Project Dashboard

Char Habitat Restoration near Kugluktuk, Nunavut (149359)

Proposal Status: Conformity Determination Issued

Project Overview

Type of application: **New**

Proponent name:	Amanda
Company:	Dumond

Schedule:

Start Date:	2021-07-01
End Date:	2022-10-01
Operation Type:	Seasonal

Project Description:
Community members from the Hamlet of Kugluktuk have observed low water levels and cases where Arctic Char become stranded as they travel upstream during their fall migration. We propose to restore stream channels at two locations selected by the community to facilitate the fall migration of Arctic Char and reduce the number of stranded fish. The two proposed locations are Nakyoktok River (Richardson Islands) and Kimikyoak River (Read Island). Soft engineering will be used to restore the stream channels. Soft engineering refers to the use of the natural environment, rather than artificial structures, and employs hand tools and manual labour in place of heavy machinery. The objective is to create channels with sufficient depth to allow passage of adult fish. This will be accomplished by removing boulders and finer substrate from the main channel. Fine substrate will be removed using shovels. Boulders will be removed using pry bars, with larger boulders winched towards the bank using an ATV (on-shore) with flexible winch cable and webbing secured around the boulder. Non-explosive boulder breakers may also be employed on select boulders when they cannot be removed by pry bar or winch, or when the channel cannot be appropriately diverted around them. Boulder breaking will involve drilling holes into the boulder using a manual rock drill, and inserting a compound (e.g., Dexpan, Dexpan-Canada) that expands as it hardens, creating pressure that cracks the boulder. Pieces may then be safely removed. In areas where widening or braiding of the river channel occurs, directional weirs will be constructed from small boulders and on-site materials. These weirs will be similar to those historically constructed by Inuit for fishing and used recently at Read Island by local community members. The weirs will direct fish passage away from the braided or shallower channels and toward the deeper, restored channels. Similar restoration methods have been successfully employed in the region, both by independent community members (past efforts at Kimikyoak River) and by Golder Associates Inc. at Nulahugyuk Creek, near Bernard Harbour. The proposed stream restoration is part of a larger research and restoration project, funded by Fisheries and Oceans Canada Coastal Restoration Fund, and a collaboration between the Kugluktuk Hunters and Trappers Organization, Fisheries and Oceans Canada, and the University of Waterloo. Water samples and fish samples may be collected opportunistically, to support the larger research project efforts.

Personnel:

Persons:	10
Days:	28

Project Map

List of all project geometries:

ID	Geometry	Location Name
7763	point	Kimikyoak River, Read Island
7764	point	Nakyoktok River, Richardson Islands

Planning Regions:
Qikiqtani

Affected Areas and Land Types
Settlement Area

Project Land Use and Authorizations

Project Land Use
Site Cleanup/Remediation
Scientific Research
Temporary Structures
Licensing Agencies
KitIA: Exemption Certificate
NWB: Approval to Use Water/Deposit Water Without a Licence
DFO: Animal Use Protocol Permit
DFO: Fish for Scientific Purposes Permit
NRI: Scientific Research Licence
Other Licensing Requirements
No data found.

Material Use

Equipment

Type	Quantity	Size	Use
ATV	2	Utility, 2-up	ATV will be used to winch boulders out of stream channel and transport equipment around site
Boat	4	18-24 foot	Boats will be used to transport personnel and equipment to restoration sites
Generator	1	1500 W	Power emergency communication equipment

Fuel Use

Type	Container(s)	Capacity	UOM	Use
Gasoline	30	5	Gallons	Fuel for boats, ATVs, and generator

Hazardous Material and Chemical Use

Type	Container(s)	Capacity	UOM	Use
Non-explosive boulder breaker (Dexpan)	5	11	Lbs	Cracking boulders to facilitate removal. Product is nonhazardous.

Water Consumption

Daily Amount (m^3)	Retrieval Method	Retrieval Location
1	Jugs and gravity filter	Streams

Waste and Impacts

Environmental Impacts

Transportation of equipment by ATV will only occur on hard-packed substrate so minimal damage to wetlands and vegetation will occur. Travel overland will avoid cultural and archaeological sites. All fueling will be done away from water sources. All project activities will be conducted with minimal impacts to large mammals (terrestrial and marine). Wildlife will not be approached and participants will leave the area if wildlife show signs of being disturbed by human presence and/or project activities. Boulders and substrate removed from the stream channels will be deposited on hard-packed substrate and where substrate is unlikely to be transported by spring run-off. Dexpan (a non-toxic expanding powder that will be used to crack boulders) forms a hardened compound when set. This compound is nontoxic and will be disposed of with boulders and substrate. Unused Dexpan (either in original powder form or in mixed solution) will be transported to Kugluktuk for disposal at Hamlet facilities.

Waste Management

Waste Type	Quantity Generated	Treatement Method	Disposal Method
Greywater	3 gallons/day	Food particles will be filtered out. Grey water will be poured into shallow pit, dug > 50 m away from water.	Shallow pit
Sewage (human waste)	40 gallons	Human waste will be contained, transported back to Kugluktuk, and disposed in Hamlet facilities	Containment and disposal at Hamlet facilities