NWRT Interim Progress Report Submitted January 15, 2014

1. NWRT Project Number: 3-13-35

2. Project Title: DEVELOPMENT AND IMPLEMENTATION OF A COMMUNITY-BASED FISHERY MONITORING PROGRAMME AND ADAPTIVE FISHERIES RESOURCE MANAGEMENT SCIENCE APPROACH FOR ARCTIC CHARR IN BAFFIN REGION, NUNAVUT.

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4. Summary:

We proposed to continue development and implementation of a community-based fishery monitoring program and adaptive fisheries resource management science approach for Arctic Charr in partnership with the Pangnirtung community and Hunters and Trappers Association (HTA). The project is in year 2 of 5 and consists in the identification of an indicator stock for Arctic Charr in the Cumberland Sound Area. The indicator stock will be the focus of annual sampling and monitoring efforts during the five consecutive years, including (i) a test fishery program with progressive increase in harvest; (ii) biological sampling of fish; (iii) harvest monitoring; and (iv) monitoring of selected environmental parameters related to Arctic Charr movement, habitat and fishery productivity. The project involved a platform for IQ gathering and synthesis and for knowledge co-production on Arctic Charr and freshwater ecosystems in Cumberland Sound. Expected outputs include significant data development on Arctic Charr, information gap-filling on the responses of Arctic Charr populations to fishing pressure and selected environmental drivers, and the development of an adaptive fisheries resource management science approach for the species. Community involvement and participation is at the core of this project, which is designed to stimulate and enhance local capacity for data collection and knowledge gathering and to integrate traditional practices with scientific expertise. Long-term goals are to demonstrate the effectiveness of community-based monitoring and adaptive co-management for realizing conservation and simultaneous optimization of Arctic Charr resources in Nunavut as well as fostering community involvement in decision-making processes. The implementation and fine-tuning of a community-based fishery monitoring program/adaptive fisheries resource management science approach for Arctic Charr in Pangnirtung should facilitate future expansions to other Baffin Island communities, which is the intended scope of this project.

5. Project Objectives

Short-term objectives are:

- (i) The identification of indicator stocks in participating communities.
- (ii) The hiring and training of community fishery monitors and community co-researchers
- (iii) Collection of five (5) consecutive years of biological data on Arctic Charr as well as selected environmental information

- (iv) The delivery of test fishery programs consisting in submitting indicator stocks to a progressive increase in harvest
- (v) The completion of an integrated Inuit Qaujimajatuqangit-scientific assessment on indicator stocks at the end of the five (5) years and the production of fisheries resource management science approach for the Arctic Charr.

Long-term objectives are:

- (i) Demonstrate the effectiveness of a community-based fishery monitoring program for: (a) assessing fishery sustainability on an ongoing basis; (b) validating and testing new protocols for the determination of sustainable harvest levels for Arctic Charr; and (c) detecting changes in the health of Arctic Charr populations as related to changes in fishing pressure and/or external stressors.
- (ii) Provide a platform for articulating Inuit traditional knowledge and customary practices together with scientific tools and experimentation into an adaptive co-management plan for Arctic Charr. Promoting fisheries development while ensuring conservation of Arctic Charr resources and related traditional activities and traditional use areas.

6. Materials and Methods

Study area

Our research concerns all Arctic Charr stocks in Nunavut. The focus for this research as per the proposal has been based on Cumberland Sound Arctic Charr populations.

Community-based Fishery Monitoring Programme and Adaptive co-Management Plan for Arctic Charr

Target/duration: Indicator stocks selected via integration of local IQ and scientific results/ 5 years.

Test fishery Annual test fishery conducted at traditional fishing sites during fall upstream migration using commercial gillnets; Recording of catch per unit effort (CPUE);

Data development -Charr abundance

Progressive increase

in harvest from year-1

Gap-filling

to year-5.

- response of Charr stocks to increasing harvest

Capacity building - community-based monitoring capacity

Biological sampling

•Annual sampling of 200 fish for fork length, round weight, sagittal otoliths, sex, maturity status and fecundity (in females). Sampled fish randomly selected from catch (test fishery).

Data development

-Charr populations -Charr health/quality

Gap-filling

-response of Charr stocks to changing harvest and selected environmental drivers

Capacity building

- community-based monitoring capacity

Components

Harvest monitoring

Recording and compilation of total harvest from all sources (subsistence, test and commercial/ exploratory fisheries).

Expected Outputs

Data development

- Charr harvest

Gap-filling

-knowledge of subsistence harvest quantities.

Capacity building

- community-based monitoring capacity

Environmental

monitoring

recording and sampling

determined in consulta-

harvesters, community

members, biologists

and researchers.

-Annual monitoring,

of selected

environmental

tion with local

parameters (to be

Data development -Freshwater ecosystems

- -Charr habitat
- -Water quality
- -Hydrology

Gap-filling

-response of Charr stocks to selected environmental drivers

Capacity building

- community-based monitoring capacity

Knowledge co-production

-Annual in-community consultations and training. involving progress assessment, knowledge sharing and integration of IQ and science results. Combined IQ-scientific assessment of indicator stock at the end of the five-year data collection/test fishery period. Production of a long-term management plan for the stock in collaboration with all stakeholders/partners.

Data development

- Documentation of local IQ

Gap-filling

-Platform for integration of IQ and science results -Platform for testing management options for Charr.

Capacity building

- Community-based management capacity and involvement in decision-making processes on Charr fisheries.

7. Project Schedule:

This project is on schedule. All completed tasks are shaded light grey with strike through. All tasks in progress or to be completed in the future are in black with no strike through. All tasks are on schedule to be completed by April 2014.

Work plan for April 2013- March 2014					
Action	Schedule	Objectives	Specific Objectives		
Meet with local HTO and Hamlet regarding project to confirm continued Hire Project	May June 2013	Discuss project and seek partnership letters Gather feedback from confirmed partners on project details for 2013 Advertise and interview for a successful			
Coordinator	- March 2014	candidate from Pangnirtung — DFO Science staff work with coordinator to meet 2013 project goals			
Community meetings (Pangnirtung)	May 2013	Presentation of research proposal to Pangnirtung HTA. Outline role and responsibilities of Pangnirtung HTA as project lead (Phase I). Consultations with HTA board members, local harvesters, elders and interested community members.	- Monitor indicator stock in Cumberland Sound ¹ ; - Continue gathering and documenting IQ on indicator stock; - Continue five year monitoring program and adaptive co management plan ² ; - Hiring and training of fishery monitors; - Identify potential fishery monitors for 2013-14; - Continue monitoring a suite of environmental parameters; - Discuss and outline progressive increase in harvest to be carried out in test fisheries and determine harvest quantities to be targeted annually.		

Community Meetings and Training	August 2013 –	- Hiring and training of fishery monitors.	- Biological (fish) sampling and data collection training provided by DFO biologists.
(Pangnirtung)	March 2014	- Meetings with fishery monitors, harvesters and community members	 Designate community co-researchers to be involved in every step of the program/plan; Finalize agreement among stakeholders for targeted increase in harvest on indicator stock.
Continuation of monitoring program and adaptive co-	Winter 2014	- Fishery monitors and associated actors take on tasks and responsibilities	
Community meetings (Pangnirtung)	Decem ber 2013	-Meetings with all project participants	-Discuss year 2 accomplishments; -Share knowledge and ideas for improving monitoring in year 3.

8. Preliminary results/discussion:

As this is year 2 of a 5 year research program we cannot provide any preliminary results. We can state that once field season is completed (March 31, 2014) we can provide preliminary biological data from the samples, preliminary results on hiring a community based coordinator, a tally of completed interviews of local fishers and a list indicating local hires and local involvement. All this information will be included in the final report provided to the NWMB in September 2014.

9. Reporting to communities/resource users:

This project that been presented and discussed in person at Regional Wildlife Board meetings (QWB executive meeting (Iqaluit - May 2011), Kivalliq Wildlife Board AGM (Rankin Inlet - June 2011) and QWB AGM (Iqaluit - November 2011)), at a community consultation to Pangnirtung Hunters and Trappers Organization in June 2011, December 2011, May 2012, December 2012, May 2013, and November 2013. Interviews with fishers from Pangnirtung were initiated in December 2011 and will continue to be conducted over the next few months. The results from this research will be presented to the Pangnirtung HTO for consultation and verification. Upon completion of the project, results will be presented at RWO meetings, when applicable. The interim and final translated reports of this research will be presented to and made available at the Pangnirtung HTO along with the NWMB.