# LIVING BELOW A MAJOR RIVER DIVERSION

**A Presentation to the Nibi Commission on the Water Management**

**(James Bay Advisory Committee on the Environment**
**and**
**Bureau d'Audiences publiques sur l'environnement)**

**on behalf of the Cree Nation of Eastmain**

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In this presentation to Québec's Commission of Enquiry into Water Policy, I would like to explain to the Commissioners the importance of understanding the impacts of major river diversions in Québec. We understand that Québec has more major river diversions than any other region in North America, and since we live down river from one of the most complete diversions – that of the Eastmain River – we think you should consider what this type of diversion scheme involves for the people using the affected drainage basin.

The Cree First Nation of Eastmain is based on a community at the mouth of the Eastmain River where it flows into James Bay. The community has a population of about 550, and is located approximately 900 km north of Montréal. Our hunting territories extend eastwards a distance of over 200 km from the James Bay coast into the interior of what we know as Eeyou Istchee (the James Bay territory). Our territory is intimately linked, by both history and culture, to the Eastmain river both as a natural resource and as a travel route; our community site has a fur trading history linked to this river which goes back to the 17$^{th}$ century. At that time, the Eastmain river ranked eighth in importance of Québec's rivers, with a drainage basin a little smaller than the Province of Nova Scotia (46,000 sq. km. compared with 56,000 for Nova Scotia).

In 1980, 87% of the drainage basin of the Eastmain River was diverted northwards to become part of the newly created drainage basin of the La Grande hydro-electric project. Both the size of the diverted flow (predicted to be 845 cubic meters per second on average) and the residual flow at the mouth of the river (about 13% of the pre-diversion flow) make this one of the most important river diversion projects in North America.

We believe that water diversions justify close examination by the Québec Government in connection with its enquiry into Water Policy. We say this partly because we know that major river diversions have played an exceptionally important part in hydro-electric energy development in Québec (more so than in any other major region in North America), and because we have experienced directly the effects of the most extensive of those river diversions. Also, we want to point out to the Commissioners that Hydro-Québec (and therefore, presumably, the Québec Government) is presently planning a further diversion scheme involving the Eastmain basin. This diversion would capture a major portion of the drainage basin of the Rupert River, and route the diverted waters through the Eastmain basin on their way to the powerhouses of the La Grande project.

Because of the combined impacts of river diversions and expected extent of flooding of their most productive hunting territories, Eastmain was considered in 1974 (several years before the diversion took place) to be the community most severely affected by the La Grande project. This is reflected in the allocation of

additional lands for the community under the terms of the James Bay and Northern Québec Agreement, although we do not see this is a way of making up for, or remedying, the environmental damage.

Twenty years have now passed since the diversion of the river, and we can now ask ourselves what has been learned that should be brought to the attention of the Québec Government. We would like to make the following observations and recommendations to the Commissioners :

- river diversions like that of the Eastmain River end up by largely destroying the fish stocks that spawn in the freshwater sections estuaries of such rivers (particularly whitefish and trout in our case). They contradict the idea of hydro-electricity as an example of sustainable development.

- In the case of the Eastmain River, a series of man-made ponds were created to restore water levels along unstable sections of river bank and reduce erosion in the remaining river valley. These ponds may look reassuring from the air, and they did reduce the amount of bank erosion, but they generate their own problems. They require maintenance and repair from time to time – for which no provision has been made; and they can be damaged or even destroyed when spillways are opened. The idea that ponds can be created in this way to restore fish habitat is not very convincing to us, and needs serious re-examination.

- No provision was made for flow maintenance in the Eastmain River, and there was strong opposition from Hydro-Québec at the time to any level of flow maintenance sufficient to maintain fish habitat. We cannot therefore learn from the Eastmain example what level of flow maintenance would have been necessary. We do know, however, that flow maintenance would have meant releasing water contaminated with methyl mercury, leading to downstream contamination similar to that reported along the Caniapiscau river downstream from the Duplanter spillway.

- Balancing the arguments in favour of flow maintenance (for the protection of fish habitat) with the effects of releasing mercury (which is then taken up by fish) is a difficult issue which the Québec Government will have to address the next time it assesses the impacts of a proposed river diversion. While on the subject of mercury, we want to point out that the fish stocks on the diversion route remain well above regional background levels and are expected by Hydro-Québec to remain contaminated for possibly another decade. Mercury contamination in general, and in reservoir fish stocks in particular, is a significant additional impact with which the people of Eastmain have had to deal. Our local fisheries have suffered seriously as a result.

- The Eastmain diversion has particularly serious implications for lake sturgeon. This is a vulnerable species, which in the Eastmain River is near the northern limit of its range in Eeyou Istchee, and a species which has already been adversely affected in many ways by hydro-electric development and other man-made flow modifications. If, as seems to us likely, the effect of the Eastmain diversion is to eliminate sturgeon from a major portion of its range, we would have to consider this as another example of the unsustainability of hydro-electric development. Such developments also call into question commitments (both federal and provincial) to the protection of biological diversity and the protection of vulnerable or endangered species. (Hydro-Québec's monitoring programmes for fish in the La Grande Complex did not include sturgeon, it should be added).

- The failure to prepare shorelines along the diversion route of the Eastmain River on its way to Sakami Lake and LG-2 has created lasting problems for Cree hunters. It will be many years before these shores are again usable – well beyond the lifetimes of the hunters who use this area. For practical purposes, the diversion has caused essentially permanent losses of wetland and shorelines habitat, and this type of damage, once created, cannot be remedied or corrected without major intervention. If the Rupert River is added to the flow through the Eastmain diversion route, we can expected additional problems of erosion and instability.

- Construction of the Eastmain diversion resulted in the opening of the inland hunting territories to the many thousands of visitors who have come into the territory to hunt and to fish. We therefore have a situation in which, in addition to the direct ecological impacts of the diversion, the opening of transportation infrastructure to the south has led to considerable increases in use of wildlife resources, but in ways which are largely beyond the control or even influence of the Cree hunters. (Meanwhile the community until recently remained isolated from the new roads, and was unable to make use of them.)

- Finally, and certainly not the least of the concerns from the perspective of the Eastmain community, turning the mouth of the Eastmain River into a saltwater bay has lasting implications for water supply and waste water disposal. The Eastmain community is located on a low, sandy terrace surrounded by extensive muskeg. The options available for both water supply and waste water disposal were limited at the outset, but have been made much more difficult as a result of the river diversion. The community is still engaged – with Hydro-Québec, it should be added – in the search for a permanent and viable solution to the problem of water supply.

- The loss of the river essentially means that it is no longer available as a source of freshwater to the community. At the same time, the loss of river flow also means that the river can no longer be relied upon as rivers are so often relied upon in Québec as a means of dispersing and diluting the effluent from waste water treatment systems.

## Conclusion

Eastmain has been neglected by Hydro-Québec in its published reports of its environmental management philosophy. You will reach the same conclusion when you consult the State of the Environment reports produced by the Québec Government. You will not find in these reports much in the way of analysis of the issues raised here. Nevertheless, we believe that the Eastmain River diversion has left us with a legacy of environmental disturbance which will remain with us for many years to come. At the very least, the Commissioners should recommend to the Government of Québec that the ecological and human problems generated by such diversions should be the subject of ongoing monitoring – which is not presently the case. In this brief, we have outlined some ideas and concerns which could serve as the basis for a monitoring strategy. Naturally, we would want to be involved in developing a monitoring strategy for river diversions, and we believe that we could contribute, on the basis of our experience, to the success of such an exercise.

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