

# CREE KNOWLEDGE AND CISCO IN THE RUPERT RIVER



IAIA 2017

April 2017

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## Em-1-A-Sarcelle-Rupert Project Overview

- Boumhounan Agreement (2002) : meaningful participation of Cree
- Diversion of part of the Rupert river flow to Eastmain-1 Reservoir
  - Eastmain-1-A powerhouse
  - La Sarcelle powerhouse
- Ecological Flow on the Rupert managed to reproduce Spring and Fall run-off for fish habitat
- Decrease of Rupert flow by 50% at the mouth



## Impact Assessment and Cisco Fishing

Impact Assessment (2002-2006)

- Smokey Hill rapids is an important fishing site for Waskaganish (anadromous cisco migration in Fall)
- Diversion would not have incidence on cisco reproduction in the river
- Remedial measures planed to ensure diminution of flow in the rapids wouldn't affect continuation of community fishing activities



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## Environmental Monitoring and Cisco

Environmental follow-up studies about cisco

Anadromous Cisco biological monitoring	2008 to 2015
Voluntary registry of cisco catches <i>Carried out by the Community of Waskaganish</i>	2007 to 2014 and ongoing
Cree Land Use Study (Use of the Community site of Smokey Hill)	2012 and 2014

Remedial measures at Smokey Hill : recreating fishing pools, improvement of site infrastructures, support to fisheries activities, etc.

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## Cree Participation and Knowledge

Cree knowledge definition = Broad definition that includes perception of changes

A participatory approach = Different ways of including Cree Knowledge

- Monitoring Committee (since 2007)
- Local Committees set up to answer community concerns : Ex. Smokey Hill Liaison Committee (since 2010)
- Specific interviews or workshops
- Informal gathering through Cree workers involved in the fieldworks

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## Cisco Biological Monitoring

- Larvae drift study (integrated indicator to assess reproduction success)
- Hydroacoustic survey (locate areas where spawners accumulate)
- Use of another river as control site
- Work in collaboration with Crees and include Cree Knowledge



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## Gathering Cree Knowledge about Cisco

- Discussions and interviews
  - Cisco ecology in the Rupert
- Traditional Knowledge Workshop :
  - Cultural importance of cisco
  - Cisco migration route and wintering habitat
  - **Morphological differences cisco/whitefish**



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## Two Different Types of Cisco ?

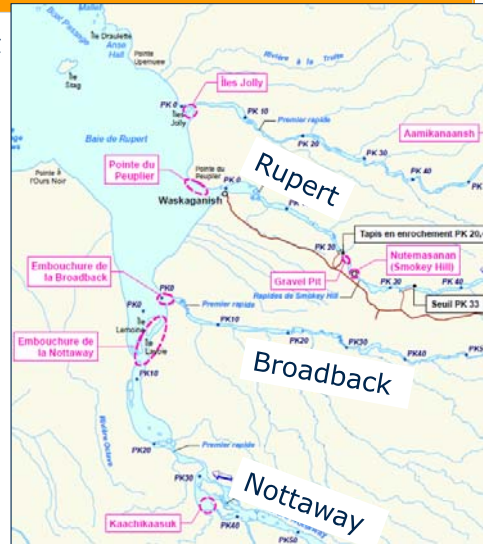
- Cree fishermen recognise 2 types of cisco:
  - *Nuutamesaniyuu names* (fished at Smokey Hill rapid, Rupert riv.)
  - *Kaachikaasikumekw* (fished at Kaashikasuk rapid, Nottaway riv.)
    - greener back, smaller eyes, bigger bones, smaller eggs
- Are they 2 distinct populations ? Is each type associated with its own river ?
- Complementary interviews and biological studies were done to investigate these differences.



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## Two Types of Cisco Found in the Study Area

- Genetic studies indicate that both types are likely to be found in Nottaway, Broadback and Rupert
- But they come at different time (summer run vs fall run)
- This phenomena has been observed in other population of Coregonids
- Cree fishermen refer to them according to sites where they are harvested and these sites are harvested at different time



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## Contribution of Cree Knowledge

**Waskaganish Crees took an active role in the follow-up and wanted it to answer their questions on the fishery results**

Crees significantly influenced the monitoring:

- Influence on methods :
  - More effective fishing/sampling efforts
  - Definition of study area (limit of upstream migration)
- Influence on results :
  - Better documentation of 2 types of cisco
  - Better documentation of chronology of cisco run

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## Food for Thought

Integrating Indigenous Knowledge meant discussing fish abundance from two different perspectives

### Biological Monitoring

Indicator : Cisco reproduction success

Results : Cisco reproduction is fine !

### Cree Knowledge

Indicator : Fishing success

Results : More efforts for similar fishing results !

A missing link between fish reproductive success and fishing conditions !

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## Benefits of Integrating Cree Knowledge

Cree knowledge + Scientific knowledge =

- A very rich body of knowledge that improved the follow-up study
- Produced studies that better answer questions Cree fishermen had thus promoting better communication with them



