Ontario Energy Board Submission re: EnergyEast Pipeline Proposal

Presented by
Dave Mendicino, Board Chair
Brian Tayler, CAO/Secretary-Treasurer

April 2, 2014

NBMCA's WATERSHED MANAGEMENT ROLE

The North Bay-Mattawa Conservation Authority (NBMCA) is a regional watershed manager under the provincial *Conservation Authorities Act*. We provide technical advice and assistance with respect to natural resources to 10 member municipalities. NBMCA has a regulatory role in Ontario Regulations 97/04 and 177/06 concerning work within and adjacent to waterbodies, slopes and wetlands which we believe governs some pipeline activities, despite the fact that pipeline approvals are federally regulated.

The proposed EnergyEast Pipeline project has a potential impact on four of our member municipalities - North Bay, Bonfield, Calvin, Papineau-Cameron - and crosses Duchesnay Creek, Chippewa Creek, Mattawa River, Kaibuskong River, Sharpes Creek, Amable du Fond River, Pautois Creek and Boom Creek and their tributaries.

There are 14 wetland and 40 watercourse and waterbody crossings by the EnergyEast pipeline in our watershed. The pipeline crosses a Provincially Significant Wetland that is the headwaters of Chippewa Creek. Chippewa Creek is a significant watercourse that flows through the City of North Bay and, like Duchesnay Creek, which the pipeline also crosses, leads to Lake Nipissing which is vital to the environmental, social, and economic health of our region. (see attached maps.)

Trout Lake is the headwater lake of the Mattawa River. It lies within an east-west trending fault that has experienced tremors in the past. It is a westward extension of the northern fault at the edge of the Ottawa-Bonnechere Graben which is a controlling influence upon drainage patterns within this watershed.

In 1999, Trout Lake and the LaVase River were added to the 1988 Canadian Heritage River System designation that was granted to a portion of the Mattawa River. It has a long and well documented history as a nationally significant waterway used by early Aboriginal tribes, explorers and fur traders as a gateway to western Canada.

The Canadian Heritage River System designation has been established by the federal, provincial, and territorial governments for the purposes of recognizing outstanding rivers of Canada and ensuring future management which will protect these rivers and enhance their significant heritage values for the long term benefit and enjoyment of Canadians.

This river system is located within the Great Lakes-St. Lawrence Forest Region. A diverse mixture of conifer and hardwood forest ecosystems characterize this biome which has been influenced by climate, topography, geology and human history. It is the natural heritage features of the system which have supported the succession of human culture and recreation in the area and it is essential that this be protected.

Under the *Clean Water Act, 2006*, NBMCA also administers the Drinking Water Source Protection (DWSP) program for the Ministry of the Environment and the North Bay-Mattawa Source Protection Committee. The intent of this science-based program is to protect sources of municipal drinking water from identified existing and potential significant threats. North Bay's municipal drinking water source – Trout Lake - is a part of the DWSP program.

One of the most significant impacts this pipeline can have on our community is the potential for contamination of Trout Lake – the only source of drinking water for the 54,000 residents

and thousands of visitors to North Bay. Trout Lake is, in fact, the only surface water municipal drinking water source in the DWSP Program that the EnergyEast pipeline crosses.
When the risks to North Bay's drinking water were assessed as part of the DWSP Program, the pipeline conversion had not yet come to light. No assessment has been done by the Source Protection Committee of the potential impact that the chemicals in diluted bitumen could have on the source of North Bay's drinking water. A proposed amendment to the Assessment Report, approved in May 2011, has been submitted to the Ministry of the Environment which reads:

In 2013 TransCanada began work on a proposal for the conversion of a natural gas pipeline to carry crude oil including diluted bitumen. The pipeline in question runs through the northern portion of the Trout Lake watershed and Intake Protection Zone-3 (IPZ-3). Further information will be required to assess the risk posed by the transportation of crude oil as proposed.

In order for the Source Protection Committee (SPC) to decide if it should ask the Minister of the Environment to designate the transportation of crude oil in North Bay's IPZ-3 zone as a local threat, the SPC needs to fully assess this risk: and additional resources are needed to complete this assessment.

This risk of contamination to North Bay's only source of municipal drinking water is a significant environmental concern for our community. As such North Bay warrants inclusion in the EnergyEast Pipeline Project Description as an area of special concern which requires a site-specific risk assessment.

What would happen if the human, environmental, and ecological variables resulted in a spill or leak of crude oil – diluted bitumen - reaching Trout Lake, North Bay's only source of municipal drinking water? This risk demands heightened technical and scientific analysis that would consider all the factors that could affect how a spill behaves in the ecosystem; and how it could impact the watershed, and our municipal drinking water.

We have more questions than answers.

ENVIRONMENTAL CONCERNS

Within the limits of our time here today, it is suffice to say, that the environmental impact of a spill or leak of crude oil could potentially have a catastrophic impact on our watershed – resulting in destruction of water quality, natural heritage, and health of the ecosystem. The 2010 spill in Kalamazoo River, Michigan showed us what can happen.

The background report prepared for the Ontario Energy Board (OEB) by Terra Environmental Consultants provides a generalized list of potential environmental and socio-economic considerations associated with the EnergyEast pipeline, but it does not address the unique characteristics of our watershed. Nor does it address what might occur if a number of factors were to exist that could create the "worst case scenario":

What would happen if a spill or leak of crude oil occurs:

- when there is an easterly wind that drives oil towards the intake?
- where a sloped stream valley would expedite the rate at which the oil would flow?
- during a peak storm event with heavy rainfall?

- during the mixing of Trout Lake? Water in Trout Lake normally stratifies, but twice year, in spring and fall, it overturns and mixes between top to bottom – what would happen if a spill occurred during this ecological event?

NBMCA's Integrated Watershed Management Strategy has identified an increased frequency and intensity of extreme storm events. Should one occur at the time of a spill, what would be the rate at which the crude oil could be transported through the ecosystem? Under what circumstances would it reach the drinking water source? The pipeline runs through a significant groundwater recharge area. What would be the impact? Valley systems can be dynamic, changing and environmentally vulnerable. What is the condition of the creek and valley system at each of the 40 watercourses the pipeline crosses – are there any erosion or other issues that could be impacted or play a role in the movement of oil if there is a leak or rupture in the pipeline near a valley system? How could these natural hazards impact the infrastructure of the pipeline? This demands a thorough scientific assessment that is currently beyond the existing resources of the North Bay-Mattawa Conservation Authority.

We need to know what the impact would be if one, two, three or all of these environmental events and/or conditions were to occur at the time of a spill, particularly at each of the wetland and water crossings.

There is a way to scientifically assess the interaction of these events with an oil spill of various magnitudes: event-based modeling.

The Drinking Water Source Protection Committee does not as yet fully understand the constituents of crude oil and diluted bitumen; however we understand that there are potentially two chemicals in diluted bitumen listed on the Ministry of the Environment's "Table of Circumstances" as potential contaminants. An assessment of the threat level of these chemicals in the watershed needs to be completed. Event-based modeling could assist in that assessment.

The North Bay-Mattawa Conservation Authority asks that TransCanada's Environmental and Socio-Economic Assessment consider the impact of operations and a potential spill on the landscape, vegetation, surface and groundwater resources, wetlands, and aquatic and wildlife habitat based on the "worst-case scenarios", rather than scenarios based solely on the "probability or likelihood" of a spill or leak. NBMCA would like to have input into the scope and methodology of TransCanada's environmental assessment on our local watershed. Upon completion of any assessments by TransCanada, an independent third-party technical and scientific review needs to be undertaken to ensure appropriate methodology was implemented and the findings are sound.

It is noted in the OEB Background Report that pipeline companies routinely apply environmental protection measures to mitigate or compensate for environmental and socio-economic impacts to avoid, limit or reduce potential adverse effects during the conversion and operation processes.

The question is: are the safeguards adequate for this watershed? We need the scientific analysis that would clearly identify what would happen if an environmental crisis were to occur. Event-based modeling that takes into consideration the "worst-case scenario" must be the baseline for the development of safeguards in order for them to adequately address the risks. NBMCA sees the need for undertaking or

overseeing this modeling assessment; however our resources are limited and we require additional resources to undertake this.

It is essential that this approach be undertaken to ensure that appropriate risk management, spill management, emergency response and environmental protection measures are developed. It is also imperative that a mechanism be put in place for ensuring these risk management measures are suitable and effective.

Ontario's own Environmental Assessment Guidelines and the Ministry of the Environment's Statement of Environmental Values indicate that when the Ministry conducts its own EAs, it adopts an ecosystem approach to environmental protection and resource management, considering the cumulative effects on the environment as well as the interdependence of air, land, water and living organisms.

While this project does not fall within the scope of a Provincial EA, we would ask that Ontario applies these principles behind these guidelines and values to its review, assessment and comments regarding the EnergyEast proposal. As well, it would assist NBMCA, the Source Protection Committee (SPC) and our community to know what scientific and technical reviews and analysis are being undertaken by Ontario ministry staff with respect to this proposal; with any such findings being shared with NBMCA and the SPC.

While NBMCA's concerns thus far have addressed questions associated with the risks, impacts and consequences of a spill or leak, we are equally concerned that should this proposal be supported by the National Energy Board and approved by Cabinet, that adequate measures be put in place to prevent a spill or leak, including assurances that the integrity of the pipeline itself, its conversion, as well as its capacity to transport crude oil is without question.

TransCanada will be required to demonstrate that it has in place, among other things, appropriate monitoring, shut off-valves, staff training, and pipeline infrastructure to prevent a spill or leakage. It must also demonstrate it has scientifically and technically sound local emergency response plans which will ensure that any leaked crude oil does not adversely affect the watershed or reach Trout Lake.

If the National Energy Board (NEB) chooses to make these measures conditions of approval, rather than see them completed and reviewed prior to any consideration of approval, then it is essential that there be an accountability mechanism in place to ensure compliance and the OEB should request such.

And finally, NBMCA would like to see the OEB recommend to the NEB that EnergyEast be required to comply with all provincial and municipal legislative requirements.

CONCLUSION

NBMCA's concerns with respect to the EnergyEast Pipeline proposal relate to the:

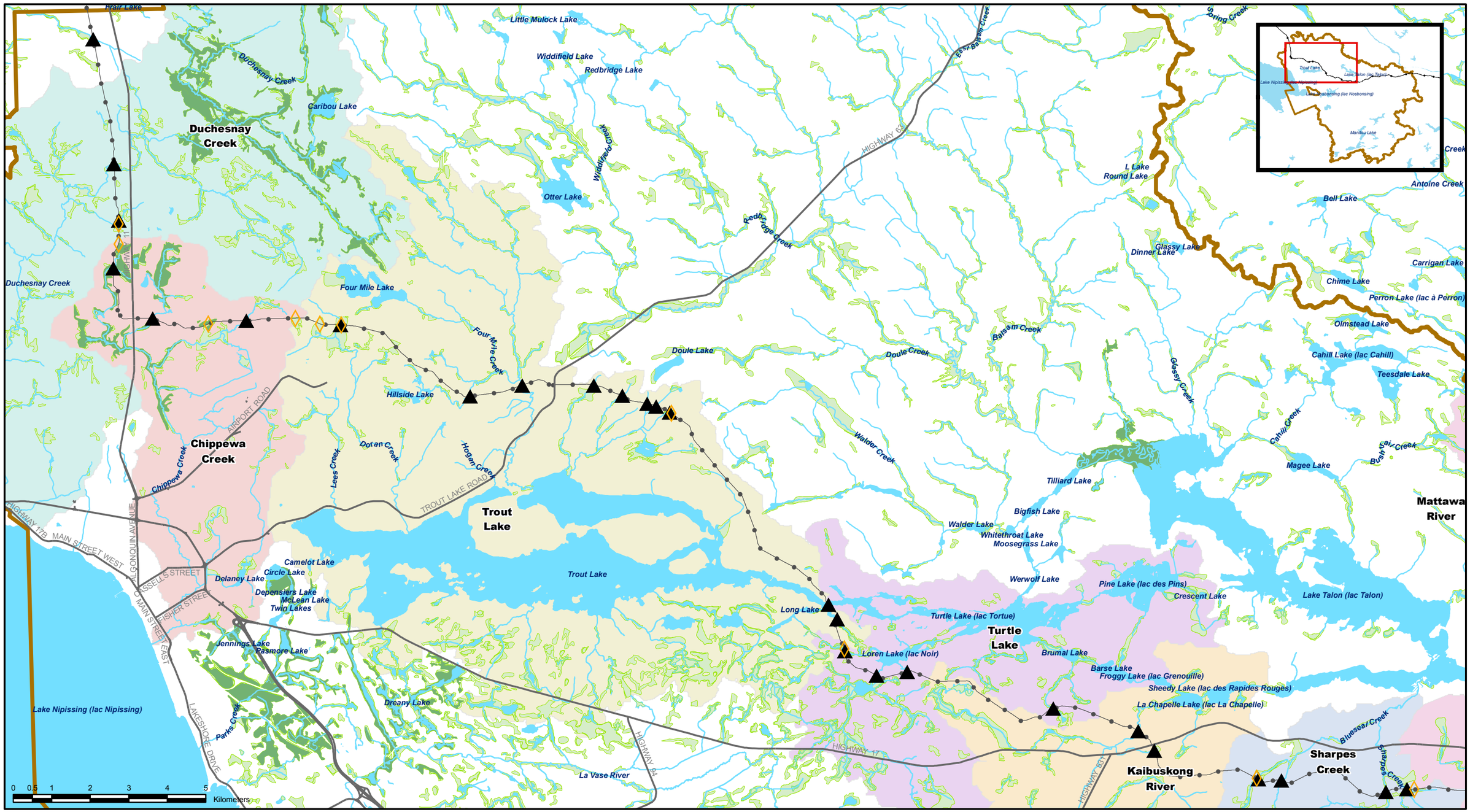
1. protection of Trout Lake as the source of drinking water for the municipality of North Bay and for numerous private drinking water systems;
2. overall environmental impacts to aquatic and terrestrial ecosystems;
3. vulnerability of the pipeline infrastructures to natural hazards such as slopes, flood plains and valleys as regulated by NBMCA; and
4. preservation of the natural and cultural heritage values within the watershed.

To fully assess the potential impact of the EnergyEast Pipeline proposal in our watershed, the following should be undertaken:

- the assessment of the transportation of crude oil as a potential threat to the municipal drinking water sources in accordance with the Drinking Water Source Protection program;
- scientific analysis of the potential impacts of a spill based on the "worst-case" scenario rather than base it on "probability and/or likelihood of a spill";
- the use of event-based modeling to assess the multiple factors which could influence the degree to which a spill or leak could impact the watershed; and
- the provision of provincial resources to support local municipalities, the North Bay-Mattawa Conservation Authority, and the Source Protection Committee, in our technical assessment of the environmental consequences of the EnergyEast pipeline proposal, its potential impact on the watershed, and the appropriateness of proposed prevention and mitigation measures.

ATTACHMENTS

- NBMCA Watershed Maps 1 & 2 – Subwatersheds, Watercourses and Pipeline Crossings
- NB-Mattawa Drinking Water Source Protection – North Bay Intake Protection Zone Map
- Intersections of EnergyEast Pipeline with Subwatershed Waterbodies, Watercourses and Wetlands in the North Bay-Mattawa Conservation Authority Jurisdiction



Ontario Energy Board - Public Consultation, April 2, 2014
North Bay-Mattawa Conservation Authority Submission
Map 1 of 2

Legend

- NBMCA Watershed Boundary
- Highway
- Energy East Pipeline
- Watercourse
- Waterbody
- Wetland
- Provincially Significant Wetland

Subwatersheds

- Duchesnay Creek
- Chippewa Creek
- Trout Lake
- Turtle Lake
- Kaibuskong River
- Sharpes Creek
- Mattawa River

Pipeline Intersections

- Intersects with Wetland
- Intersects with Waterbody/Watercourse

Produced by:
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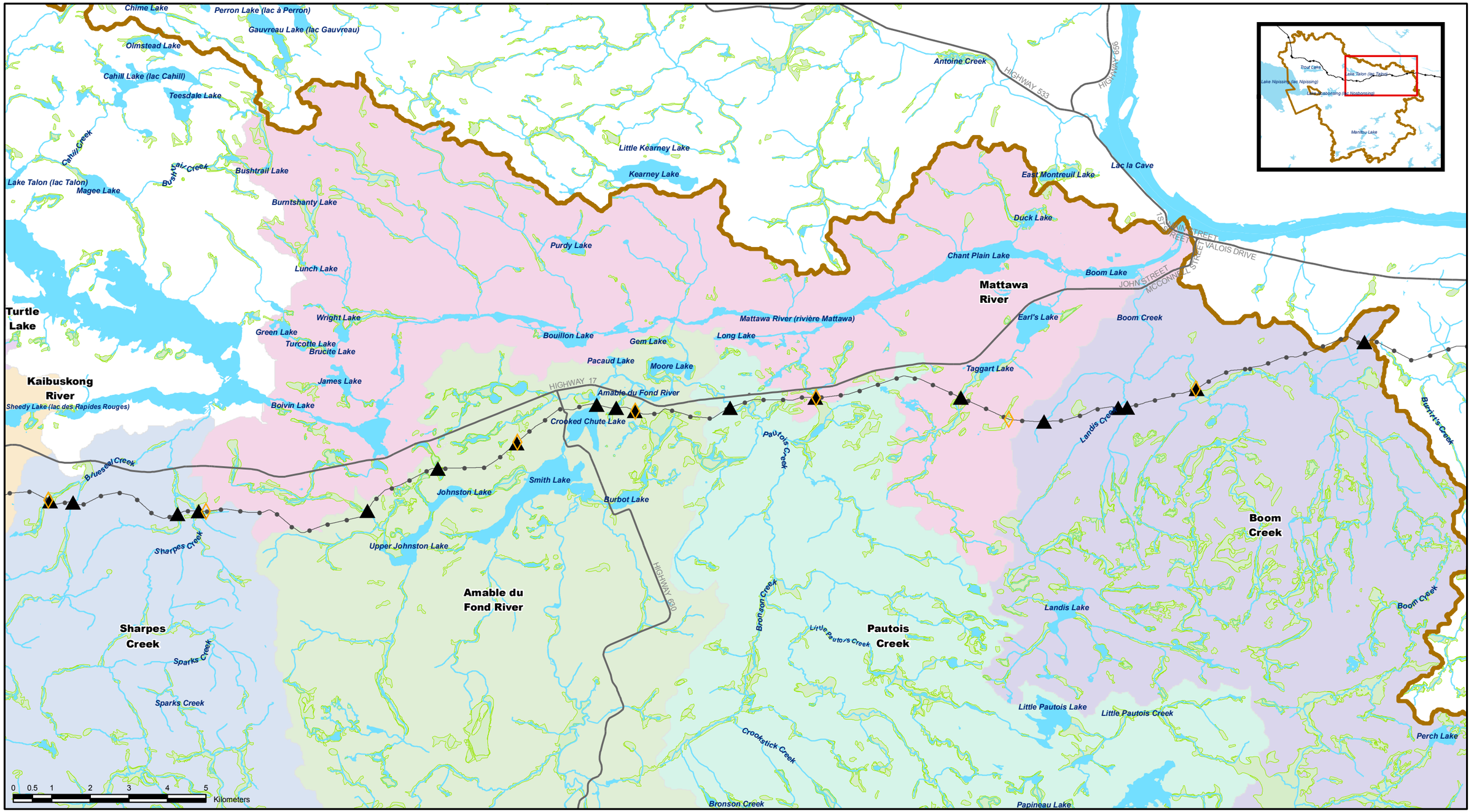
Map Projection & Datum: NAD83 UTM Zone 17N



Ontario Energy Board - Public Consultation, April 2, 2014
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Map 2 of 2

Legend

- NBMCA Watershed Boundary
- Highway
- Energy East Pipeline
- Watercourse
- Waterbody
- Wetland
- Provincially Significant Wetland

Subwatersheds

- Turtle Lake
- Kaibuskong River
- Sharpes Creek
- Amable du Fond River
- Mattawa River
- Pautois Creek
- Boom Creek

Pipeline Intersections

- Intersects with Wetland
- Intersects with Waterbody/Watercourse

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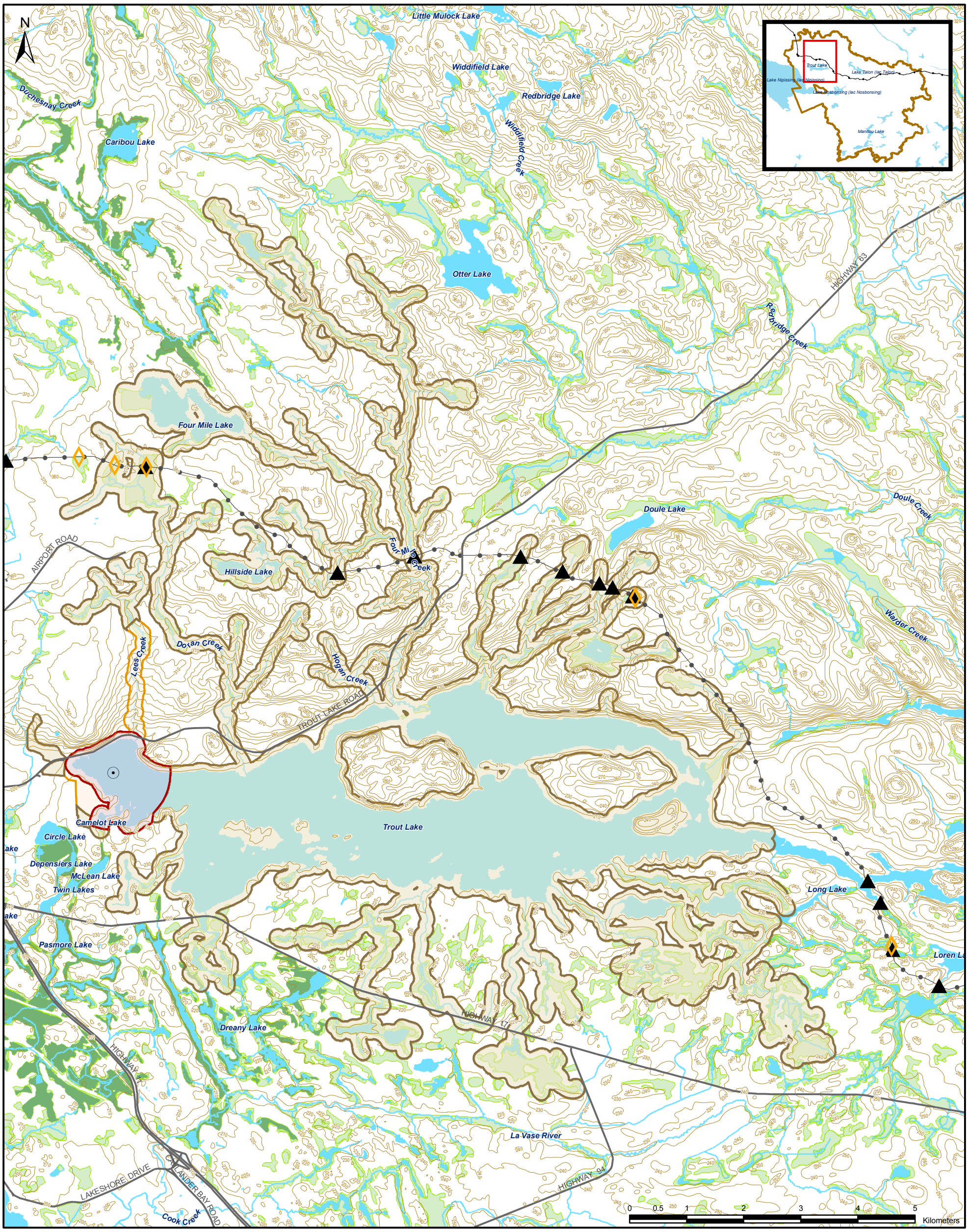

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Drinking Water Source Protection - North Bay Intake Protection Zones

Legend

- Contour
- Highway
- Energy East Pipeline
- Watercourse
- Waterbody
- Wetland
- Provincially Significant Wetland
- Municipal Drinking Water Intake

Intake Protection Zones

- IPZ-1
- IPZ-2
- IPZ-3

Pipeline Intersections

- Intersects with Wetland
- Intersects with Waterbody/Watercourse

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Map Projection & Datum: NAD83 UTM Zone 17N

Intersections of the Energy East Pipeline with Subwatershed Watercourses, Waterbodies and Wetlands in the North Bay-Mattawa Conservation Authority Jurisdiction

	EnergyEast Pipeline Intersections		
Subwatershed	**Watercourse**	**Waterbody**	**Wetland**
Amable du Fond River	2	4	2
Boom Creek	5		1
Chippewa Creek	3		2 (including one provincially significant)
Duschesnay Creek	2		1
Kaibuskong River	2		
Mattawa River	2		2
Pautois Creek	1		
Sharpes Creek	4		2
Trout Lake	8	2	3
Turtle lake	2	2	1
2DD-18 above Duschesnay Creek subwatershed	1		