ADAPTATION TO MINIMIZE THE JOINT IMPACTS OF CLIMATE CHANGE AND THE MANAGEMENT OF HYDRAULIC INFRASTRUCTURES ON FISH AND FISH HABITAT

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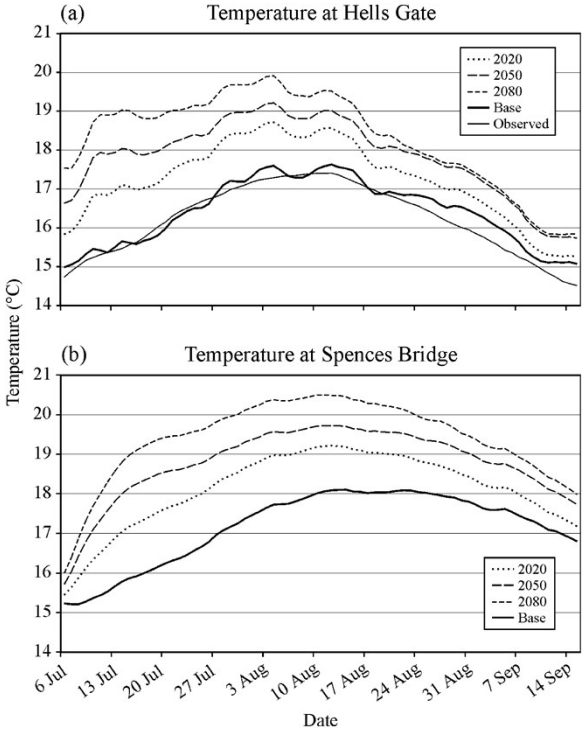
Context

Lower flows are often associated with elevated temperatures in rivers

Taxis River, NB

Photo credit: D. Caissie



Morrison, Quick and Foremenan (2002). Climate change in the Fraser River watershed: flow and temperature projections. J. Hydrol. 263:230-264.

Context

Presently on the Nechacko River: SUMMER TEMPERATURE MANAGEMENT PROGRAM (STMP)

- Developed in the 1980s
- release of cooling flows du ring the period of exposure for early-run sockeye salmonregulations underway.
- Flows released in the upper Nechako River by Rio Tinto tc avoid exceeding a temperature threshold of 20° at Finmoore
- July 20th -August 20th

Source: DFO & Canadian Press

Current questions:

- What about other species?
  - Chinook
  - Sturgeon
- What about climate change ?
  - Modelling tools
  - Scenarios

Cooperative Research and Development Grand (NSERC)

4 year project 2019-2022

Research Objectives

- **Specific objective #1: Improve the flow and water temperature model for hydrological/thermal forecasting in the Nechako River.**

- **Specific Objective #2: Investigate current and alternative water release procedures on the Nechako River to assess how they affect sockeye and chinook salmon, and white Sturgeon.**

- **Specific Objective #3: Use climate change scenarios provided by Ouranos/PCIC to generate flow and water temperature scenarios in order to investigate the potential impact of climate change on the management of water release and fish passage.**

- **Specific objective #4: Provide managers with adaptation strategies.**

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