

# Keeyask Generation Project

Keeyask kipayikani-atoskéwin

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**Environmental Impact Assessment  
Public Involvement Program  
Round Three**

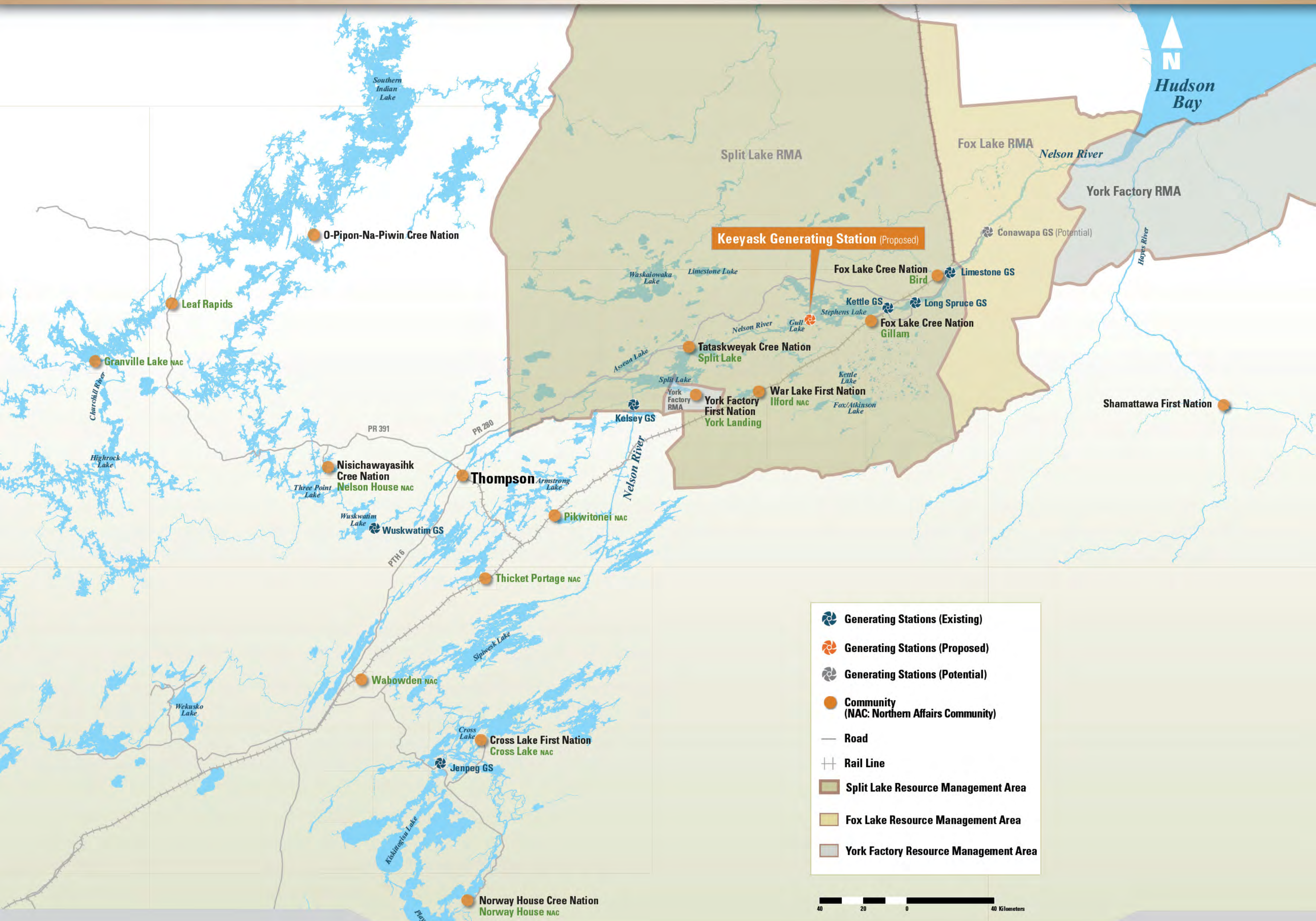
**Aski mena pimatisiwin nenakuschikaywin  
Mámawi-wíciyitowin atoskéwin  
Nistwáw mámawapiwin**

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# Keeyask Project Location





# Keeyask Project Overview

- **Size:** Keeyask would be the fourth largest of Manitoba Hydro's current generating stations
- **Generating Capacity:** 695 megawatts
- **Average Annual Energy Production:** 4,400 gigawatt hours
- **Generating Units:** Seven
- **Flooded Area:** 45 km<sup>2</sup> – the reservoir will gradually increase by about 7-8 km<sup>2</sup> because of shoreline erosion and peatland disintegration
- **Time to Construct:** Approximately eight and one-half years
- **Earliest construction start:** 2014



Artist's Rendering - November 2011 - Concept Only



# Round Three of the Public Involvement Program

## Round One Project Description and Issue Identification

### Purpose & Scope

- Initiate dialogue about the proposed Project
- Provide a description of the Project
- Identify issues and concerns
- Inform the public about the process/requirements and schedule for EA
- Determine how interested/affected parties would like to be involved in PIP
- Document what was heard

## Round Two Preliminary Environmental Assessment Results

### Purpose & Scope

- Describe Project features and changes since Round One
- Discuss initial findings (biophysical, socio-economic)
- Obtain input on possible mitigation measures
- Document what was heard

## Round Three Final Environmental Impact Statement Review

### Purpose & Scope

- Discuss format and content of EIS
- Discuss how the Round Two input was used in the EIS
- Communicate supplemental information
- Document what is heard

## Current Round

During the Public Involvement Program, other Aboriginal groups, other communities, interested groups and the general public raised many similar issues already identified by the Keeyask Cree Nations. These issues and perspectives helped to confirm the focus of the environmental assessment studies and the search for effective mitigation measures.



# Content of the Environmental Impact Statement



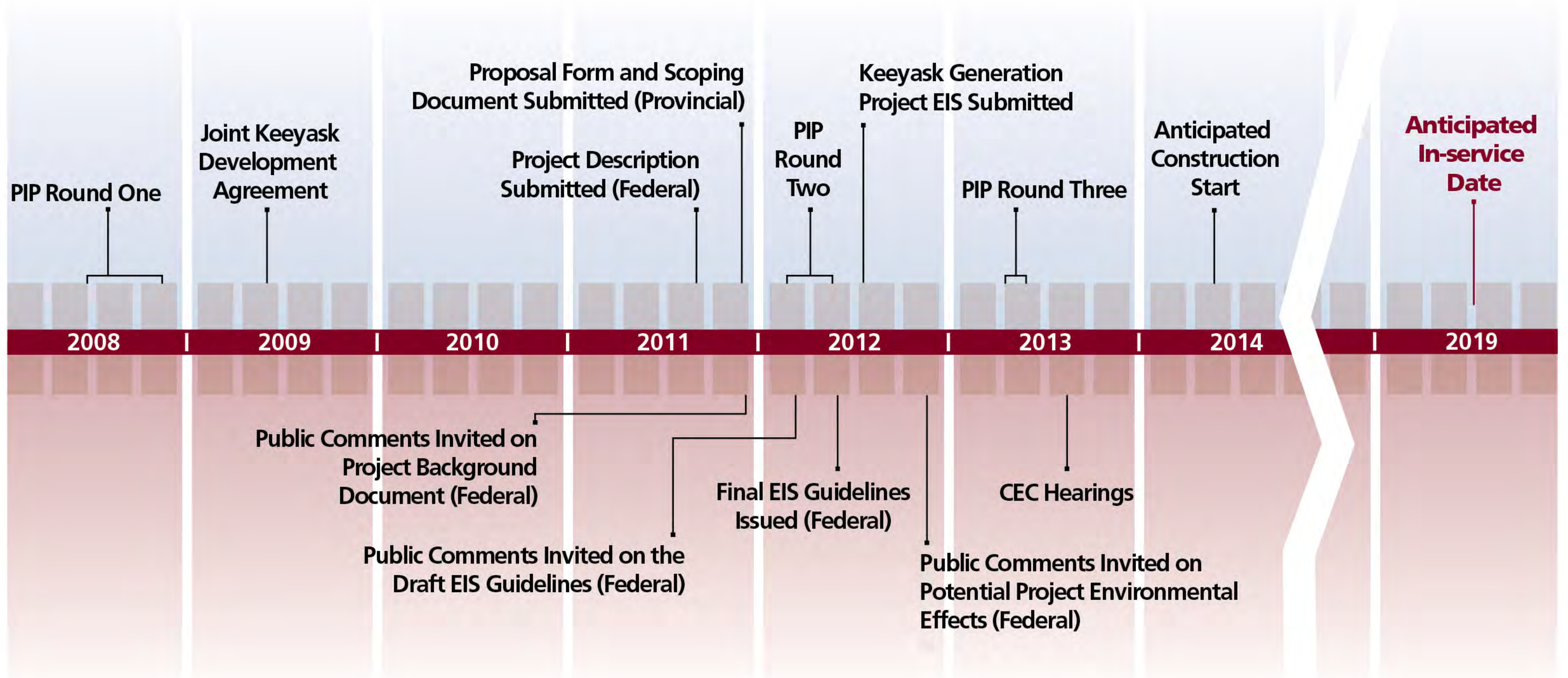
- 1 DVD, *Keeyask: Our Story*
- 2 Executive summary
- 3 Response to the EIS Guidelines
- 4 KCNs Environmental Evaluation Reports
- 5 Supporting volumes
- 6 Map Folio

## In the Executive Summary, the Partnership summarizes:

- Studies of 38 valued environmental components including 18 biophysical components and 20 socio-economic components; and
- The environmental effects assessment contained in the Response to EIS Guidelines.



# Key Environmental Assessment Milestones





# Cree Nation Partners Environmental Evaluation Report

- From 1998 to 2009, the Cree Nation Partners (CNP), comprised of Tataskweyak Cree Nation and War Lake First Nation, undertook to conduct an evaluation of the anticipated environmental effects of Keeyask on themselves. This assessment resulted in the Cree Nation Partners Environmental Evaluation Report (2012).
- CNP developed and used the Ancestral Homeland Ecosystem Model to assess the anticipated effects of Keeyask on themselves. The Model was used to compare the state of harmony and balance in their homeland ecosystem in its pre-contact state to their homeland ecosystem with the addition of the Keeyask Project, and by considering other important time periods after first contact (i.e. – present state, before hydro-electric development).
- By identifying and assessing anticipated impacts, CNP determined that the effects of Keeyask are best expressed as effects on CNP Members' vital relationships with Mother Earth and their ability to exercise their Treaty and Aboriginal Rights through activities which are integral to their distinctive cultural identity such as hunting, trapping, fishing and gathering.
- The CNP Environmental Evaluation Report tells the story of TCN and WLFN's approval of Keeyask by providing details regarding:
  - Cree occupation of northern Manitoba for roughly 6000 years;
  - CNP's holistic Cree worldview,;
  - The process used to identify and evaluate environmental effects;
  - The extensive consultation process used for CNP Members to consider and contribute to Keeyask;
  - CNP's influence on the design of the Keeyask project; and
  - Details of the negotiated agreements with Manitoba Hydro (JKDA, AEAs), including the expected economic and social benefits for each community.
- By understanding the CNP evaluation, one can better understand TCN and WLFN's respective decisions to vote in favour of the Keeyask Project.

Ancestral Homeland Ecosystem Model





# Fox Lake Cree Nation

## Environmental Evaluation Report

- Since the early 2000s, FLCN and Manitoba Hydro have worked towards reaching a common understanding and establishing a mutually beneficial relationship
- FLCN ratified the JKDA on May 29, 2009 and, unlike the past, FLCN became a partner with extensive involvement in the Keeyask Generation Project development process. FLCN has completed several socio-cultural assessments on impacts of past and future developments including:
  - The FLCN History Document, Video, and Archiving Project;
  - The Keeyask Traditional Knowledge Program; and
  - The Preliminary Traditional Knowledge Study on Sturgeon.
- Through this involvement, FLCN hopes to be better prepared to work towards the institutions and processes our people know are needed to mitigate the negative impacts of the Project. In partnership with Manitoba Hydro, the FLCN will take the opportunity to recover, to prosper and to rebuild from the social, cultural, economic and human impacts of past hydro development projects.
- FLCN will continue to struggle with utilizing hydro development to assist in the goal of again living mino pimatisiwin. FLCN recognizes that the Project will change the landscape even further and will have further impacts on our people. The anticipation of hydro development alone raises fear in the hearts and minds of those that have experienced hydro development. However, it is this same fear that drives FLCN and our people into working to ensure there is no repeat of the past and that there is maximum opportunity for our people to become proud and healthy people.



# Kipekiskwaywinan – “Our Voices”

**Kipekiskwaywinan** is York Factory First Nation's Evaluation Report for the Keeyask Project.

**Kipekiskwaywinan** means “Our Voices” in the Cree language.

It explains our community's history, experience and traditional knowledge. It tells our story about what the Keeyask Project means to us and how we came to be a partner in the **Keeyask Partnership.**

Copies have been handed out to York Landing households and are also available at the Future Development Office.



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KIPEKISKWAYWINAN

Our Voices



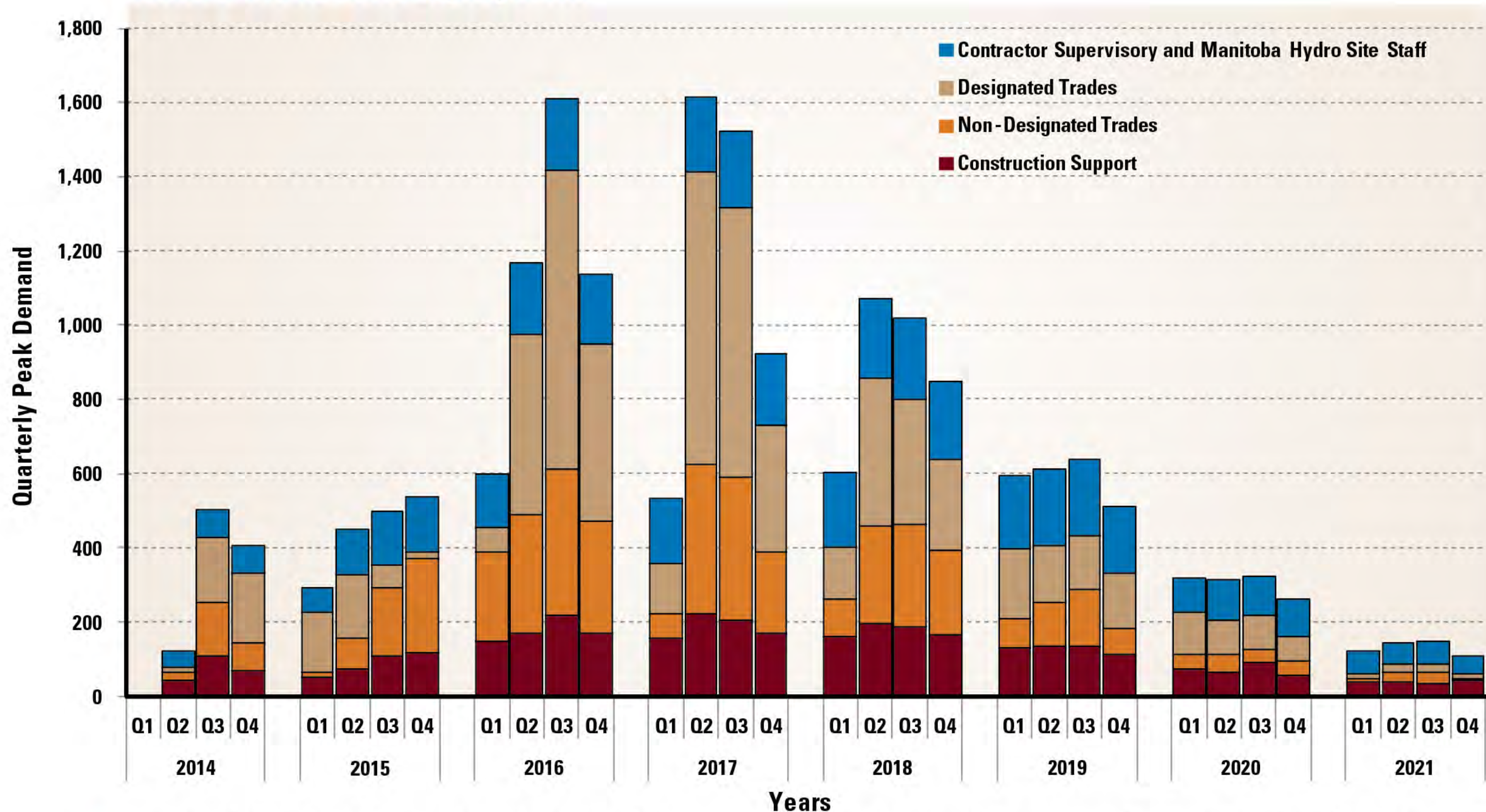
*"When I'm sitting out there (on the land) I feel a connection to everything around me, at times I still feel lonely. I think that feeling comes from the destruction of Askiy that's happening around us."*





# Employment and Training

## Construction Peak Employment

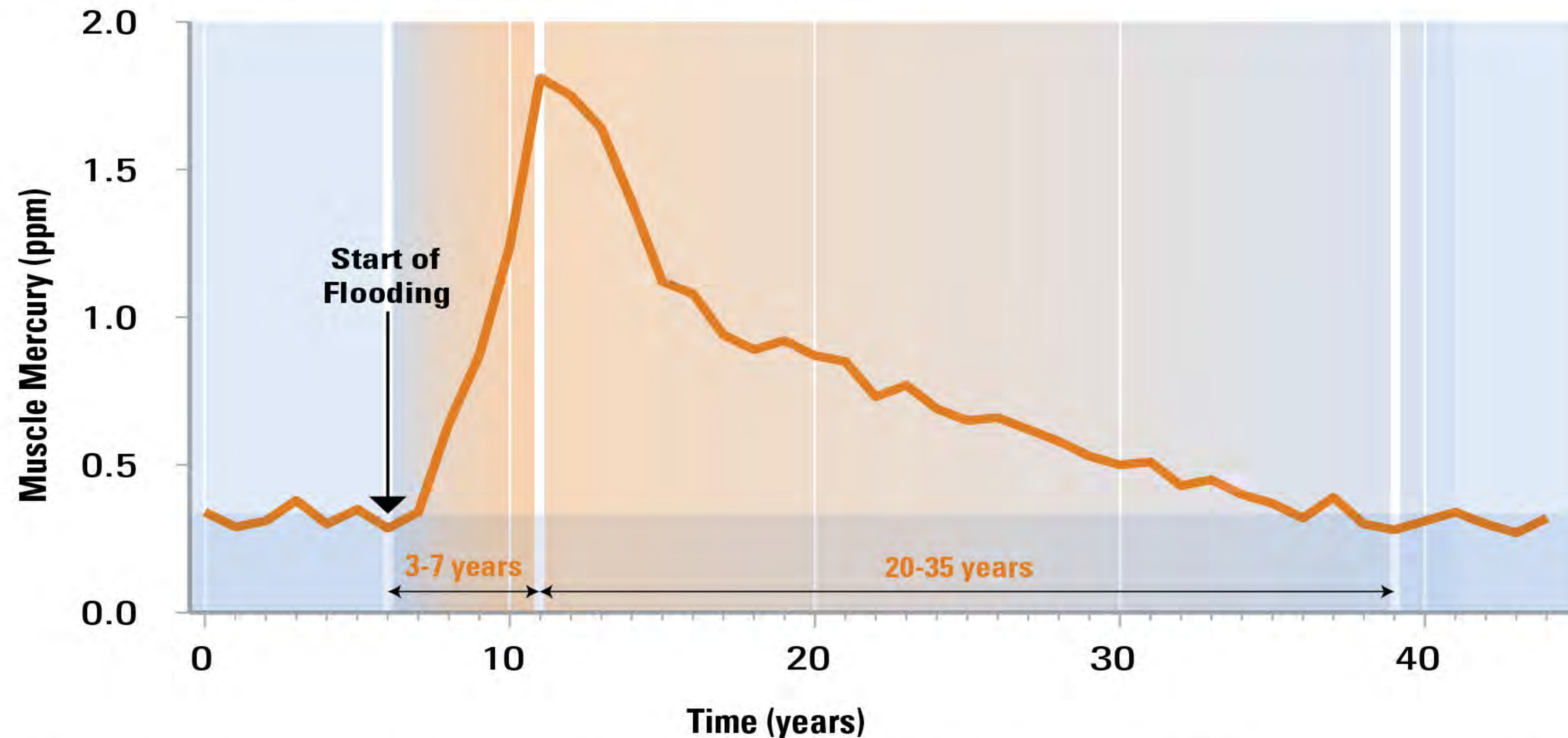


- More than 4,000 person-years of Project employment over eight-and-a-half years will help build skills, capacity, job experience and economic benefits for Manitobans, but especially will help northern workers to sustain employment once the Project is complete.
- Preference measures are included in the Burntwood-Nelson Agreement for employing qualified Keeyask Cree Nations Members, other Aboriginal and other northern residents.
- Measures to retain workers at the site will include cultural training, counselling services, on-site Keeyask Cree Nations liaison workers and an Aboriginal union representative.



# Mercury, Fish and Human Health

## Typical Time Course of Mercury Concentrations in Predatory Fish After Reservoir Flooding in Northern Manitoba



- Increased mercury levels, especially in jackfish and pickerel in Gull Lake and to a lesser extent in Stephens Lake, are expected during the period after impoundment.
- Efforts have been made to develop mitigation measures so that Keeyask Cree Nations Members can continue to safely eat nutritious country foods from the land and waters over the 30 years it is expected to take until mercury levels return to current levels.
- Mitigation measures also include developing a risk-communications strategy for Keeyask Cree Nations, Gillam and other users of Gull and Stephens lakes.



# Flooding, Erosion, Sedimentation and Debris

- The construction of the Keeyask reservoir will flood an area of about 45 km<sup>2</sup>, comprising mostly boreal forest and peatlands.
- The Project has been designed so that water levels on Split Lake or Clark Lake will not be affected during open-water conditions.
- The reservoir level will fluctuate within a narrow 1m range to minimize environmental effects.
- During the first 30 years of operation the reservoir will expand in area by about 7-8 km<sup>2</sup> because of shoreline erosion and peatland disintegration.
- During construction, effects on erosion and sediment after mitigation are expected to be moderate and they will be addressed through careful construction management.
- During operation, the concentration of suspended sediment in the reservoir is expected to be lower with the Project than in the existing environment.
- The following plans and measures will be implemented to mitigate the effects of sediment and debris:
  - The Reservoir Clearing Plan to remove trees and woody vegetation before the reservoir is flooded;
  - The Waterways Management Program to manage debris once the reservoir is impounded (removal / prevention); and
  - A Sediment Management Plan to monitor the effects of construction activity on suspended sediment concentrations in the river.



# Water Quality



View north across Gull Rapids, with the south channel in the foreground and the middle channel in the background. Once the Project is complete, both sets of rapids and much of the island between them will form part of the Keeyask reservoir.



Laboratory analysis of samples.

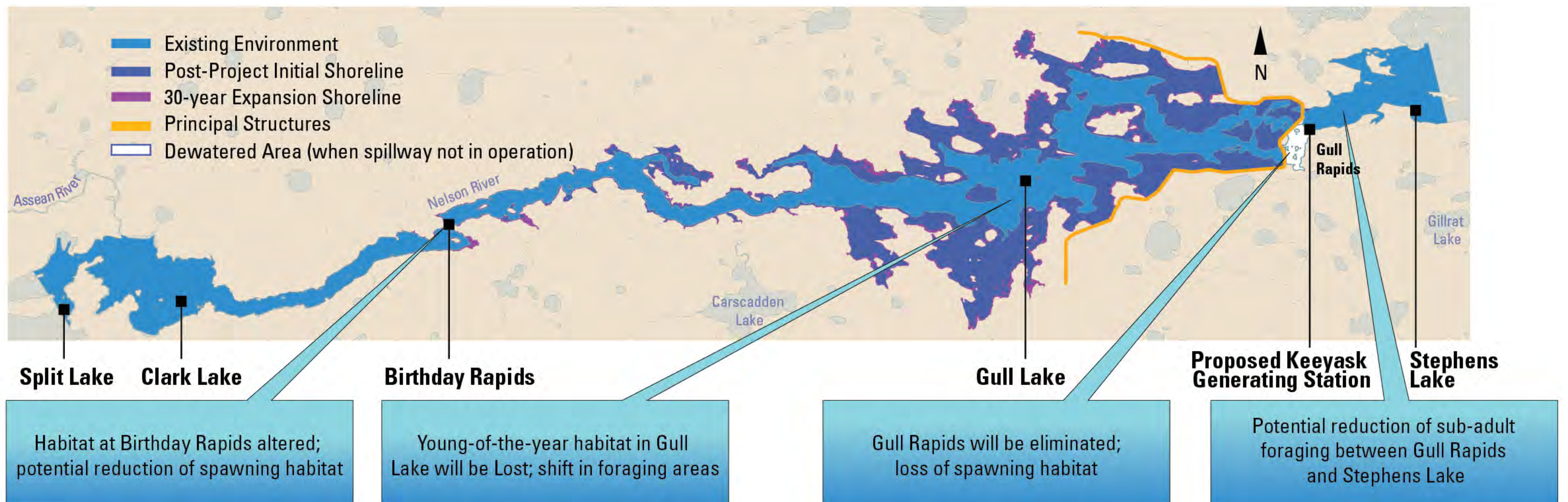


Winter water-quality sampling on Split Lake.

- During construction, effects to water quality will be managed to avoid harmful effects to aquatic life in the Nelson River and Stephens Lake.
- The largest effects to water quality in the newly formed reservoir will occur in the first years after the generating station is constructed, particularly in shallow flooded areas.
- There will be little or no detectable change in water quality in the main flow of the Nelson River and downstream due to the large volume of water flowing in the river.
- Overall, water quality will always be suitable for aquatic life in the main part of the reservoir, and will be suitable at most locations and most times of the year in the flooded area.



# Lake Sturgeon



- Construction and operation of the Keeyask Project will affect lake sturgeon and their habitat.
- Due to historic population declines caused by commercial over-harvest and past hydroelectric developments, and concerns about a continuing decline in numbers, the Partnership has focused considerable effort on finding ways to mitigate effects of the Project on lake sturgeon.
- Mitigation measures include the following:
  - A new spawning habitat will be constructed downstream of the generating station;
  - If monitoring shows that habitat to support all life stages of lake sturgeon is no longer available, additional replacement habitat will be developed; and
  - A long-term conservation-stocking program will increase sturgeon numbers in the region.



# Caribou



*Summer resident bull caribou in the Keeyask region.*



*Coastal caribou in the Keeyask region.*



*Barren-ground caribou in the Keeyask Region.*

- During construction, noise, blasting, vehicle traffic and the presence of humans have the potential to disturb caribou. In addition, flooding of the reservoir and clearing for infrastructure such as the camp and access roads will result in habitat loss, alteration and fragmentation.
- Potential effects to some areas of caribou calving habitat were avoided by modifying Project areas. Impacts will be further minimized by limiting clearing and blasting activity during calving season.
- Overall effects to caribou are expected to be adverse but regionally acceptable because habitat loss is small compared to its widespread regional availability, and there is a negligible change to intactness and mortality.



# Heritage Resources



*Artifacts collected during archaeological excavations (2003-2010) include items such as buckles, beads, projectiles and pottery.*

- An extensive program has been undertaken to identify heritage resources that the Project will disturb during construction or through flooding once the Project is in operation.
- Heritage resources will be salvaged to enable long-term preservation of portable artifacts and to enhance public and local heritage awareness through education kits, interpretive displays and other forms of cultural media.
- A cemetery, prepared and consecrated for the reburial of human remains found during construction and operation of the Project, including a memorial marker, will be developed in an area selected by Tataskweyak Cree Nation, in consultation with the other Partners. Keeyask Cree Nations Members will be involved in identifying and contributing to impact management measures at important spiritual and heritage sites.



# Public Registries and Contact Information

We invite you to talk with one of the Project representatives at the meeting today or to contact us at the address below with any questions or issues you may have about the proposed Project.

## Contact Information

### Keeyask Hydropower Limited Partnership

### Public Involvement Program

c/o Major Projects Assessment and

Licensing Department

Manitoba Hydro

360 Portage Avenue (15<sup>th</sup> floor)

Winnipeg, MB R3C 0G8

**Website Address:** [www.keeyask.com](http://www.keeyask.com)

**Email Address:** [Keeyask@hydro.mb.ca](mailto:Keeyask@hydro.mb.ca)

**The Environmental Impact Statement for the Keeyask Project is available at the following Public Registry locations:**

- Millennium Public Library, 3rd Floor, 251 Donald St., Winnipeg
- Manitoba Eco-Network, 3rd Floor, 303 Portage Ave., Winnipeg
- Thompson Public Library, 81 Thompson Dr., Thompson
- Manitoba Keewatinowi Okimakanak, 701 Thompson Dr., Thompson
- Tataskweyak Cree Nation Band office
- War Lake First Nation Band Office, Ilford
- York Factory Future Development Office, York Landing
- Town Office of Gillam, 323 Railway Ave., Gillam.

**Electronic registry:**

<http://www.gov.mb.ca/conservation/eal/index.html>

