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599 LEXINGTON AVENUE  
NEW YORK, NEW YORK 10022

TELEPHONE: 212-326-3939  
TELEX: 237013 JDRP UR  
CABLE: JONESDAY NEWYORK  
FACSIMILE: 212-755-7306  
WRITER'S DIRECT NUMBER

(212) 326-8372

6828-ecx-7002L/4  
929650-410-250

February 4, 1992

Jan Beyea, Ph.D.  
Chief Scientist  
Audubon Society  
950 Third Avenue  
New York, NY 10022

Re: Hydro-Quebec/James Bay Forum

Dear Jan:

Your speech, which I thought was extraordinary well written, had very dramatic affect on the audience. Congratulations on such thorough preparation and ability to communicate. I am pleased that you are on our panel and that you were able to carry so much of the weight of the argument so well.

I know that we will have other opportunities to work together and I look forward to them.

With best regards,

Sincerely yours,



Ross Sandler

Remarks Prepared for Speech at the  
New York City Bar Association/The Americas Society Debate:  
"The New York Connection to Hydro-Quebec's James Bay Project:  
The Facts Behind the Controversy"

by Jan Beyea, Ph.D.  
National Audubon Society

January 30, 1992

## 1 Intro

Before beginning, I want you to know that I have an Audubon report<sup>1</sup> here that covers the issues of concern in great detail. If there are no copies left, you can get one by calling my office (212) 546-9301.

James Bay is of great concern to U.S. environmental groups -- not just to Audubon, but to the other major national groups like NRDC, EDF, Sierra club, and to regional groups like the James Bay Coalition and Solidarity, and to NY state groups such as NYPIrg and Environmental Planning lobby.

Out of all these groups, I represent the viewpoint that is most conservative, most cautious, most "realistic" on James Bay. I like to attribute this to my scientific background, to the fact that I've been involved in the issue longer than anyone else in the U.S., and to the fact that increasing wisdom is supposed to come with maturity. On the other hand, it may simply reflect testosterone levels declining with age.

In any case, the point of this confession is simply to point out that the entire spectrum of the environmental community sees the current development plans for around the James Bay ecosystem as a major environmental problem.

There are five main issues in the debate:

Wildlife, wilderness, native rights, energy alternatives, and economics.

Wildlife, wilderness, and native cultures are at risk from massive developments planned all over northern Canada. Energy alternatives offer a way out of this dilemma. Thank God there is one alternative that can protect the natural and native resources, that can allow Quebec to export more electricity thereby aiding economic growth in the province, that can help NYPA pay for the Marcy

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<sup>1</sup> "Issues that Need to be Considered by New York State in its Preparation of an Environmental Impact Statement Regarding the Consequences of Retaining or Cancelling a contract with Hydro-Quebec to Furnish 1000 Megawatts of Electric Capacity," by J. Beyea, J. Hansell, S. Drennan, National Audubon Society, Nov. 1991.

South transmission line, and that can keep electricity costs lower in the Northeast U.S. But making this alternative a reality will require tremendous cooperation from all of us. I will return to this vision later.

## **2 Problems with Hydropower**

Most energy planners assume that all hydropower at any scale is either benign or clearly superior to any realistic alternative.

We environmentalists know this is not true.

### **2.1 Wilderness**

First of all, we know it's not true because dams are the tamers and destroyers of wilderness and wildness. Secondary impacts arise from the associated roads that foreshadow additional development.

Wilderness is a scarce resource in the world and will surely fall to population and development pressures without permanent protection. It concerns me greatly that Quebec does not have a long-term wilderness plan for the Province with which to limit and channel hydro development.

I fear that the pressure of U.S. dollars -- driven by our insatiable demand for energy and mineral resources -- will induce the Quebecois and other Canadians to make the same horrible mistake that we have made in the U.S. when we destroyed more than 90% of our wilderness.

### **2.2 Wildlife**

The second reason we environmentalists know that hydropower is not benign or superior to other energy sources is because rivers are the lifeblood of ecosystems. Excessive interference with river-flows severely reduces biological diversity. It is only people who are not concerned about wildlife and wilderness that can think that hydropower is always benign. It distresses me greatly that there seem to be a lot of such people in NY State agencies.

And finally there are human impacts of hydropower as well -- mercury pollution as well as new concerns about methane emissions that need to be resolved.

### **3 Rivers**

Rivers are the heart of an ecosystem -- the center of biological activity -- just as NY and other cities are the economic heart of NY State. Destroy NY States' Cities, even though they take up a small percentage of the area, and you destroy the State's economy. The same analogy holds for Quebec's cities.

Destroy the rivers in an ecosystem, even though they may be a small percentage of the total area, and you devastate the ecology of the entire watershed.

Why does hydropower have the potential to ruin the ecology of rivers?

For one reason, large scale or multiple series of dams block nutrient and sediment flow.

Most importantly baseload dams flatten out the natural variability of rivers -- altering the huge rush of water in the spring or summer that triggers so many biological changes.

Variability is the key here. Biological systems and migrating species in particular have adapted to variability of the seasons -- which baseload dams destroy.

Scale is the other key variable.

Hydropower is only a good energy source when used in moderation--which means keeping most of the natural variability of flow and letting most of the nutrients run down river. Unfortunately, moderation is a very hard word for engineers and planners to come to terms with. You don't take courses in moderation in engineering school.

#### **4 Scale**

And what is the scale up there? Truly massive. Remember that Hydro-Quebec has the best engineers in the world. Rivers are no match for their onslaught. They drain them, divert them, make them run backwards. Hydro-Quebec is engaged in the largest ongoing set of engineering projects in the world.

And it's not just Quebec. Manitoba has already built large projects and is planning another huge one. And there's Ontario, which is also a player in hydropower in the area. Basically, under the current scenario all the major rivers flowing into James and Hudson bays are doomed to be tamed by large dams. Nearby Labrador is also building new dams too. I wonder, even with the recently signed Memorandum of Understanding, whether we have the laws and treaties that can handle this scale of an environmental problem? The entire northern end of the eastern bird flyway is at risk. I first saw this in 1986 when I looked at the hydrodynamic equations governing water flow in these coupled inland seas. With a physics and earth science background it was pretty easy for me to see that the fresh water flow drives the hydrology in these huge bays. Tame all the rivers and you tame the wildness of the entire region. A regional ecological disaster could occur -- a phrase I do not use lightly.

Let me make it clear that a regional disaster would not occur from Great Whale alone, but from the cumulative impacts of all the Quebec projects and all those in the bordering provinces.

#### **5 Quebec and Hydro-Quebec's Attitude(s)**

What does Hydro-Quebec say to all this talk of gloom and doom that I have been laying on them over the years?

Hydro-Quebec sees no problems with my concerns. The corporation focuses only on incremental impacts -- impacts of the next dam it needs permits for. They

wouldn't agree to do more, even in the Memorandum of Understanding. This is why we environmentalists are so suspicious of Hydro-Quebec's involvement in the environmental review process.

Moreover, Quebec has apparently made the policy decision that hydropower is better than any alternative, so that environmental concerns are solely limited to mitigating the impacts of hydro projects. Not building a project is inconceivable.

I challenge Mr. Drouin to refute my analysis. Tell us if there is any conditions under which Quebec would not want Hydro-Quebec to go forward with plans to tap 70-90% of Quebec's hydropower. (In the U.S., by the way, we've only tapped 50% of our hydro potential with terrible wildlife and wilderness loss.)

Isn't it true, Mr. Drouin, that you talk only about the impacts of Great Whale, but in the back of your mind you know that you're going to build the Nottaway-Broadback-Ruppert component and that other provinces are going to build huge dams too?

## **6 Energy Alternatives and Economics**

So I come finally to the energy alternatives. First there is fossil fuels. We have recently heard concern about regional air pollution expressed by folks who never worried much about this problem before until it became an argument for building hydro projects.

This one really burns me up. If any group of people are more concerned about clean air and acid rain it is Audubon, Sierra, EDF, NRDC, and environmental groups in Quebec, all of whom have been working for cleaner air for over 20 years --- We don't want cleaner air this way. I, in particular, don't want cleaner air for my daughters on the backs of the Cree and North American wildlife.



There are better ways to get air quality improvements -- energy conservation, in particular. I'd support energy conservation over destroying wilderness even if it were more expensive, but it's actually not. Hydropower imports have lost their economic edge.

So the supporters of hydropower have shifted their argument: we now hear that hydropower is needed to provide "diversity" of supply.

An ironic word -- we also need diversity of wildlife and culture.

What about solar power as an alternative? Although it's not viable now, it could be by the year 2007, when NY State's energy analysis says we'll need new supply. On the other hand, without citizen action, it won't be ready even then. It's time to stop taking no for an answer on solar. That's why Audubon is about to launch a new citizen campaign, the Solar Brigade, that will enlist people around the country to enclose notes in their utility bills every month demanding 10% solar power in ten years. The program is described in the February issue of the Audubon Activist, early copies of which are available here. People power can change utility attitudes just the way people power changed attitudes about recycling around the country.

So we now come to the staple of environmentalists -- energy conservation -- energy efficiency -- demand side management -- all words for the same idea of freeing up electricity by using it more cleverly to accomplish a task. One problem environmentalists have with hydro imports is that they will stop the implementation of cost-effective demand side management measures in NY and elsewhere.

But the most interesting conservation alternative involves "conservation transfers" with Quebec.



Imagine a corporation in Quebec, possibly a subsidiary of Hydro-Quebec, selling energy efficient equipment and appliances in Quebec, saving kilowatts on the demand side, with Hydro-Quebec transporting the saved electricity down to the Northeast.

This is the vision I mentioned earlier that offers the opportunity for a win-win situation. Judge Cowart in his Vermont decision suggested Vermont utilities explore exactly this type of contract.

Demand-side management is a politically acceptable way to generate electricity for export in both the U.S. and in Canada. And conservation transfers will be cheaper for Quebec than building new dams, allowing them to make a greater profit from US customers.

So how about it? I issue another challenge. How about making a deal right now in front of everyone? Why can't NYPA, Hydro-Quebec and environmentalists agree to go hand in hand to the Public Service Commission, to NY utilities, to NY energy agencies and commit ourselves to make conservation transfers a reality. There are risks of course -- on all sides -- we environmentalists are afraid of sham transfers -- but let's make one great effort to resolve this issue so everyone can win. We can work on your side on this one, rather than fighting you.

It could be the start of what Quebec environmentalists call, "a new philosophy of development." The world can no longer look at economics, resources, and development with the same divisive perspective. We need new partnerships, new alliances. What an opportunity for Quebec to lead the way -- to set an example for the rest of the world.

You know this battle we're engaged in is a pretty evenly matched fight -- none of us know what the outcome will be. The pressure is building inexorably to force environmental reviews on Hydro-Quebec. The economics are getting worse and worse for hydropower no matter from which side of the border you look. For

our part, we're not sure the laws and treaties are adequate to get the kind of cumulative review and action we've been wanting for so long. We also know that even if we stop U.S. contracts, ten to fifteen years from now, Hydro-Quebec may well get financing anyway. So the time is ripe to negotiate a resolution

## **7 Conclusion**

We share the planet with 30 million other species, 20-50% of which are projected to be lost from human development in the next 50 years. We have become so powerful technologically that we are wiping out the world's biological diversity. Are we going to tolerate this disaster or are we going to find ways to maintain biological diversity.? Hydropower on the scale proposed by Quebec, Manitoba, Ontario, and Labrador will contribute to this worldwide decline.

Polar bears, walruses, seals, anadromous fish, migrating birds -- they survive in areas that are not of interest to humans economically, which become rare habitat by default. Hydropower changes that equation in the north, making the land of interest economically. And that's the real threat to wildlife, wilderness, and native cultures.

But as I've tried to indicate there is much more than economics at stake here. Ethical issues are at the core of the James Bay debate.

We tend to think that great moral crises occur elsewhere or at other times in history. In hindsight the moral choice seems obvious to everyone -- but not at the time -- there are always extenuating circumstances.

We also tend to think that great moral crises involve separating the good guys from the bad and throwing out the bad guys. But really the problem is identifying the good and bad in ourselves...in ordinary people who make up the society. The crisis is resolved when people make the decision that they will just not tolerate certain ways of doing things. This challenges the professionals and engineers to

adapt. The professionals are smart. They'll give us alternatives like energy efficiency and conservation transfers, once we let them know we won't take excuses any longer.

I do not know who will win this fight-- but if that land in Quebec is destroyed because of imports to the U.S., it will be a moral crime and everlasting shame upon U.S. society.