



LINKING SCIENCE AND COMMUNITY FOR FISHERIES PRODUCTIVITY OFFSETTING IN THE CANADIAN ARCTIC

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Outline

- Brief introduction to Back River Project
- Requirements under new *Fisheries Act*
- Background on Bernard Harbour
- Summary of Golder/HTO study
- Sabina's 2014 baseline for offsetting option
- Achieving “equivalency”
- Summary



Back River Project

- Proposed gold mine in western Kitikmeout Region
- Ongoing optimization studies to support Feasibility Study
- Project currently under review by NIRB
- Requires the dewatering of a small fish-bearing lake
 - resulting in Serious Harm to fish





Back River *Fisheries Act* Requirements

■ ***Fisheries Act***

- A *Fisheries Act Authorization* will be required for Back River
- The application will include a ‘final offsetting plan’

■ **Offsetting Plan**

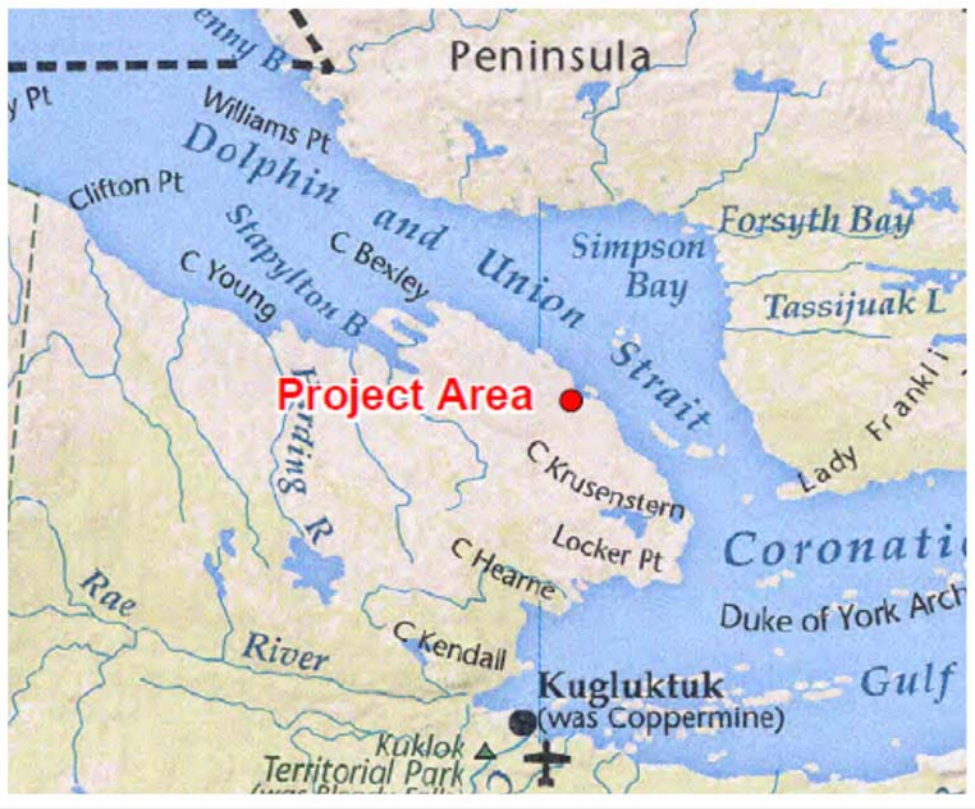
- Includes an option(s) that counterbalance losses of fish
 - By improving the productivity of a fishery
- Reflect recent changes to DFO’s policy and provide opportunities for:
 - Local restoration priorities
 - Community involvement, partnerships
- Bernard Harbour offsetting option is proposed



Background – Bernard Harbour

- Historical evidence of thriving Arctic char fishery
 - Canadian Arctic Expedition (1913-18)
 - Traditional Knowledge
- Today fewer char available to harvest
 - Confirmed by (late summer) studies by Golder and Kugluktuk HTO
 - Harvesters report declines in 1970s
- In 2012, Golder partnered with the Kugluktuk HTO (with various funding sources, e.g. EC, MMG) to assess:
 - Upstream migrations, creek conditions
 - Feasibility of habitat enhancements





Bernard Harbour



Nulahugyuk Creek
• 10 fluvial km
• <1% slope

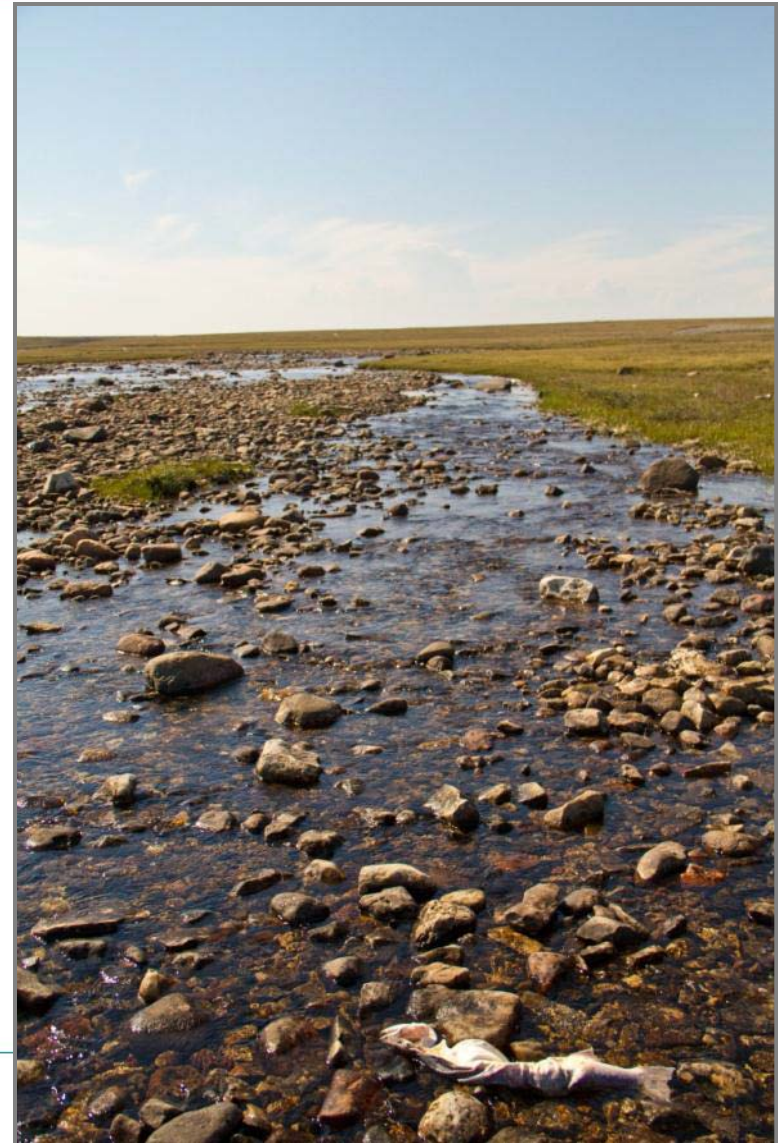
Hingittok Lake
• 882 ha
• 63 m elevation



Nulahugyuk Flows During Char Migration (2012)



April 14, 2015



7







2014 Baseline Study at Bernard Harbour

Recently Sabina partnered with the Kugluktuk HTO to continue studies for developing a Final Offsetting Plan

Objectives:

- Continue community engagement initiatives
- Better understand the char migration
- Provide a benchmark for evaluating 'gains' post-remediation
- Collect habitat data for developing a detailed remediation plan





2014 Baseline – Results

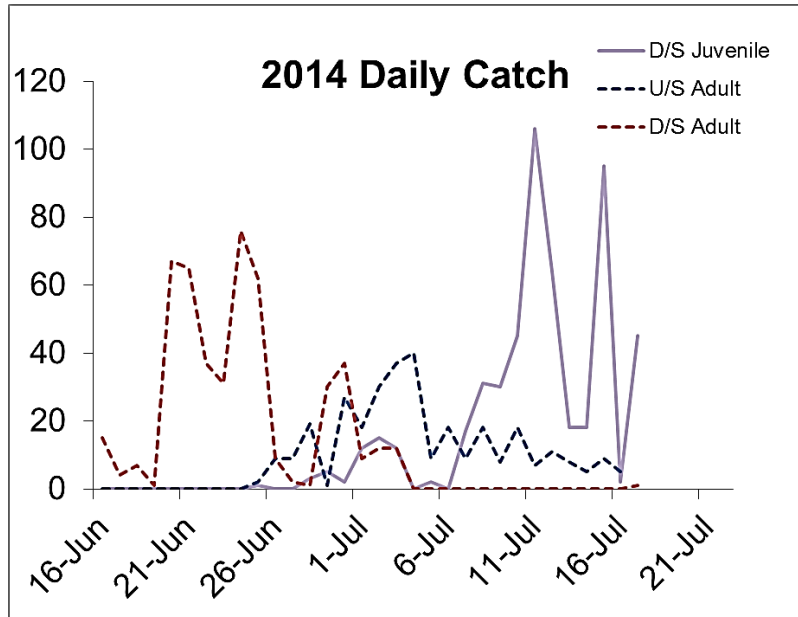
Juvenile-Downstream



Adult-Upstream



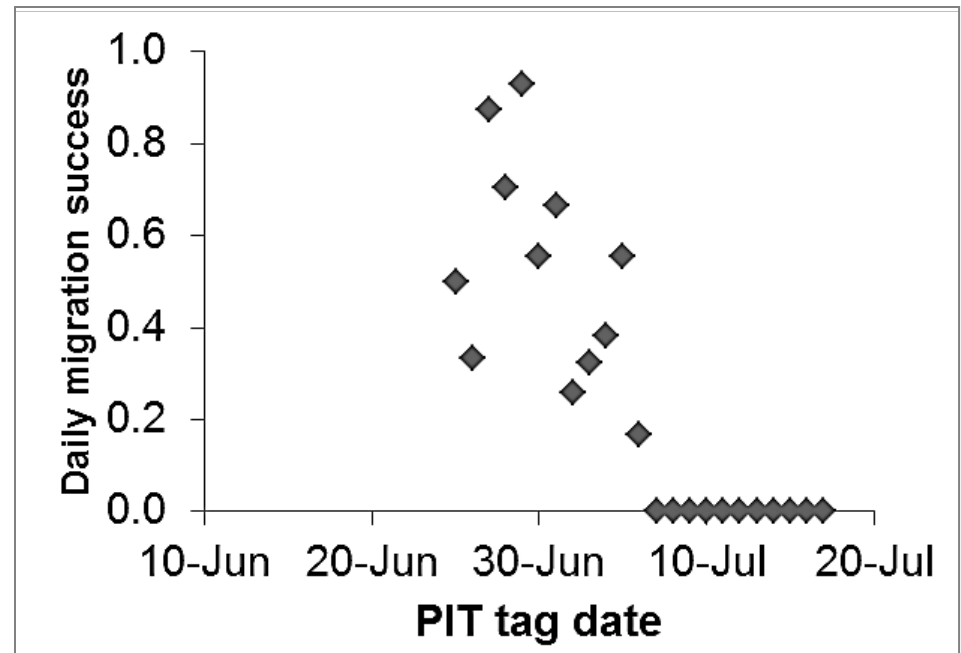
Adult-Downstream





2014 Baseline - Results

- Short window of opportunity for upstream migration
- Migration of adults entering the creek after July 6 not successful
- Low success rate related to
 - Lower flows
 - Larger adults
- Unsuccessful migrants either die trying or try again next year



2012 pilot channels intact two year post-construction

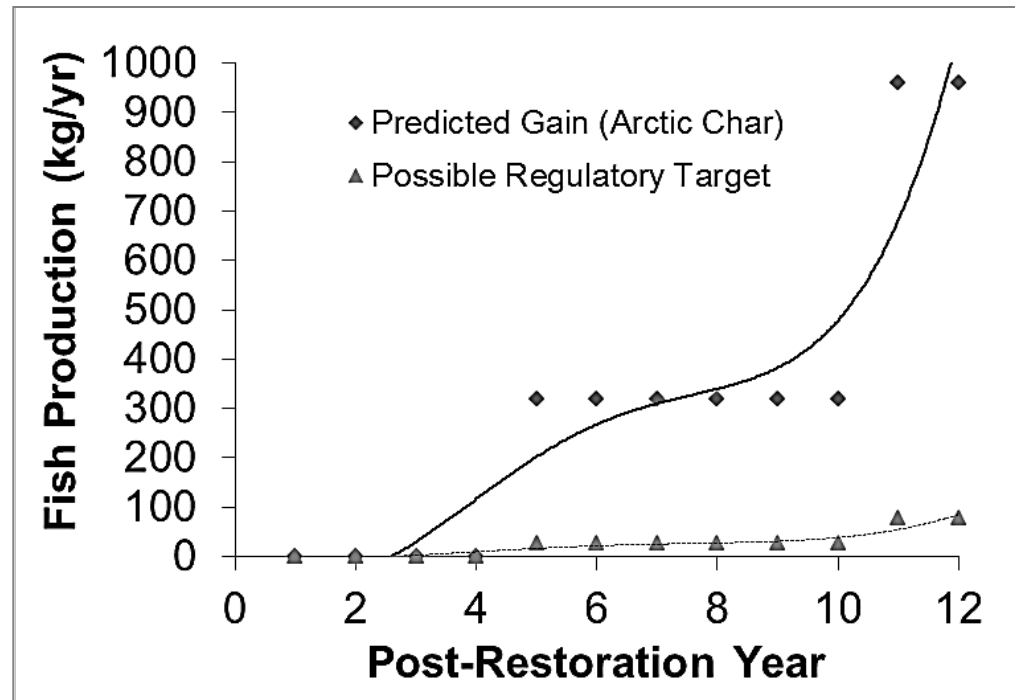
At least 11 'pinchpoints' remaining for offsetting





Offsetting Option – Achieving Equivalency

- Will the “gains” at Bernard Harbour exceed “losses” at Back River?
- *Note that the assessment of losses is on-going*
- Low-flow channels predicted to improve fishery through:
 - Improved access to the spawning lake
 - Increases in population size
 - Increase size of adult char run in creek





Summary

- Recent baseline studies are consistent with Traditional Knowledge
- Improving access for char using simple engineering methods may result in large gains in fish production
- The on-going partnerships with the community will be critical in meeting the expectations to be outlined within the Back River offsetting plan
- The Bernard Harbour approach should provide opportunities for effective, community-based solutions for new mining developments



Questions?



