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Meeting Date: 10 October 2013, 1:30 pm

Meeting Place: Minister's Executive Boardroom
4th Floor, Hearst Block, 900 Bay Street, TO

Attending: ORA: Linda Heron, Chair; Jim Rook, Vice Chair; Ken Buchan, Board Member; Chris Lalonde, Consultant

Purpose: Impacts of hydroelectric development on Ontario Rivers

Background:

Ontario Rivers Alliance (ORA) is a Not-for-Profit grassroots organization with a focus on healthy river ecosystems all across Ontario. ORA is a voice for a number of member organizations such as the French River Delta Association, CPAWS-OV, Council of Canadians, Kiishik Community Association, Food & Water First, Whitewater Ontario, Vermilion River Stewardship, Mississippi Riverwatchers, French River Stewardship, as well as many other stewardships, associations, and private and First Nations citizens. We have come together to protect, conserve and restore healthy river ecosystems all across Ontario, and to ensure that development affecting Ontario rivers is environmentally, ecologically and socially sustainable.

Ontario's current energy policy is threatening our freshwater, public health and safety, and will have negative impacts on the health and biodiversity of aquatic life within our watersheds. The current rash of proposed hydroelectric dams is our most immediate and pressing concern, however, Ontario Rivers Alliance (ORA) is concerned with all issues affecting Ontario rivers and their connecting wetlands, creeks, springs, lakes and their shorelines, habitat, and fisheries.

Healthy river ecosystems are fundamental to the overall well-being of Ontario's environment, our freshwater resources, and its inhabitants. However, our rivers and associated wetlands and lakes have suffered more than a century and a half of abuse and neglect from unharnessed development. Many river ecosystems have been destroyed or badly damaged, fish species have been decimated, and toxic algae is on the increase.

As the result of a long history of hydroelectric development, thousands of dams block or impede upstream fish migration. Turbines kill and maim fish as they move downstream. Headponds and reservoirs flood wetlands, destroy riparian habitat, contaminate fish with mercury, degrade water quality and water quantity, and threaten our fisheries and endangered species.^{1 2} Few waterways remain in a natural and healthy state, except in the far north of the province.

¹ Environment Canada. 2001. Threats to Sources of Drinking Water and Aquatic Ecosystem Health in Canada. National Water Research Institute, Burlington, Ontario. NWRI Scientific Assessment Report Series No. 1. 72p. Page 69 – 15. Impacts of Dams/Diversions and Climate Change

² Silt, Turbidity and Suspended Sediments in the Aquatic Environment: An Annotated Bibliography and Literature Review, S. J. Kerr, Ontario Ministry of Natural Resources

Many species that rely on aquatic ecosystems have been placed in jeopardy by hydroelectric. Atlantic salmon have been eradicated from the Great Lakes and their tributaries. The American Eel has lost most of its range in Ontario and its population has decreased to less than 2% of historical levels, and Lake Sturgeon populations are in danger across much of the province. Seven of eight Ontario turtle species are on the provincial Species at Risk list and face an uncertain future. And of course the Ontario Atlantic Salmon is now extirpated, to a large part because of dams.

In carrying out our mission to protect, conserve and restore healthy river ecosystems, we support the concept of the development of “authentic” green energy, however it must be truly sustainable, and not the green-washed version that has been prevalent today in waterpower.

Ontario now has an ample supply of electricity³, so let’s take the time to focus on energy conservation, efficiencies, storage, and truly green alternatives before any new generation is procured. Let’s upgrade existing hydroelectric facilities with efficiencies, increased environmental flows and fish passage before any new dams are approved.

Many times we have heard government officials referring to hydroelectric as clean energy, when it is anything but clean. Public trust and confidence can be restored and riverine ecosystems protected if:

1. Hydroelectric using headponds and/or harmful cycling and peaking operating strategies is removed from the GEA and FIT Program, and no bonuses or incentives are offered to produce power during peak demand hours.
2. No new hydroelectric is included in the Long Term Energy Plan.
3. A moratorium is placed on all hydroelectric using headponds, including those that are currently moving through approvals process.
4. Resources are focused on building an open, transparent, inclusive and accountable approvals process.

“We live in an era of increasing pressures on freshwater resources due to population pressures, industry demands, and climate change. In such times our governments should recognize their duty to manage these resources as common resources for the benefit of the public, now and in the future.”⁴

With climate change upon us it is clear that we need to act quickly to replace fossil fuels with clean and green energy; however, we must not rush blindly forward and destroy our environment in the process. We won’t solve our energy problems by building new dams, especially small hydro where the environmental damage far outweighs any benefits, or we will cause irreparable damage to our riverine ecosystems, and jeopardize our future access to healthy fresh water.

Ontario urgently needs a new approach to rivers and their management – one that recognizes the critical ecological importance of healthy rivers to the well-being of Ontarians and our freshwater reserves, takes into account the effects of climate change, and assesses the cumulative effects on a watershed basis to ensure the protection of river ecosystems and those species that rely on them for their survival.

³ Making Choices, Reviewing Ontario’s Long-Term Energy Plan, P-5

⁴ Ecojustice

To save some time, we have attached some briefing notes that set out our primary concerns and requests - as follows:

1. Impacts of Hydroelectric on Ontario Rivers
2. Building Public Trust and Confidence
3. Existing Hydroelectric Proposals

We thank you for this opportunity to meet with you, and look forward to working with you and your staff to find a mutually agreeable resolution to our issues and concerns.

Respectfully,



Linda Heron
Chair, Ontario Rivers Alliance

Attachments

ISSUE: Impacts of Hydroelectric on Ontario Rivers

REQUEST: Hydroelectric using headponds and/or harmful cycling and peaking operating strategies be removed from the GEA and FIT Program, and that no bonuses or incentives be offered to produce power during peak demand hours.

There be no new hydroelectric in the Long Term Energy Plan.

BACKGROUND:

Lucrative peaking bonuses and incentives encourage hydroelectric operators to peak and cycle new and older facilities to maximize power generation – and profits. These harmful operating strategies damage riverine ecosystems and place public health and safety at risk.

The impacts on public health and safety can be significant:

- Dam failure happens at least once every year somewhere in North America, and when it does the consequences can be devastating, and often include loss of life.
- Peaking and cycling operations result in frequent and extreme river flow velocity and level surges and has resulted in drowning.
- Water warms in headponds, sediment is stirred up, oxygen levels are depleted, and often rivers are already struggling with waste water and mining effluent being released into its waters – this is a recipe for toxic blue-green algae.

Scientists agree that climate change will bring:

- Increasingly intense rain and drought conditions. We are already seeing examples of this all around the globe. If flows are reduced many of these smaller dams may not be socially, environmentally or economically viable, and yet there are no up-front dam decommissioning provisions put in place to remove them. Extreme rain events can also result in flooding when dams restrict flows.
- Temperatures will continue to rise, and as temperatures increase, so does the process of evaporation and toxic algae.
- Blue-green algae "*Blooms are going to be longer and more intense,*" said Hans Paerl, professor of marine and environmental sciences at the University of North Carolina. "*It's all part of the price we're paying for climate change.*"

Currently there is no consideration of the cumulative effects of these hydroelectric facilities on a watershed basis. To determine the long-term sustainability of these proposals, it is imperative that the cumulative effects of multiple existing or proposed developments in a watershed are considered before a procurement contract is issued.

Many of these rivers run through communities and are used to dilute waste water and mining effluent. Such is the case in Sudbury, where there are 9 wastewater treatment facilities releasing treated, untreated and undertreated effluent into the Vermilion River Watershed, and yet there are 4 proposed hydroelectric facilities which would use headponds for their operations.

Water exposed to solar absorption and warming in headponds for hours and, sometimes for days during the low flow summer and fall months, combined with wastewater effluent, is the perfect environment for blue-green algae. These algal blooms can be highly toxic and threaten public health, harm or kill fish and wildlife, and increase drinking water treatment costs for our

communities. Many people rely on river water for all their household needs, and there are no recommended treatments for private drinking water systems. The long-term impacts of exposure to toxic algae on human health have not been studied.

A recent blue-green algae bloom on Ella Lake persisted throughout the winter months, from November 2012 through to ice break-up in May 2013 – this lake is used as the headpond for a run-of-river hydroelectric facility.

Sedimentation, erosion and siltation are all impacts associated with hydroelectric. The Sudbury area has had over 100 years of mining effluent released into its waters. Consequently Vermilion River sediments are many times over the severe effect level for several heavy metals such as lead, arsenic, nickel, copper, iron, and manganese, including elevated levels of mercury, chromium and cadmium. It is inevitable that these heavily contaminated sediments would be stirred up by these operations and released into the water column. How will this impact on drinking water, wildlife, fish and fauna. The Vermilion flows into the Spanish and on into the North Channel of Lake Huron. The Vermilion is not unique - the north has a long history of mining, and many of its rivers that are destined for hydroelectric development flow into the Great Lakes.

A typical small hydro development averages approximately 40 to 50% of Installed Capacity, and the bulk of that power is produced during the spring freshet when most large hydro dams are spilling their water. During the hot months of summer when air conditioners are humming and we need power the most, river flows are too low to provide reliable power generation without compromising riverine ecosystems.

Ecosystem benefits/impacts must be weighed against hydro's benefits/impacts. Currently the environmental impacts of greenhouse gas emissions are the main consideration driving the development of green energy projects. However there are many other environmental, economic and social considerations and impacts that must also be considered in order to assess the net gain/loss to our environment and the people of Ontario.

ISSUE: Building Public Trust and Confidence

REQUEST: Accurate, clear and consistent actions and communications are vital to building public trust and confidence in green and renewable energy projects.

BACKGROUND:

Hydroelectric is being promoted as clean, green, and renewable, and since it is included under the *Green Energy Act*, the general public assumes this is true. However, it is dirty energy, and there are numerous studies reporting the serious and ongoing negative impacts resulting from hydroelectric, especially the cycling and peaking operating strategies encouraged by the *Green Energy Act* (GEA) & Feed in Tariff (FIT) Program.

FIT Contracts are awarded without public consultation, and once awarded there is no possibility of a “no” outcome. Many FIT Contracts for waterpower have been awarded for proposals on already heavily compromised river systems, and there are no considerations for cumulative effects on a watershed basis.

The proponent led process is not working. The Ontario Waterpower Association (OWA) has been allowed to write its own rules and regulations through the Class EA for Waterpower. Because there is no possibility of a no outcome, proponents have been very quick to let stakeholders know that it’s a done deal and there is nothing the public and municipalities can do about stopping their project. This has been akin to placing the fox in charge of the chicken coop, and has led to a

- Lack of transparency, openness, accountability and trust; and
- Sloppy, incomplete, insufficient and questionable studies.

Proponents use the same consultants over-and-over which can place study results into question.

Many proponents refer to their hydro operations as run-of-river when they are actually cycling or peaking their facilities. Proponents get away with this because there are currently no official definitions to describe run-of-river, peaking or cycling operations. Run-of-river is used to describe many operations as it tends to be less of a trigger, and leads the public to believe their operations will be clean and unobtrusive.

There is no complete list of all waterpower proposals going through the approvals process – or their current status. ORA was informed that the OWA is required to keep a list of current waterpower projects; however, their list is very incomplete and outdated, and does not provide the project status. This responsibility must not be left up to a developers’ association that has everything to lose by being open and transparent – it must be up to the government to ensure its citizens have access to information that impacts on them and their properties.

The stated purpose of the Ontario Provincial Parks and Conservation Reserves Act (2006) is “to permanently protect a system of provincial parks and conservation reserves that includes ecosystems that are representative of all of Ontario’s natural regions, protects provincially significant elements of Ontario’s natural and cultural heritage, maintains biodiversity and provides opportunities for compatible, ecologically sustainable recreation.” The New Post Creek Hydroelectric Project is to be built within Little Abitibi Provincial Park. “To carry out the Proposed

*Undertaking, the deregulation of a small portion of Little Abitibi Provincial Park is necessary to align with requirements of the Provincial Parks and Conservation Reserves Act, 2006.*⁵ Ontario parks are supposed to be protected “*permanently*”. If so, why was this and other such projects permitted to be put forward?

The Green Energy agenda has taken away the power of impacted citizens and First Nations to have any meaningful say or to reject a “renewable energy” proposal. Public trust and confidence was eroded when:

- The MNR commissioned a study entitled “Economic Impact of Waterpower Projects on Crown Lands in Ontario” that only took into account the positive aspects of waterpower but neglected to account for any of the negative economic and environmental impacts on local tourism, fisheries, stakeholders, water quality or public health and safety.
- It appears the Milestone Date for Commercial Operation was meaningless as the OPA announced that, “*the OPA will not act upon its termination rights under Section 9.2(b) of the FIT Contract for those Suppliers that have not provided the OPA with a completed NTP Request pursuant to Section 2.4(c) of the FIT Contract and/or have not attained Commercial Operation of the Contract Facility on or before the Milestone Date for Commercial Operation pursuant to Section 2.5 of the FIT Contract.*”⁶
- The official message is that citizens and municipalities will have meaningful consultation, and yet the bottom line is that they will not have the power to veto a project. So ORA questions how meaningful that can be.
- Numerous species are in jeopardy and have been placed on the federal and/or provincial Species at Risk list due to various forms of development and pollution on Ontario rivers, and yet the *Endangered Species Act* is being undermined and weakened to clear the way for renewable energy development. The Advisory Panel tasked to review and make recommendations was heavily weighted on the side of industry.

Recently the government commissioned a new study to further explore Ontario’s waterpower potential in the north where there are many fragile ecosystems and fish communities, and where it will be difficult to mitigate the effects of waterpower. Therefore it is important that

- First Nations and the public are informed that there will be significant environmental risks and likely trade-offs of power for our environment.
- The study must also identify fish consumption restrictions already in place and how new developments could impact further restrictions.

⁵ New Post Creek Hydroelectric Project – [website](#).

⁶ OPA News Release - **June 17, 2013: Approach to project delays and potential Events of Default**

ISSUE: Existing Hydroelectric Proposals

REQUEST: ORA requests that a moratorium be placed on all hydroelectric using headponds, including those currently proceeding through the approvals process.

STATUS: Three Part II Order requests are awaiting a response from the Ministry of Environment (MOE).

The Notice of Completion was just filed on the Wabagishik Rapids GS.

Site Release has not been issued on at least 13 proposals.

BACKGROUND:

According to a recent MNR report, there are 41 hydroelectric proposals moving through the Environmental Assessment (EA) and approvals process. MOE and MNR staff are being pressured into facilitating these proposals through to completion when their training and expertise would have them do otherwise. ORA submits that there is a lack of scrutiny and protection of the public, fisheries and riverine ecosystems.

There are at least 13 of the 41 proposals that do not have Site Release⁷ and yet they have proceeded through the EA process. All 13 FIT Contracts are held by one proponent, which was warned on several occasions that this could be problematic as there was a possibility that Site Release might not be granted.

Vermilion River Proposals: The Notice of Completion for Wabagishik Rapids Waterpower Project was just filed for comment. Wabagishik Lake will be used as the headpond for this project when river sediments contain heavy metals many times over the “Severe Effect Level”.

Trout Lake River Hydro Project: Big Falls on Trout Lake River is a sacred place for the NamekosipiwiwAnishinaapek. They have had no say in whether this sacred site will be destroyed and replaced with a hydroelectric dam. Increased mercury levels in fish tissue are a real concern when fish consumption restrictions are already in place.

Kabinakagami River Project: The ER describes this facility as a “strict run-of-river” and yet it has approximately 200 hectares of headponds – 100 hectares of which are newly inundated. Methylmercury production is a real concern for the Fort Albany First Nation located downstream.

Enerdu Generating Station: Proposal to be developed in the beautiful Town of Almonte. The developer called their facility a run-of-river in the Environmental Report, but admitted after the comment period was complete that it peaked their operation. Their existing operation has been damaging the Appleton Wetlands, - an ANSI site.

Bala Falls: Statement of Completion has been issued, but the Town of Bala is adamantly opposed as the falls are a main tourist attraction for the town.

Big Eddy: These world class kayaking rapids are a big part of the economic driver for the Town of Petawawa. This important part of their economy would disappear if rapids are lost.

⁷ Waterpower Site Release – Crown Land, MNR, PL 4.10.05