve a local problem of bad infrastructure by getting more water from Canada. Essentially that's what it comes down to.

In all these cases, if they indicate a trend—and they probably do—we might expect more and more demands from U.S. interests on our shared water resources. In most cases—I'd say in all cases—we can make a case, or somebody can make a case, that both countries would be better off with wiser local-scale water management. But to do that, Canadians have to be very proactive and more adept at influencing opinion south of the border.

I had some discussion in my paper, which I handed out, on our national capacity to look after our water issues, and how we can't really look after our binational issues unless we can look after our national ones: 80% of Canadians live in boundary water basins. And I had some methodology outlined in it for how one might go about assessing our capacity, both in terms of quantity and strategy.

In terms of strategy, of course, we have the 1987 policy, but it's very badly out of date. If we were doing it today we would deal with different issues, and we would deal with very different strategies, I think.

I've gone through some methodology that I used in China and in other parts of the world in trying to do this. But it hasn't been done really in Canada for 20 years, so it's overdue, I would say.

I'll add just a few more words on the institutional aspect of the binational situation. If you look at the issues we've dealt with over the years, from about 1945 to 1965 we went through a cooperative development period. We did things such as the Columbia River development together, we did the St. Lawrence Seaway together, and so on. This was a very cooperative period we went through.

From 1965 till about 1985 we went through a comprehensive management period. During that period we did a lot of comprehensive river basin planning in Canada, but on the international scale we did things such as comprehensive water quality management for the Great Lakes and comprehensive flood management in the Champlain-Richelieu basin in Quebec.

● (1140)

Since 1985 I guess we've been in something called the sustainable development period—both Ian and David have talked a little bit about this—where we've tried to deal with a lot of things together at the same time. We integrated water resource management to deal with all aspects of water. We look at a lot of things that interrelate with each other.

If you look at the Great Lakes, for example, what we're trying to do all at once right now is deal with climate change, with potential diversions, consumptive use in the basin, modifications to connecting channels, pollution, biological integrity, water level regulation. We're trying to do all those things at the same time and we're trying to look at all the interrelations between those things.

What happens is that you get to a level of complexity such that it just can't be done in the old way. You can no longer dictate solutions from the top down; you really need bottom-up solutions. So the job of senior governments becomes an enabling or facilitating role. Senior governments will provide policy frameworks; they'll provide knowledge, and knowledge in a usable way; but the solutions are going to come from the bottom. They're going to come from citizens and communities from the bottom up. So we have to get our policy frameworks right from the top down. We have to get our knowledge, our research and everything else from the top down, but the solutions are going to come from the bottom up.

In the Canada-U.S. context, what the IJC is trying to do is something very appropriate. They're trying to move towards the concept of watershed boards, where they put in place boards that deal with whole watersheds. And they not only bring to bear on those boards the policy frameworks from governments on top, but they bring in the stakeholders from the bottom. They bring all that together and play a facilitating role in helping the policy frameworks infiltrate down and making sure the knowledge gets to people and making sure people are able to use it.

I think they're on the right path in that regard. But this is a long-term endeavour, and in the meantime, based on my examples, I guess what we have to do is remain vigilant and proactive on all these issues. If you look back at other issues—acid rain and eutrophication, Great Lakes diversions, and others over the years—this has been a very successful approach. But it requires a very proactive approach by Canadian governments and the Canadian non-governmental sector.

I'll leave it at that, and we can get to questions. Thank you very much.

● (1145)

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

I appreciate your taking that tack of dealing with bilateral issues when there was so much you could have added as well on a much broader range. I'm sure that will come up in the questioning.

Now we would like to proceed with questions. The format we've established here is generally just to.... We're seeking today more information, and nobody's on trial here. We just want to give the committee a broader understanding of water issues, looking perhaps, as Mr. Pentland has just said, to vigilance and being proactive in identifying problems, perhaps prioritizing these, and then helping to look for solutions.

Mr. McGuinty, would you like to begin, for five minutes?

Mr. David McGuinty (Ottawa South, Lib.): Thanks very much, Mr. Chairman.

Thank you for coming. It's good to see all of you again, I think. I just wanted to focus on a couple of issues to help committee members understand whether there's a role for us in the water issue. I think that's why we're here today, to learn more about it and to see if there's some role for the committee to play with respect to the larger water question.

I think the three presentations, Mr. Chairman, have been really complementary and have helped us to understand the big issues in front of us—and there are a lot of them. But could you help me understand this from a federal perspective and federal responsibility with respect to water, whether it's the trade and environment interface, the trade and environment and economy interface, or whether it's...? We haven't talked at all about oceans issues; I'm assuming those are outside the ambit of this committee at this stage.

But I'm trying to narrow in on this. We've heard about management systems. The country has a couple of wonderful examples of co-management approaches, for example, the Fraser Basin Council in B.C. and its coming together of aboriginal governments, provincial governments, municipal governments, and industrial players, all working together and treating, for the first time in history, the Fraser Basin and its river as one whole or system.

Just outside this building, we have the mighty Ottawa River, which has a daily water flow equivalent to every western European river combined, and yet we have no co-management approach there with provincial governments, the federal government, and other actors. So could someone help me think through if there is a role for us there?

The other one has to do with water pricing. Mr. Pentland, you alluded to pricing more specifically in your paper and in your remarks. Municipalities are cash constrained across the country. We have billions of dollars of water infrastructure needs across the country, in our urban areas in particular. Municipalities are raising water rates across the country uniformly, because they're using water rates as an additional form of revenue-raising, with one of the few tools they have.

I need to get a better sense of whether there is a federal role for us here on water pricing and on water metering, for example. A significant percentage of Canadian homes are still not water-metered. You pay a flat monthly fee, I understand, and whether you fill up two swimming pools a month or whether you fill up two bathtubs a month, you pay the same price.

I think I heard you say, Mr. Brooks, that it's cheaper to save or to conserve a clean litre of water than it is to generate a new litre of water, just as it's cheaper to conserve a megawatt of electricity than it is to generate one.

So could you help me think through, or could you just elaborate on, those two points in particular, the management system question and whether there is a role for us. And on the water pricing and metering question, full-cost pricing has been mentioned for water and waste water services. Is there a role there for us? If there isn't a role on those two, where do you see the role potentially coming down?

● (1150)

Mr. Ralph Pentland: I could start.

If you look back historically at the federal role in water, we have a lot of direct federal responsibilities, but the more important thing that the federal government does is to provide leadership. If you look back over the years, say from 1970 onwards, via the Canada Water Act the federal government introduced the concept of comprehensive river basin planning, for example, and the concept of flood damage reduction, with flood plain management. Even though these areas are largely of provincial jurisdiction, the federal government played a leadership role by developing concepts and by building the capacity of provinces and other governments, through federal-provincial agreements, to do these things on their own. And we don't have to do these things anymore, because now the provinces do things like river basin management, flood risk mapping, and so on.

So what are the new things the federal government should be providing leadership on? You'd have to go through a strategic phase, I think, to decide what those should be. Anybody can guess. At the time the 1987 policy came out, the reason it was done in a very public way and tabled in Parliament was that there were some very public issues at the time. There was infrastructure funding and the issue of who was going to pay for infrastructure. The federal government had big debts and there were a lot of demands on it, and it didn't know how to deal with them. There was the question of free trade and water export, and so on, so there were very high-profile issues the federal government had to deal with in a very public way.

Today you've got some public issues that are different from that. You've got drinking water in communities, with very high-profile health issues, especially in aboriginal and other communities. You've got the issue of adaptation to climate change; how do we adapt our supply-demand imbalance to climate change, especially in the boundary water basins, where 90% of Canadians live?

But you'd have to go through it. If you were going to decide to do another round of leadership to build capacity in other levels of government, you'd go through a strategic exercise first and decide what it was you wanted to do. It could end up being the water soft path, or pricing, or the introduction of integrated resource management, with top-down guidance and bottom-up initiative. There are lots of strategies you might want to do, and you might want to bring to bear federal leadership through federal-provincial agreements. I suggest that would be a good idea, but there's nobody really doing that kind of thing today.

Dr. David Brooks: Let me pick up on a couple of points.

It's hard enough finding a role in water for government. Once I have said I'm going to put the focus on demand, I've made my job of finding a federal role even worse, because of the nature of demand—it's enormously decentralized, it's inherently local, and so forth. It really does fall in the areas mainly of leadership.

We do very well in Canada with federal guidance, as opposed to federal mandating of things. A good example is the building code. The building code people, of course, want to focus on safety. As a few of you may remember, I was the first director of Canada's office of energy conservation back in the 1970s, and I argued with the building code people then about getting energy conservation into the code—not entirely successfully, but we've made some gains—and now I'm trying to get them to consider water conservation.

When you consider that a third of all the water used inside a house goes down the toilet, the quantity of water used to flush makes a huge difference. This is easily mandated in a building code. But whereas most other places have gone to mandatory dual-flow, six- and three-litre dual mechanism toilets, we have no such thing, even in the model code.

As a result, by the way, it means that manufacturers who can't sell in other markets are now dumping their wasteful toilets in Canada. I don't use “dumping” in the legal trade sense, but they're doing what any sensible person with excess capacity would do: they're going where there is still a market.

There are other areas where I think we could move. We have water quality guidelines. They can be adapted to be much more focused on conservation, in terms of linking outputs and inputs of water.

I think it would be entirely appropriate to do something.... For example, Ralph mentioned the annex to the Great Lakes thing, where some communities that straddle the border—they're half in and half out—can request extra water because they have a water shortage. There are a number of qualifications, but one of the most important is that they have to demonstrate they have a real need for that water. A real need is not that their lawns are going brown because it's a drought year. A lawn is not a need in the sense that justifies taking water out of the Great Lakes and dumping it some place else.

I think in codes where there is a federal involvement, there can be a strong conservation requirement. Before you say, as Mr. McGuinty mentioned, that there's a deficit in water infrastructure, how big should the new infrastructure be? It makes a huge difference when in the summertime half of the water is used for gardens, lawns, washing sidewalks, washing cars. How much of that should be supplied by a major new infrastructure? How much should you be encouraging people to plant things that don't require regular watering?

There's a whole set of things. They fall into the area of leadership, and leading by both example—government buildings are an obvious place, for example—but also setting up model codes, model directives.

● (1155)

The Chair: Do you have a final question?

We have rather gone over. But I think that's all right, because these are great questions and answers, and so I've allowed them to go on. We'll continue in that vein, if it's all right with the committee.

Mr. Ouellet, we'll try to start with five minutes, but in this case it went to ten, so have at it.

[*Translation*]

Mr. Christian Ouellet (Brome—Missisquoi, BQ): Thank you, Mr. Chairman.

Mr. Pentland, I have a question for you concerning your work at Lake Champlain and Missisquoi Bay. In Missisquoi Bay, cyano-bacteria, commonly referred to as blue green algae, poses a serious problem. Are you anywhere close to finding a solution to this problem?

What exactly do you mean when you say that are trying to address the situation? What concrete actions are you taking? My sense is that you only briefly touched on the subject. I realize you don't have a great deal of time, but you did talk about various kinds of climate change. Climate change has had a major impact on Missisquoi Bay and Lake Champlain. Warmer temperatures have resulted in the growth of blue green algae.

You say that we need to remain vigilant as well as proactive. Does that mean you are trying to find a solution to the problem, or that you would like to see one, but that nothing is being done? In other words, is Canada committed to taking concrete steps to deal with this problem?

● (1200)

[*English*]

Mr. Ralph Pentland: These are questions that go way beyond my competence.

I should just specify who I am and who I'm not. I don't work for the government; I left the government 15 years ago, but I've continued to have some involvement in this area through contracts with the IJC, and working with the academic institutions and non-governmental organizations. So I continue to have contact and continue to be asked questions, but I don't actually deal with these things.

On Lake Champlain, the specific issue I mentioned goes back quite a few years, where we had a Canada-U.S. committee look in a very comprehensive way at flooding on the lake and on the outlet into Canada. It was a flooding issue that we looked at then, and we introduced some flood damage reduction, or flood risk mapping approaches, which were new at the time. The thought when we started the study was that you would build a regulatory structure at the outlet of Lake Champlain and control the flooding in that way, but when we looked at it in detail, it turned out not to have been a good idea. It would be better to do flood risk mapping and to manage the way people live on flood plains, rather than to try to control the lakes, and so on.

In terms of the broader question of what we're trying to do and the need to remain vigilant, I was using the Great Lakes example. In the Great Lakes, governments at all levels are trying to do a lot of things at the same time. Sometimes these things slip through. You might find it's like the case with the states and provinces, who negotiated an agreement that many people thought was okay, but that other people found, once they looked at it in more detail, would have been a disaster for everybody, including Quebec. Quebec is going to be the victim of whatever happens on the Great Lakes, because that's where the water ends up. If we had ended up with a regime that permitted large-scale diversions from the Great lakes to the U.S. southwest, for example, that would have been a disaster for Quebec. You would have ended up with Montreal going dry, or whatever.

So it's very important that Canadians at all levels—governmental, non-governmental, academic, and everywhere—remain vigilant, because this kind of thing could slip through very easily without somebody catching it. The Government of Quebec and the Government of Ontario thought it was okay, until other people came along and told them what was wrong with it. It takes a lot of people being vigilant to stop these foolish things from happening. This is the point I was trying to make.

The Chair: Ms. Bell.

Ms. Catherine Bell (Vancouver Island North, NDP): Thank you for your concise presentations.

I wish we had more time, as I have a lot of questions. I'll address them to all three of you, and I think you'll figure out who can answer what. I think you all talked about capacity in some way and how we're using that capacity and how we need to assess our water capacity. I'd be interested to hear a little bit more on how we're going about that and where we're at in that process, if we're indeed in it. What would you see as future pressures, once we know the capacity?

I think, Mr. Brooks, you talked about how we have lots of water, and that it's just an issue of how we're using it. I'm worried that when people hear that statement, they'll think, oh well, we're okay, and we don't have to worry about it. So I would like to explore how we get it in the public consciousness that it's not okay, and that we do have to conserve and use water wisely.

That leads into the long-range plan, and I think long-range planning is something we don't see enough of; we're always responding to crises. I'm interested in the long-range planning, and also in future water policy, once we know the capacity and start moving down a path to conserve water.

Also, there is the issue of impacts of climate change on our groundwater and on our wetlands. We're seeing wetter summers in some areas and drier summers in others. On the west coast, where I'm from, we've already had one forest fire on the west coast of the island, where it's supposed to be raining all the time. So there are some issues there that I think need to be addressed.

Also, someone talked about water as a human right, and I'd like to hear a little bit more about that, and also about the watershed boards.

I think you said, Ralph, that you'd like to see cross-border or interprovincial.... Who would be the stakeholders on those?

I'll leave it at that. Those are a lot of questions.

● (1205)

Dr. David Brooks: Let me deal with human rights first, because I don't want to get into a discussion of human rights—but it is not an irrelevant subject. I think it is probably worth saying clearly and unequivocally that there is no international or United Nations declaration of a human right to water; it does not exist. There have been statements in various committees and there are things that imply it, but it is just a myth that there is such a thing.

Rather than getting into a discussion on wrong or right, I would be very glad to forward to you a chapter in a forthcoming book on human rights to water in the Middle East. If it applies in the Middle East, it'll be easier here, and I will deal with it.

The area where most people think of a human right is the right to drinking water and household water. Again, one of the hardest things to get across is that the amount of water you need for drinking, cooking, and human sanitation is almost a trivial quantity. It's not trivial, of course, if you're sitting in the desert, so there are a lot of qualifications to that, but quantitatively, it is a relatively small amount of water, particularly compared with what we use in industry for cooling, and it's certainly tiny compared with what we use in irrigation to grow food.

Let me go back. I did not mean to imply that we have lots of water. In fact, the whole first part of some of our work is to disabuse people of the notion that Canada has lots of water. Of course, if you divide population by water, we come out about eighth, ninth or tenth in the world. Unfortunately, much of that water flows to the Arctic Ocean, or is a non-renewable stock in the Great Lakes. If you take just renewable water, it's much less.

What can we do about it, and how do we disabuse people of the notion? There are two strong forces. As you need to invest in new water, it turns out to be quite expensive. It is no small matter for a municipality, or even a province, to increase the supply of water at a point where it needs to be consumed; so simply speaking, cost is a factor.

The other factor is that invariably the environment and environmental protection remain a very high value for Canadians. It cuts across all of the normal groupings and stays about third or fourth on people's list. If you ask people what is their most important political issue, the environment is never at the top—and I don't think it should be. The state of the economy and health obviously have more of an immediate impact, but it's always down there third or fourth; it never drops off the table.

When I was director of the Office of Energy Conservation, we used to argue to the effect that you'll save money—and, by the way, it'll be good for the environment. By the time I left that position in 1977, I decided we should have reversed the emphasis. I think Canadians respond better to a good human value, so I would have said, we've got to do this to protect the ecology of Canada—and by the way, you'll save money too. So that's how I would approach it now; there are a lot of things we can do while waiting for the longer-term analysis. There is so much that we have right in front of us in terms of more efficient irrigation, closing up of leaks. I've forgotten how much is lost just because of leaky toilets. Forget about how wasteful they are to start with, they just leak so much.

There are a dozen things we could talk about right off the bat, which could be influenced, and I would do it with a strong campaign on environment and on economics.

● (1210)

Dr. Ian Campbell: I'm not sure if I'm going to be able to address all five of those questions very thoroughly.

In terms of future pressure—which may also provide a leadership role for the federal government—there has been a developing paradigm called source-to-tap water protection, where you try to make sure that the water the municipal treatment plant is taking out of the river or lake, or wherever they're getting it, is reasonably clean to start with. I think we need to go beyond source-to-tap; we need to talk about source-to-tap to source, recognizing that in most places in Canada somebody lives upstream of you and you live upstream of somebody else. Therefore, what goes down your toilet, or what's going down their toilet, is part of your source water or somebody else's source water. We're using our water for multiple purposes, both as inputs and for waste removal. We may need to start to think about how we want to manage that to try and keep a little bit of separation between the waste removal and the input. That problem with waste removal and input is at the heart of what happened in Kashechewan and the heart of what happened in North Battleford, where there was inadequate separation of waste removal and input. I think that's a definite issue.

Provision of drinking water across Canada is going to continue to be an issue. It's extremely expensive. It takes a lot of capacity, and there are a great many small communities that are not going to have the capacity within the community; it simply is not going to be economically practical for them to have a full-time water systems engineer in a community of 500 people. It's going to continue and it will always be a capacity problem, and a problem with funding of infrastructure for the provision of drinking water in small communities across the country.

I'll speak a little bit more about climate change. In my deck, the second-last slide has two maps. The one on the left is of current conditions of a moisture index; it's of 1961 to 1990 average conditions. The one on the right is of projected, potential, or future conditions, using one particular set of modelling tools. It's not of a distant future; this is modelled for the 2041 to 2070 period, so it's of the fairly near future. If you compare the two maps, you can see the huge expansion of the red area in the prairies, which are projected to be extremely dry. You can see an expansion of green in northern Alberta and the adjacent territories. The green colour here roughly corresponds to aspen parkland, rather than boreal forest, which means a huge loss to the forestry industry in that part of the world. It also means a reduction in water availability for tar sands extraction, and so on. You can see the expansion of red in the Okanagan Valley. Overall, it's not a happy scenario. However, it's perfectly manageable if we plan for it.

I think that's the main point, that through soft paths and other approaches we can plan for a less water intensive future, and perhaps we'd better, since it's likely that there will be less water available to us.

Mr. Ralph Pentland: I'll look at all these questions just briefly.

On the question of human rights, an interesting legal concept has developed over the last 25 years in the U.S. It's called the “public trust doctrine”, and it hasn't spread across the border yet. It's something that you as a committee or your research staff might want to look into. A whole body of law has developed in the U.S. based on the notion that governments have a fiduciary duty to protect renewable natural resources for the use and enjoyment of the entire populace, not just the privileged. It has developed mainly through court cases, but it's being passed into legislation now in every state in the U.S. It hasn't come across the border into Canada mainly because a judge in Ontario made a mistake about 20 years ago.

At any rate, it's worth looking into. There was a Supreme Court case about a year ago in Canada that inferred that the Supreme Court would be open to those kinds of arguments if anybody were to bring them forward, but nobody has yet. Your research staff might want to look into that.

One the watershed board idea, St. Marys-Milk is a good example. Right now each country has one person, an accredited officer, to look after the apportionment of the water. Now you have these people on both sides of the border screaming at each other and all upset and so on. The idea there, and I suggest they move ahead with it, would be a watershed-wide board that would include all of the stakeholders—the irrigators who use the water, the environmentalists, and so on—so that they stop shouting at each other and start listening to each other. The problem is based mainly on a lack of understanding of the situation and how things actually happen, the history and so on. So if these people were talking to each other....

Beyond that, the solutions in the long run are going to come from the citizens, from the communities. They're going to have to put in place more efficient water use systems. The solutions are going to have to come from the bottom up anyway. A basin-wide board would help them with top-down advice and with how they're going to do it from the bottom up.

National capacity and water policy are interesting questions. If you look at the capacity of Canada versus other industrialized countries, over the last decade or two we've slipped quite a bit in terms of the environment and water. The OECD puts out regular figures and comparisons on how much governments at all levels, not just federal governments, spend on environment and water. We were somewhere near the middle of the pack 15 years ago, and we've slipped to very close to the bottom now of industrialized nations, if you do a comparative analysis.

On the strategies issue, as I say, we're now 20 years out of date. We haven't really done anything of significance, in a public way, for at least 20 years, so we probably don't have the right strategies for the right issues. That's going from our capacity, in a quantitative sense, to our strategies and our policies. There's lots to be done.

With regard to climate change and water, there are a lot of aspects to consider. What happens with climate change—and it is happening, the climate is getting warmer—is that the whole water cycle speeds up. You get more evaporation, more rainfall, more runoff. Everything speeds up. Whether or not you have more water or less depends on whether the precipitation or evaporation is most effective, because it's the balance that you're talking about.

In most parts of Canada, especially the drier parts, we're going to have less water, and we're going to have less water when it's really needed. Not only is there going to be less water from the precipitation-evaporation balance, but the glaciers are melting and there's less snow melt. The runoff is coming in the winter rather than in the summer, when you need it.

There's been a lot of work done in the Great Lakes region on climate change and groundwater. There are severe effects there. If you look at the Great Lakes, for example, the best predictions are that the Great Lakes that are unregulated will probably lower about five or six feet over the next 50 years, say, due to climate change. You're then going to be left with wetlands that are drylands, and all that goes with that. There are examples of that.

Did I cover everything? I think I did.

● (1215)

The Chair: Thank you.

Mr. Paradis.

[*Translation*]

Mr. Christian Paradis (Mégantic—L'Érable, CPC): Canadians are major users of water resources. Do we have the information we need to properly assess the availability of these resources? Emphasis is placed on those regions that are experiencing water problems, but do we really have an idea of the extent of the problem, if in fact there is one? I'm talking here about aquifers, groundwater and so forth.

The whole question of water usage must be examined in conjunction with water availability. Do we have the data we need to determine if Canadians are using water in a manner that is sustainable? If we know they are not, what steps can we take to turn the situation around?

In his presentation, Mr. Pentland quoted some exact figures - somewhat to my surprise — in reference to the United States, namely 30 per cent and 10 per cent. Do we have any statistics here in Canada? It's interesting that we seem to be well aware of the problem associated with boundary waters and that some solutions have been proposed. Mention has also be made of local management. Stakeholders are familiar with the situation and can propose practical, realistic solutions. Should interprovincial or local disputes arise, could these solutions be applied on a national scale?

Regardless of the level of government involved, when we talk about integrated, effective management, we're talking about taking a facilitating, proactive role. In light of these statistics, what concrete steps could the government take to fulfil its role as a facilitator?

● (1220)

Dr. Ian Campbell: These are fairly complex questions. Indeed, data on water availability and usage in Canada is not as comprehensive as we would like it to be. However, Statistics Canada has examined or is currently examining water usage by industry, farmers and average citizens. Our ability to collect this kind of data is limited and the process is complex and costly. Without water meters, it is difficult to know how much water households use.

Basically, all we can do is divide the amount of water that flows out the plant by the population supplied. However, we know that up to 40 per cent of the water treated can be lost in municipal systems, which means that estimates are not necessarily very accurate.

Statistics Canada compiles data on the availability of water, rainwater and runoff water, in cooperation with Environment Canada, and data on groundwater, in cooperation with Natural Resources Canada. Collecting data on groundwater is not necessarily a federal responsibility,as nowhere is this stipulated in the Constitution. However, most provinces are very happy to see the federal government step in and cover the cost of gathering this data.

Of course, more data is still needed. A group at Statistics Canada is attempting to establish a record of water availability and usage and to understand where our water is going. However, this is a fairly complex issue.

● (1225)

[*English*]

Mr. Ralph Pentland: Maybe I could try to add a little bit on what we should be doing as facilitator and enabler, and so on.

I guess if you think back to when the Canada Water Act was passed in 1972, and for two decades afterwards, when I used to manage the program I had $20 million in my budget per year to enter into federal-provincial agreements, and at any given time we probably had 30 or 40 agreements with provinces. As I mentioned before, we did things like river basin planning, flood damage reduction, flood risk mapping, a lot of flood control works and other things.

As I mentioned before, if one were to do a good strategy job today to find out where we needed to build capacity in the country, whether it were on pricing or soft water, or whatever you decided needed to be done in terms of federal leadership, one could still do that, as the act is still in place. The $20 million is no longer in place; there's no budget for it. But if one were to decide where you wanted to provide leadership in terms of being a facilitator and an enabler, and so on, one could certainly do that. The act is still in place; the capability is still there, but the money is not there. That's the way to do it.

It doesn't take very much money; it's a small amount of money, really. You can build a lot of capacity at the provincial and local level, and then you don't have to do it anymore. We don't have to do river basin planning anymore; we don't have to floor risk mapping anymore. We provided the leadership for 10 or 20 years. We left the field.

But today, if one were to redo the strategy job and redo the policy job and decide what needed leadership today, the mechanism is still there. For a very small amount of money, you could enter into federal-provincial agreements and provide that kind of leadership again.

The Chair: Thank you.

We'll now welcome Mr. Tonks to the committee. He has onerous responsibilities these days, as he's wearing more than one hat.

I'm pleased you are able to join us, even for part of this. But as the former chairman of the environment committee, I know you're well versed on these issues. I'll let you go now for the next five minutes.

Mr. Tonks.

Mr. Alan Tonks (York South—Weston, Lib.): Thank you, Mr. Chairman.

I apologize for not being able to attend the meetings. We have this House legislative committee on Bill C-2, which seems to be taking a little time. But we're back to our first love and interest, which obviously is environmental issues as they relate to our natural environment.

I wonder, Mr. Chairman, if our deputants, who I thank for being here, could.... I recall that when our environment committee was looking into the Devil's Lake diversion, we and the deputants had emphasized the precautionary principle with respect to not just looking at the issue in a very specific and narrow sense, but also looking at the ecosystem, the total implications with respect to that particular decision.

I wonder what came out of that initiative the committee took. What came out of it was the ongoing oversight and accountability that the committee could provide on matters relating not only to the Devil's Lake issue, but also to general diversions that had been put forward and were bringing into question the jurisdictional issues around international treaties, the annex agreements, the Great Lakes Water Quality Agreement. There were a whole bunch of issues that came in.

So my question, Mr. Chairman, is what role do our deputants see with respect to this committee? If they could be armchair quarterbacks and say, look, we want to immerse the committee in the discussions and the decisions that are absolutely critical to where we want to go in terms of protecting our natural habitat—in particular, our water and our ecosystems and habitats—what role do they see for the committee? How would they direct us in terms of this committee's deliberations and how it could be as effective as possible?

Mr. Ralph Pentland: Just harking back to the annex in particular, it was a very good example. As you recalled, you chaired the committee hearing evidence on that one in a very timely way, and the committee produced a very good report at a very critical time. At the time the agreement was on the verge of going through, and it would have been a very bad agreement, and your committee report was one of many things that stopped it.

If you're going to do that, it's very important, of course, that you do it at the right time and have enough intelligence out there in the field to know when the right time is—but what you did was ideal, as you stepped in at exactly the right time and produced a report that helped to turn the issue around, along with a few other things. I commend you for doing that; it was the right thing to do at the right time and it did have a positive outcome.

So in your system, if you have some kind of intelligence that alerts you to these kinds of things and enables you to step in at the right time with an intervention, a report from a committee like this does carry an awful lot of weight with provincial governments, state governments, and others. So the timeliness is important.

● (1230)

Mr. Alan Tonks: Mr. Chair, I wonder if I could just ask one short supplementary question.

The issue is with respect to the Athabasca River, and the nature and interface with respect to the development of the tar sands and the technology that is being used. I don't wish to put the deputants on the hot seat with this one, but this issue is one that crosses ministerial silos and jurisdictional silos also.

Is this an issue you would be concerned about and on which you could give some direction with respect to the ongoing oversight of this committee, or other committees of the House?

Dr. Ian Campbell: I'm reluctant to go too far with “shoulds”. As a civil servant, I officially represent my minister who, I guess, right now, is the Right Honourable Stephen Harper. I'm not going to say, on his behalf, what this committee should be doing.

Certainly looking at the use of water in fossil fuel extraction is something that could be of great interest, particularly for this committee, where it would be involving multiple natural resources, as opposed to involving a single natural resource. Certainly oil and gas exploration activity in northern Alberta also has an impact on the forestry sector, so if you were to look at that you would certainly be getting your fingers into multiple different pies at the same time, and that could be quite attractive.

The difficulty, of course, is that as soon as you look into any specific issue like that, you potentially get into spending a lot of time on determining where the federal-provincial jurisdictional boundaries are, which can always complicate any natural resource question.

Dr. David Brooks: Let me skate around the Athabasca River, which is probably the wrong metaphor right now.

You asked about putting environmental protection first. Five or ten years ago, the library bookshelf on how much water is required to keep ecosystems healthy was small indeed. The field has exploded in the last 10 years. I think it would be very useful if this committee were to survey the literature. I'm not sure what authorities a committee has, and so forth, but you could request Environment Canada to look over the various books and articles that have been published by highly qualified people, and ask them to apply those methods to a sample of Canadian rivers and lakes to find out what is needed and how the water has to be available. It's no longer enough to say, well, it needs a flow rate of so many cubic metres per second, but it's also a case of how much water the flow pattern needs.

They've come up with some results that are initially strange, that rivers in arid parts of Canada are actually more resilient than those in temperate parts of the climate, because they have had millennia to get used to wild swings of rainfall, whereas those in, say, Ontario and Quebec have been used to a relatively stable climate, and they haven't learned to adapt their ecology.

But there are no methods that are available; they're not going to give it to you down to the last 10 cubic metres, or patterns, but I think it would be very instructive to have that. I don't know of any researcher who is working on this in Canada, but activity is flourishing in Europe and the United States.

● (1235)

The Chair: Thank you.

I'm looking at the clock, and I note that we are going to keep you right till 1 o'clock. If that's all right with the witnesses, I thank you.

Monsieur Cardin, could I ask you to try to keep it to five minutes and then we could give everybody an opportunity to ask at least one question.

[*Translation*]

Mr. Serge Cardin (Sherbrooke, BQ): Thank you, Mr. Chairman. Good day, gentlemen.

Unfortunately, due to circumstances beyond my control, I wasn't able to familiarize myself with this publication prior to arriving here. However, I find it quite fascinating. What struck me from the very first was the title: *Freshwater for the Future.* The words bring to mind development, economic growth, and so forth. Perhaps I would have preferred to see the words “vital resource and life source”. That's what comes to my mind when I hear the word water.

You quoted some impressive statistics on water usage. Water withdrawal is measured in cubic metres. Municipalities withdraw 4 million cubic metres, whereas the figure is 28 million cubic meters for thermal power generation. Other statistics for other sectors are equally impressive. Even the agricultural sector does not use as much water as municipalities do.

Still according to your notes, we read that less than 3 per cent of the water treated by municipal water treatment plants is technically for consumption, or drinking, purposes. We see that the actual amount of water consumed, percentage wise, is minimal compared to water usage in other spheres of activity. All of which leads me to think that water has increasingly become a market commodity. I'm wondering — and I hope I'm wrong — if all of the efforts to protect the resource are in fact being made so that this resource can be marketed. As we all know, water is a protected resource and cannot be exported in bulk. However, if things continue as they are, will outside pressure ultimately result in governments, or the principal stakeholders, viewing water as a highly lucrative commodity?

[*English*]

Mr. Ralph Pentland: There are two issues, the consumption versus withdrawal. Generally speaking, you withdraw water, a small amount is consumed, and the rest goes back to the environment. In the case of a municipality, normally you'll consume about 10% of what you withdraw. In thermal power, you might only consume 1% of what you withdraw. In agriculture it might vary from 20% to 80% of what you withdraw. So it depends on the use and so on.

In terms of the question of water as a commodity and so on, and water rights, what happens in Canada is that you have two different systems for managing water use. In the parts of the country such as Ontario, Quebec, and the east, where you have a lot of water, we consume less than 1% of the water that's available. So we don't need a system of water rights and a system where we can buy and sell water. There's lots of water. In those provinces we generally have a licensing system. We license water use so that we make sure this water use is not going to interfere with the environment and other things. In Quebec, Ontario, and the Maritimes and so on, we license water use.

In the west, where you actually have a water shortage in the Palliser Triangle and other places, you don't have enough water for the uses that you want to use, we have something called a water rights system. People are issued a right to use water. In the extreme now, for instance in Alberta, they've now introduced legislation whereby a person can get a right from the government and sell it to somebody else. So you're actually into a situation now in parts of the country that are water short where you can actually obtain a right to use water and you can actually sell it.

So the situations are very different where you have lots of water and where you don't have lots of water, and the legal systems are adapted to take that into account.

● (1240)

[*Translation*]

Dr. Ian Campbell: Regarding the marketing of water resources, I would simply add that exporting water in bulk to the United States could conceivably be a cost-effective move, as the distances involved are not too great. However, exporting water in this manner elsewhere is absolutely not cost-effective. Indeed, it would be more cost-effective to build a new filtration plant in Africa than it would be to ship water to the continent.

The same is true in Canada. Shipping water is an extremely costly undertaking. Water is heavy, cannot be compressed and cannot be dehydrated. Therefore, marketing water is not very useful, unless it is done on site. In that case, it's not really a question of selling water, but rather a matter of withdrawal and usage rights. It's not easy to find a way to make water a profitable commodity, especially in Canada.

Dr. David Brooks: That's true, for the time being. The soft path approach is used, more or less, for academic studies.

I appreciate what you're saying, but as we go ahead with our studies, we intend to formulate real policies to address these different issues. Right now, people are wondering how to use and conserve water? With the soft path plan, the question is: For what purpose is water needed and what are the alternatives? We are concerned about the use of drinking water for non-essential purposes. Why do we have a system in place that ensures an optimum water supply to grow food products? Conceivably, the same results could be achieved with perhaps one-third of the amount of water currently used.

This is one Middle Eastern model where various techniques are employed to conserve water. Can we create a similar model here in Canada? We don't have an answer to that question yet, but ask us again in six months' time.

Thank you.

[*English*]

The Chair: That was a great question, and thank you very much for that, but I think we're going to have to move on.

Mr. Harris.

Mr. Richard Harris (Cariboo—Prince George, CPC): Thank you, Mr. Chairman.

My question is for Mr. Campbell. We talked around the subject of bulk water exports. Of course, they're not permitted at this time in Canada. Mr. Pentland has basically stated that the demand for Canada's water by the U.S. is perhaps not as large as it's generally thought to be.

With respect to that, you made a statement earlier that the treaties Canada signed with the aboriginals never extinguished the water rights. By that, I have to assume that aboriginal bands still have, or believe they have, rights to water. In your opinion, what would Canada's response be should one or more of the aboriginal bands in our country decide that it would be a pretty lucrative business arrangement—and of course it would—if they were to bulk package some pristine water that happened to be within their territory and decide to begin exporting it to the U.S.? Depending on the quality of water, they could probably get a pretty good dollar for it.

I'm very curious about this and serious about the question too, because there are a lot of things that aboriginal bands can export that non-aboriginals cannot. If you would be candid about your answer, I'd appreciate that.

● (1245)

Dr. Ian Campbell: To be absolutely candid, I really have no idea what would happen. It has not been tried.

One of the problems with bulk export in most situations is that it's simply not economical. You're not going to make money; it will cost more to do than it will be worth. So it's not likely to happen any time in the near future.

Certainly, there is the export of bottled water, which is essentially something of a luxury item in a North American context. I don't think there would be anything to prevent anybody from bottling water and shipping it.

Mr. Richard Harris: I realize that, but let me give you a scenario. Let's say there is a first nations community in the southern part of B. C. or Alberta where the Rockies cross the border. There's some pretty nice water down there. If they make arrangements with a company across the border to do some bulk shipments to that community—of course you know when you put a tanker truck full of bulk water into little bottles, it dramatically increases in price—it is then a lucrative arrangement. That's the scenario I'm thinking about. No one else under Canada's laws can do that.

Would it be possible, and how would Canada respond to that?

Mr. Ralph Pentland: There is no Canadian law that says you can't do it. There's no law, but there is a Canadian policy that prohibits inter-basin diversions. In the scenario you're talking about, there wouldn't be an inter-basin diversion.

The Canadian policy talks about inter-basin diversions between the five major Canadian basins—Hudson's Bay, the Missouri, the St. Lawrence, and so on—but the scenario you're talking about would not be prohibited by any policy or law as far as I know—even if you did it.

Mr. Richard Harris: Okay. I appreciate that answer.

Dr. Ian Campbell: There is a sign in Las Vegas at an outdoor shopping mall fountain that says: "The water in this fountain does not come from the Colorado River Basin. It comes from northern states or Canada". We tracked that down. It does not come from Canada; it comes from just a few miles outside the Colorado River Basin. But the point is that there's nothing to prevent anybody from filling a truck with water and taking it south, except in some places. I'm not sure, Ralph, if you know if that would be against some provincial laws.

Mr. Ralph Pentland: In the Great Lakes area, it would violate a provincial-state agreement.

There's an interesting history here that you might want to look into. During the free trade negotiations, the federal government of the day introduced a bill called the Canada Water Preservation Act, which would have prohibited water export from Canada. There was a free trade election; there was a free trade agreement. Afterwards, you'll note that proposed law didn't come back to the House. If you were to get a serious bunch of lawyers together, I suspect you'd find out that the reason it didn't come back was because it couldn't come back.

We probably couldn't pass of a law of that sort today without violating international trade agreements. That's probably why the Canadian government has a policy based on river basins, rather than on countries. It's likely that we would run into problems if we tried to absolutely prohibit export from a country under the current trade arrangements. We can do it between river basins for conservation and environmental reasons, but to do it between countries would be questionable today.

● (1250)

Mr. Richard Harris: I appreciate that answer.

I will also add the comment that there seems to be a myth out there that bulk water shipments in any form are not the policy of Canada—I'll use the term "policy"—and anyone who tried to do it could be subject to a challenge of some sort. But if that's not the case, then I'm glad you've clarified that for me.

Mr. Ralph Pentland: In my written version, the Canadian policy is outlined, and the provincial governments have all adopted the same policy.

The Chair: We have time for one more.

Just in fairness—

Mr. Christian Ouellet: I'd like to make a comment.

The Chair: All right, you can make a quick comment, and I'll go back to Brad at the end.

[*Translation*]

Mr. Christian Ouellet: Mr. Brooks, you mentioned earlier that it would be interesting to institute legal responsibilities here in Canada, much like we have under the building code.

However, the building code merely contains guidelines, which can be amended and evaluated. It is not an enactment. The provinces are responsible for enacting legislation. Furthermore, if the building code is applied, it is solely because of and by the insurance companies. It is the insurance companies, not governments, that can take credit for these regulations.

It's rather hard to imagine the federal government having the will to install a dual water pipe or waterless urinals. What do you think?

Dr. David Brooks: I agree. It was difficult to imagine during the 1970s and it's still difficult today.

The building code is very influential. Some provinces use it as a reference tool. It is the only one the federal government has.

Perhaps we could arrange a kind of competition, as we had during the 1970s when the provinces competed to see which one could design and build the most energy efficient building. Toronto and Calgary were competing against each other. Perhaps we could arrange an informal competition to see who can design the most efficient building or neighbourhood in terms of water conservation.

Mr. Christian Ouellet: That's already happened. Three weeks ago, the Zero Energy House initiative was launched.

[*English*]

The Chair: Thank you, gentlemen.

With that, I think we'll wrap it up.

I want to thank you for coming today, for the presentations, and for some great answers to help inform this committee. I do appreciate it, and I thank you for your attendance.

To the rest of the committee, we have distributed a calendar for the next month of meetings and of witnesses who will appear. Of note is the meeting on June 6 with the Energy Dialogue Group. We had intended to be in Alberta on that day, but the clerk advises me that there is some problem there and that we have had to postpone that meeting. So we're just going to have them come down here, rather than go to Fort McMurray.

I'll let the clerk take a minute to explain that and where we go from here.

● (1255)

The Clerk of the Committee (Mr. Chad Mariage): The reason for the postponement of the trip to Calgary and Fort McMurray is that there was a temporary shutdown at Syncrude because of retrofitting. I don't know if you saw the reports on CBC last week or the week before. There was an odour being emitted, or something along those lines, and so they're making improvements, doing some maintenance, and those sorts of thing. At Suncor there's a senior management conference that week, which can't be rescheduled, so there wouldn't be anybody there to receive us and show us around.

A recommendation was made, though, by a spokesperson of both Syncrude and Suncor that the fall would probably be better anyhow, given that most of the maintenance to the grounds, the machinery, and those sorts of thing, is done during the summer. Those would all be done by the fall, and they'd be in a better position to receive us at that point.

The Chair: Okay, not to keep the committee here, what we've done is reschedule the Calgary meetings to here on that day. It sounds as if it might be more advantageous for the committee to do this in the fall, with a little more information in our heads. The water aspect is one that I wouldn't have thought about previously in regard to a visit to Fort McMurray and the oil sands, so it may turn out just as well.

That's it, then. We will reconvene on Thursday for the mining group. Thank you for your attendance.

The meeting is adjourned to the call of the chair.

Published under the authority of the Speaker of the House of Commons

Publié en conformité de l'autorité du Président de la Chambre des communes

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