

SUBMISSION TO THE

NUNAVUT WILDLIFE MANAGEMENT BOARD

FOR



Information:

Decision: X

Issue: New project proposals for Nunavut Wildlife Research Trust funding, 2013-2014.

Background: The Nunavut Wildlife Research Trust (NWRT) funds research projects related to wildlife management carried out by government departments. NWRT project numbers identify the department associated with the project, the year of the original application and a project number. Projects starting with a '2' refer to the Government of Nunavut, Department of Environment (GN), projects with a '3' refer to Fisheries and Oceans Canada (DFO), projects with a '4' refer to the Environment Canada-Canadian Wildlife Service (EC-CWS).

We received a total of 33 new applications for NWRT funding this year: 17 from the GN, 15 from DFO, and 1 from EC-CWS. These proposals have requested a total of **\$1,431,500**. The total funding available is **\$894,000**. There are no existing multi-year commitments indicating that the entire **\$894,000** is available to allocation for 2013-2014.

The NWRT policy indicates that: "The NWMB will consider only a package of projects (ranked highest to lowest) that does not exceed 135% of the funds available for allocation". Based on the **\$894,000** available to allocate for 2013-2014, a package of proposals totaling **\$1,206,900** could be brought to the Board for consideration.

As per the NWRT policy and funding guide, proposals brought to the Board for consideration must achieve a minimum score of 65. All proposals were evaluated according to the policy approved in September 2010 by the NWMB (score sheets are available for review but are not included in the binders and are not publicly available). Proposals were scored based on the following four sections, for a total score out of 100:

- Priorities / 25 (NWMB Priority 17.50 and Regional Priorities 7.50);
- Quality of research / 35;
- Funding and training / 25; and
- Consultation and reporting / 15

The NWMB's 2010-2013 Wildlife Management and Research Priorities and the 2010 Regional Priorities lists for Baffin and Kivalliq Regions were used to evaluate the NWMB priority and the Regional Priorities respectively (refer to **TAB 2**). The NWMB did not receive a finalized 2010 priority list from the Kitikmeot region, so the 2007 list of wildlife priorities was used for this region¹.

¹ New regional wildlife management and research priorities will be established in Fall 2013 in conjunction with the Regional Wildlife Organizations' Annual General Meetings

When scoring proposals, NWMB staff used the highest relevant ranked priority from the appropriate list.

After having reviewed each proposal in detail, NWMB staff would like to note that 12 of this year's applications did not provide enough information to achieve the minimum score of 65%. In particular:

- 1) many applications did not provide sufficiently detailed information on the procedures used during field research, as well as statistical or spatial analysis techniques – information that is required to evaluate the proposed methodology and approach;
- 2) the proposed time contributed to the project by the applicant was often not specified, or conflicting information was presented in various sections of the proposal;
- 3) information in regards to consultation and reporting were lacking detail;
- 4) many applications indicated that support had been requested and/or received from the communities for the current funding period but failed to provide evidence of these communications; and
- 5) many proposals were well developed, but had objectives that did not address NWMB or regional priorities; therefore, they failed to reach the minimum score of 65%.

In sending letters to notify applicants that their applications would not proceed to the second stage of the evaluation process, NWMB staff emphasized the importance of adhering to the NWRT Funding Guide when submitting applications. The NWRT Funding Guide is provided annually with the Call for Proposals and provides applicants with a clear breakdown of evaluation criteria, and stresses that the NWMB expects that as much detail as possible will be provided for all sections.

As such, 21 projects which met the requirements outlined in the policy are being brought to you for consideration (9 from the GN; 11 from DFO; and 1 from EC-CWS), requesting a total of **\$979,000**

The annual allocation to multi-year projects cannot exceed 25% of the total amount available for allocation (**\$223,500 for the current funding year**). As there are no commitments to multi-year projects approved in previous years the entire **\$223,500 is** available for new multi-year projects proposed for 2013-2014. To be approved for multi-year funding a project must meet the following minimum scoring requirements under each of the four sections:

- Research Priority- 16.25 / 25 (65%);
- Quality of research - 24.50 / 35 (70%);
- Funding and training – 15/25 (60%);
- Consultation and reporting - 10.50/15 (70%).

Nine of the project proposals that are being brought to the Board requested multi-year funding in their applications. Four of these proposals² met the criteria above, requesting a combined

² Distribution and abundance of caribou on Baffin Island (2-13-01 Government of Nunavut); Development and implementation of a community-based fishery monitoring program (2-13-35

\$190,000 in funding for 2013-2014. Given that the remaining 6 proposals did not meet the minimum scoring requirements, they are being brought to the NWMB for consideration for single year funding for the 2013-2014 funding period.

The maximum amount of preliminary study funding that can be awarded each funding year is 10% of the total funds available to allocate (**\$89,400 for the current funding year**). Two project proposals³ being brought to the Board requested preliminary funding for the 2013-2014 funding period, requesting a total of **\$30,000**.

A summary of the scores and projects are provided in the table below. Project proposals and project reviews are included in **Tabs 6-26**.

Prepared by: Peter Kydd, Wildlife Management Biologist, NWMB

Consulted: Rebecca Jeppesen, Director of Wildlife Management, NWMB

Government of Nunavut); Viscount Melville polar bear population estimate (4-13-05 Canadian Wildlife Service); Estimation of population size for wolverines in Baker Lake (2-13-14).

³ Nunavut wildlife survey from space (2-13-22 Government of Nunavut); and Community consultation and traditional knowledge studies on Arctic char in Qikiqtarjuaq (3-13-24 Fisheries and Oceans Canada).

New Nunavut Wildlife Research Trust Proposals for 2013-2014.

Project #	Multiyear or Preliminary	Title	Amount Requested	Score	Rank	Tab
2-13-1	Multiyear	Distribution and Abundance of Caribou on Baffin Island.	\$75,000	92.25	1	6
3-13-35	Multiyear	Development and implementation of a community-based fishery monitoring program and adaptive fisheries resource management science approach for Arctic char in Baffin region, Nunavut.	\$10,000	87.98	2	7
2-13-3		Caribou Health Monitoring Program.	\$19,500	87.50	3	8
4-13-5	Multiyear	Viscount Melville Polar Bear Population Estimate.	\$75,000	86.54	4	9
2-13-18		Bathurst Island Peary caribou and muskox population recruitment survey.	\$30,000	80.05	5	10
2-13-22	Preliminary	Nunavut wildlife survey from space: use of high-resolution imagery to track population size and trends.	\$15,000	78.85	6	11
3-13-29		Bowhead Whale Movements and Ecology.	\$37,500	77.00	7	12
2-13-11		Muskox Aerial Survey (<i>Ovibos moschatus</i>) of the Kitikmeot Region, Nunavut.	\$75,000	76.13	8	13
2-13-19		The knowledge of the Public, Inuit and Inuit Elders and Hunters of Baffin Bay Polar Bears and Wildlife management.	\$15,000	74.93	9	14
3-13-31		Eastern Canadian Arctic Killer Whale Study.	\$30,000	73.65	10	15
2-13-25		Baffin Bay Polar Bear Genetic Mark-Recapture.	\$75,000	72.13	11	16
3-13-30		Jones Sound Narwhal Study.	\$65,000	71.94	12	17
3-13-9		Surveillance for aquatic invasive species in the Canadian Arctic.	\$30,000	69.75	13	18
3-13-28		Aerial survey to estimate the abundance of the Baffin Bay narwhal population.	\$75,000	69.50	14	19
2-13-33		Nunavut Coastal Resource Inventory (NCRI).	\$75,000	68.87	15	20
3-13-24	Preliminary	Community consultation and traditional knowledge studies on Arctic char in Qikiqtarjuaq fishing areas with emphases on changes in during last 15 years.	\$15,000	66.90	16	21
3-13-27		Growth and Sustainable Yield of Lake Trout in Nunavut.	\$55,000	65.69	17	22
3-13-26		Kane Basin Polar Bear Genetic Mark-Recapture.	\$62,000	65.50	18	23
3-13-23		Fishery Independent Survey of Cambridge Bay Arctic Char and Halovik River Weir Enumeration.	\$40,000	65.37	19	24
3-13-7		Walrus Aerial Survey.	\$75,000	65.36	20	25
2-13-14	Multiyear	Estimation of population size for wolverines (<i>Gulo gulo</i>), in the vicinity of Baker Lake, using DNA based mark-recapture method.	\$30,000	65.00	21	26
Total Funds Requested:			\$979,000			
Total Funds Available:			\$894,000			

PROPOSAL REVIEW

Project Number: 2-13-01

Applicant: Debbie Jenkins

Title: Distribution and Abundance of Caribou on Baffin Island

Funding Requested: Multi Year Funding¹ - \$75,000 for 2013-2014

Rank: 1 / 21

Total Score 92.25 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 7.50 / 7.50
Quality: 31.00 / 35.00
Consultation: 13.50 / 15
Funding: 22.75 / 25

Project Summary:

The primary objective of this project is to determine the abundance and distribution of caribou on Baffin Island by: 1) investigating and recording the number and location of caribou across Baffin Island; 2) estimating the population density and abundance; and 3) collecting and analyzing fecal samples to evaluate genetic diversity and population structure.

Project Contributions:

Requested from NWMB	\$ 75,000	11%
Other Contributions	<u>\$626,000</u>	<u>89%</u>
Total	\$701,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #1 Baffin – Population estimate, Baffin Island Caribou

Project design:

During March-April-May 2013 caribou on North and Northeastern Baffin Island will be surveyed following standard helicopter survey techniques (South Baffin was surveyed in 2012). Inuit knowledge and existing scientific information were used to determine the area to be surveyed. Survey lines will be positioned 10 km apart, running east and west across the study area, and will be divided into distinct areas of habitat type. The survey will cover the entire land base with the exception of extensive ice fields or glaciers. Upon detection, all individuals and groups will be approached to record location, and identify sex, age and group size. All observations and flight tracks will be mapped to illustrate the spatial distribution of caribou in late winter.

¹ This proposal exceeds the minimum criteria in each of the four areas of evaluation by the NWMB; therefore, it qualifies for Multi Year Funding.

Scat samples for genetic analysis will be collected when available at fresh feeding site locations and will be used to identify the population structure.

Application of results:

Project results will be documented in a Government of Nunavut file report and applied to conservation and management initiatives to address land-use and sustainable caribou populations. Population estimates will be used to evaluate the status of these caribou populations while distribution information will highlight important habitat. Genetic analysis will help confirm the population structure of caribou on Baffin Island and help define population boundaries.

Community involvement / consultation:

The Project Leader conducted consultations with HTO Boards in North and Northeast Baffin communities in fall 2012. Status reports will be circulated to the communities after each field season, and additional consultations are planned to gather community input to include in the final report.

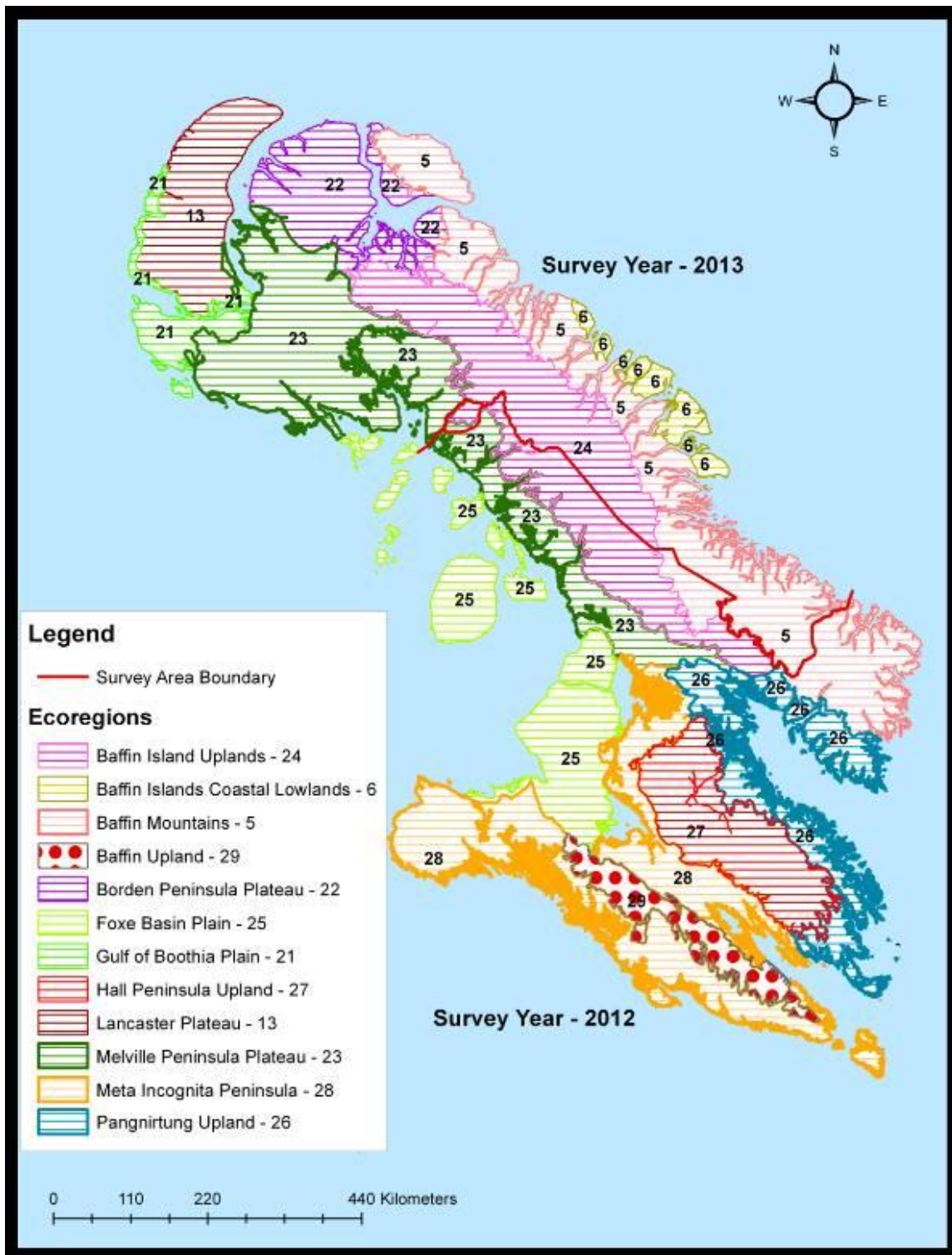
As per the NWRT policy, if the project is funded by the NWRT the project is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

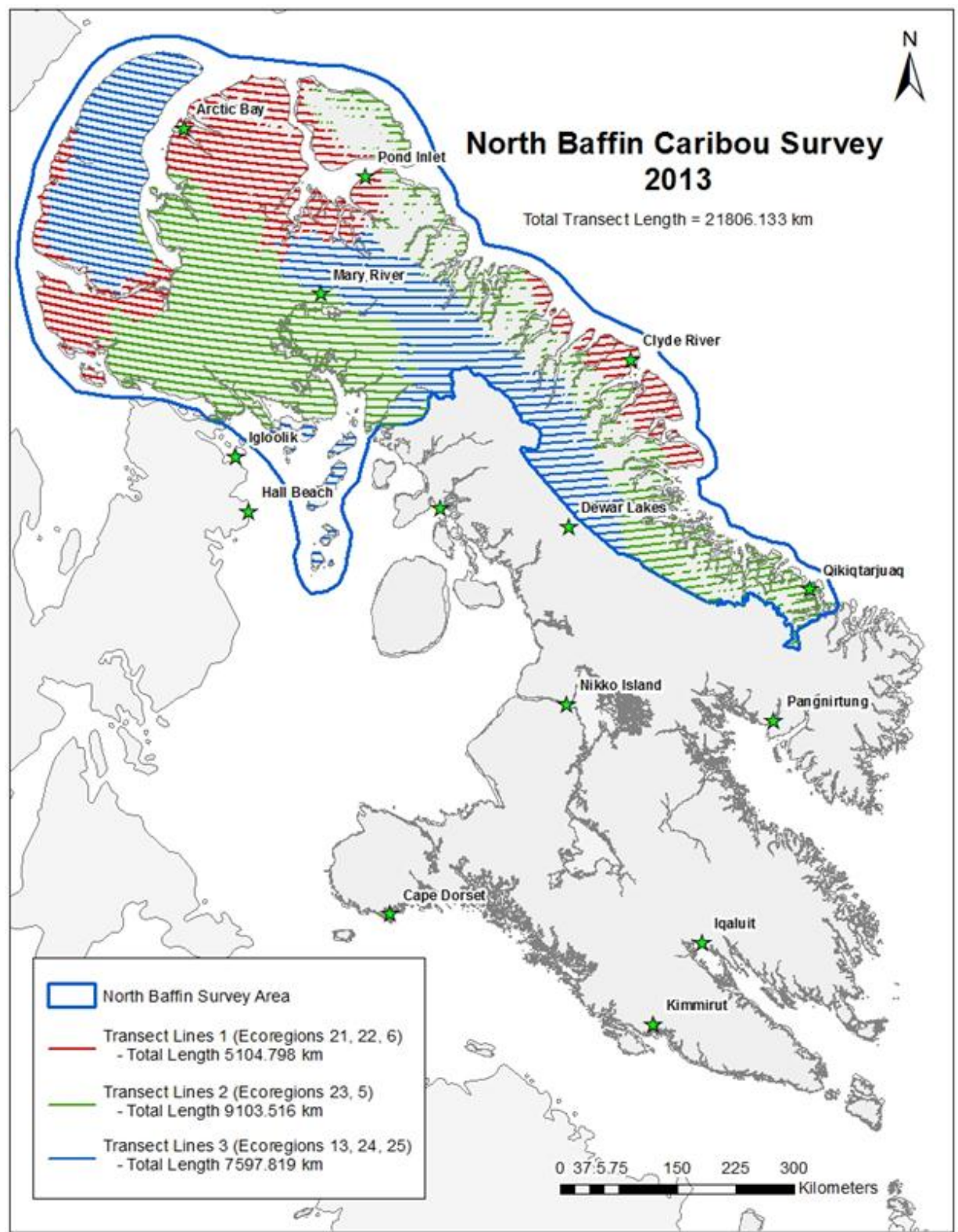
1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

Consultations: Rebecca Jeppesen, Director of Wildlife Management, NWMB



Twelve eco-regions (distinct areas of habitat) characterize the study site and illustrate the complex landscape.



The flight lines, shown here will be 10 km apart. Scientific data combined with Inuit Knowledge informed the between-year study area boundaries.

PROPOSAL REVIEW

Project Number: 3-13-35

Applicant: Ross Tallman

Title: Development and implementation of a community-based fishery monitoring program and adaptive fisheries resource management science approach for Arctic char in Baffin region, Nunavut.

Funding Requested: Multi Year Funding¹ - \$10,000 for 2013-2014

Rank: 2 / 22

Total Score 87.98 / 100
(6 point deduction)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 7.50 / 7.50
Quality: 30.50 / 35.00
Consultation: 15.00 / 15
Funding: 23.48 / 25

Project Summary: The purpose of this project is to build local capacities for Arctic char monitoring and fisheries resource management science in Nunavut, which will ensure long-term conservation of the resource and food security. The main goals of this project are: 1) to demonstrate the effectiveness of a community-based fishery monitoring program for: (i) assessing fishery sustainability on an ongoing basis; (ii) validating and testing new protocols for the determination of sustainable harvest levels for Arctic char; and (iii) detecting changes in the health of Arctic char populations as related to changes in fishing pressure and/or external stressors; and 2) to 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 char, promoting fisheries development while ensuring conservation of Arctic char resources and related traditional activities and traditional use areas.

Project Contributions (annual):

Requested from NWMB	\$ 10,000	5%
Other Contributions	<u>\$194,000</u>	<u>95%</u>
Total	\$204,000	100%

The Board should note that although multi year funding is requested for the next three years there is some discrepancy throughout the proposal. For instance, the proposed work plan only covers 2013-2014, which is consistent with the project duration being listed as 2013-2014; however, updates to communities are to continue until 2016, while final report submission to NWMB is to occur in 2014.

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

¹ This proposal exceeds the minimum criteria in each of the four areas of evaluation by the NWMB; therefore, it qualifies for Multi Year Funding.

Regional Priority: #1 Baffin – Increase community involvement in wildlife management.

Project design: This project will consist of two complementary tools for the assessment and monitoring of Arctic char stocks: (1) a semi-quantitative risk analysis tool (PSA) and (2) a fully quantitative model for char assessment. Both methods are based on the use of life-history traits like fecundity, age at maturity, individual growth rate, mortality and longevity. Together, these traits determine stock productivity and resilience to harvesting. The vast diversity of Arctic char life histories in Nunavut and the tendency for life-history traits to reflect environmental characteristics, make the use of life-history information particularly useful for char assessment.

The development and implementation of a community-based monitoring program and adaptive co-management plan for Arctic char will assist in the development of an alternate framework for stock assessment of Nunavut Arctic char. This framework was developed in response to data limitation, feasibility constraints and biological complexity challenges hindering effective management of Arctic char resources in Nunavut. The framework recognizes the importance of integrating IQ with scientific methods in order to achieve long-term conservation and management goals, including sustainable fishery development. Community-based monitoring relies on active participation from community members and local harvesters. Thus, community involvement and capacity building is at the core of this project and is required to fulfill all objectives.

Application of results: The semi-quantitative tool (PSA) serves to rank a large number of char stocks based on their relative vulnerability to harvest, which will help limit the impacts and costs associated with the sampling of fish populations for data collection. A quantitative model using life history data coupled with management history and population response information from various char stocks, should make it possible to determine a sustainable harvest level for a stock with limited sampling. Expected outputs include significant data development on Arctic char, information gap-filling on the responses of char populations to fishing pressure and selected environmental drivers, and the development of an adaptive fisheries resource management science approach for the species.

Long-term goals are to demonstrate the effectiveness of community-based monitoring and adaptive co-management for realizing conservation and simultaneous optimization of Arctic char resources in Nunavut and for fostering community involvement in decision-making processes.

Community involvement / consultation: The project leader has consulted with the hamlet of Pangnirtung and the local HTO, both of which have provided their support. The project leader has also indicated that it will conduct in-community consultation during and upon completion of the research, as well as provide annual project updates to the community. As this is a community-based monitoring program, the proposed work plan indicates numerous community meetings throughout the 2013-2014 fiscal year. It is also indicated that fishery monitors will be hired locally, trained by DFO biologists, and will be involved in every step of the program.

As per the NWRT policy, if the project is funded by the NWRT the project is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR**

(3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.
3. Funding should be conditional on the development of a more detailed budget, work plan, and final reports for 2014-2015 and 2015-2016.

Consultations: Anna Magera, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 2-13-3

Applicant: Debbie Jenkins

Title: Caribou Health Monitoring Program

Funding Requested: Single Year Funding - \$19,500 for 2013-2014

Rank: 3 / 21

Total Score 87.50 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 7.50 / 7.50
Quality: 30.00 / 35.00
Consultation: 12.00 / 15
Funding: 20.50 / 25

Project Summary: The overall purpose of this project is to establish a hunter-based program to gather information and collect samples for caribou health monitoring and genetic analysis across the Baffin Region. This project began as a pilot study in 2012, funded by the Government of Nunavut Department of Environment. The six main objectives of this project are: 1) continue training hunters to collect samples and data from animals that they already harvest; 2) develop and execute a communication strategy to increase participation and understanding; 3) provide baseline information on caribou health (including prevalence of brucellosis and other diseases), population structure, genetic diversity, morphology, and diet; 4) archive the results in a departmental database that will be used to evaluate changes over time and allow comparisons between herds; 5) to build local understanding and capacity; and 6) ensure timely sample analysis and information exchange with the communities.

Project Contributions:

Requested from NWMB	\$ 19,500	50%
Other Contributions	<u>\$19,500</u>	<u>50%</u>
Total	\$39,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #1 Baffin – Population estimate, Baffin Island Caribou

Project design: Harvesters will be recruited and trained to collect data and samples from their freshly killed caribou, including: sex, approximate age, pregnancy and lactation status, presence of a calf, assessment of body condition and fat measurement; collection of left metatarsal bone with skin, feces, cranial lower jaw, and whole blood. All samples will be submitted to Conservation Officers for processing and storage in Pond Inlet.

Once sufficient samples are collected, data will be compiled and analyzed using GIS computer software to evaluate movement patterns over space and time.

Application of results: The results of this project will provide information on the health of caribou including disease and body condition, as identified in the Caribou Conservation Strategy. Fundamental information on caribou genetics and morphology will be obtained to assist in determining the geographic boundaries of populations, the assessment of caribou sustainability, and the conservation status of caribou populations. Nunavummiut will benefit from this project as it will help to identify the extent of infection in caribou, and provide rapid notification should diseases arise or expand throughout hunting areas. Hunters will also gain information on the identification of sick or infected caribou, and techniques to prevent spreading diseases.

Community involvement / consultation: The Project Leader has consulted with, and received support from, numerous communities and HTOs. It has been indicated that in-community consultation will occur in 2014, following the completion of research, with a focus on results. Information gained through the data collection and tissue sampling will be quantified and shared directly with participating communities through status reports.

As per the NWRT policy, if the project is funded by the NWRT the project is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Sarah Spencer, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 4-13-5

Applicant: Evan Richardson

Title: Viscount Melville Polar Bear Population Estimate

Funding Requested: Multiple Year Funding¹ - \$75,000 for 2013-2014

Rank: 4 / 21

Total Score 86.54 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 3.50 / 7.50
Quality: 31.00 / 35.00
Consultation: 15.00 / 15
Funding: 19.54 / 25

Project Summary: The main objectives of this research project are to: 1) conduct mark-recapture and DNA mark-recapture research to estimate the current population size and demographic parameters of the Viscount Melville polar bear subpopulation; 2) define the current boundaries of the Viscount Melville polar bear subpopulation; and 3) assess polar bear habitat use of changing sea ice habitat in the area of Viscount Melville Sound.

Project Contributions:

Requested from NWMB	\$75,000	17%
Other Contributions	<u>\$355,000</u>	<u>83%</u>
Total	\$430,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #5 Kitikmeot – Development of alternatives to capture and marking for wildlife population monitoring and assessment techniques.

Project design: Field work conducted in 2012 included the mark-capture inventory of all bears encountered, which included the attachment of an ear tag and the collection of biological samples (e.g. blood, claw, etc.). In 2012, it was proposed that 25 satellite-linked GPS collars would be deployed throughout the study area. In 2013 the project will collect DNA samples through hair snag stations along areas of the region accessible by snowmobile. DNA biopsy dart mark-recapture inventory may be implemented, depending on the level of community support. Locations of collared individuals will be examined to delineate the current subpopulation boundary.

Application of results: Although the results of this study will likely not be available until January 2015, the proposed research will yield a current population estimate and population parameters for polar bears in the Viscount Melville subpopulation. This

¹ This proposal exceeds the minimum criteria in each of the four areas of evaluation by the NWMB; therefore, it qualifies for Multi Year Funding.

information may be used in a re-assessment of the total allowable harvest (TAH). The results of this research will also provide information on polar bear habitat use and movement, which will provide baseline information used to assess the potential future impacts of increased shipping through the Northwest Passage.

Community involvement / consultation: The proposal indicates that support has been requested and received from the Cambridge Bay HTO and evidence has been provided. The Project Leader has indicated that consultation occurred in Cambridge Bay on January 9th, 2013, and will occur again upon completion of the project, in December 2014. The project will employ two field assistants from Cambridge for a total of 60 person days, including training on research methods.

As per the NWRT policy, if the project is funded by the NWRT the project is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Sarah Spencer, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

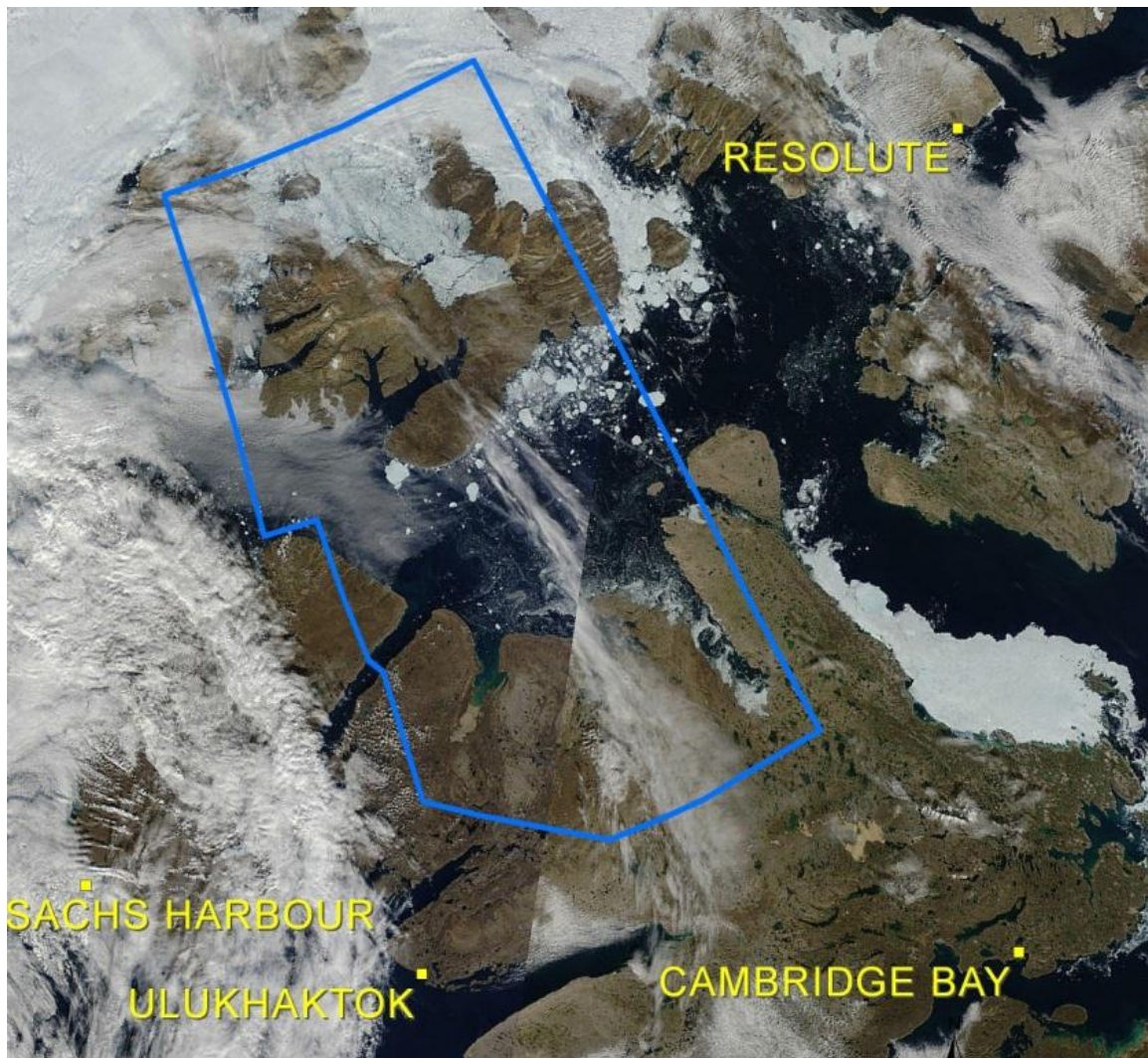


Figure 1. Viscount Melville Sound polar bear subpopulation boundary in blue on a MODIS image taken late August 2010

PROPOSAL REVIEW

Project Number: 2-13-18

Applicant: Morgan Anderson

Title: Bathurst Island Peary caribou and muskox population recruitment survey.

Funding Requested: Single Year Funding - \$30,000 for 2013-2014

Rank: 5 / 21

Total Score 80.05 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 7.50 / 7.50
Quality: 29.00 / 35.00
Consultation: 12.00 / 15
Funding: 14.05 / 25

Project Summary: The main objectives of this research project are to: 1) determine abundance of Peary caribou and muskox on the Bathurst Island complex; 2) determine population parameters for Bathurst Island caribou and muskoxen, particularly cow:calf ratios and bull:cow ratios; and 3) determine the efficiency of high-resolution satellite imagery for detection of Peary caribou and muskox on the Bathurst Island complex.

Project Contributions:

Requested from NWMB	\$30,000	26%
Other Contributions	<u>\$86,000</u>	<u>74%</u>
Total	\$116,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #1 Baffin – Population estimate: Peary caribou

Project design: Aerial surveys will be conducted, using 4 or 6-passenger fixed-wing planes, enabling front and rear observers to estimate population size independently, allowing for an estimation of observer error. Caribou and muskox location will be mapped and analyzed using ArcGIS software. Ground surveys will not be used for population estimates, but will be used to provide better group classification for recruitment rates. During ground surveys, scat samples will be collected opportunistically for analysis on diet, pathology, and/or genetics.

Application of results: The results of this project will be documented in a Government of Nunavut file report. The results may also provide advice and information on caribou and muskox abundance, distribution, and population status, which will be used for policy development and management, specifically the Peary caribou recovery strategy at the federal level, the Peary caribou management plan at the territorial level, and the Qikiqtaaluk muskox management plan at the regional level.

Community involvement / consultation: The proposal indicates that the project lead has initiated consultations that are scheduled to run from December 2012 to March 2013, prior to the initiation of the survey. The Resolute Bay Hunters and Trappers Association has been contacted with a request for support but has yet to respond. It is also indicated that several local HTA members will be hired to participate in the aerial and ground surveys. Participants will be hired for 20 person days, and will be trained on the methods used for the surveys, and potentially on satellite image interpretation and data collection.

As per the NWRT policy, if the project is funded by the NWRT the project lead is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Sarah Spencer, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 2-13-22

Applicant: Nicolas Lecomte

Title: Nunavut wildlife survey from space: use of high-resolution imagery to track population size and trends.

Funding Requested: Preliminary Study Funding - \$15,000 for 2013-2014

Rank: 6 / 21

Total Score 78.85 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 7.50 / 7.50
Quality: 27.00 / 35.00
Consultation: 10.00 / 15
Funding: 16.85 / 25

Project Summary: The main objectives of this research project are to: 1) assess the utility of very high resolution satellite imagery for estimating abundance of polar bears in rugged terrain; 2) develop a practical monitoring strategy at a large scale; 3) remove disturbance to wildlife during monitoring; 4) obtain complete survey of areas and not rely on transects only, as classic surveys do; and 5) engage the public to participate in science.

Project Contributions:

Requested from NWMB	\$15,000	14%
Other Contributions	<u>\$90,000</u>	<u>86%</u>
Total	\$105,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #1 Kivalliq – Western Hudson's Bay and Foxe Basin polar bear population assessment.

Project design: This study will incorporate two components, one being a helicopter-based aerial survey on the northwest coast of Southampton Island, and a smaller-scale census based on high-resolution satellite imagery of the same area. The aerial survey will be used to ground-truth the remote satellite imagery method. The polar bear abundance estimate derived from the helicopter-based aerial survey, is an established technique used frequently. It will be used to provide a standard for the satellite imagery techniques. Estimates from mark-recapture distance sampling analysis will be derived for the overland transects, and added to the island counts to generate an overall abundance estimate for the study area.

Due to financial constraints satellite imagery will only be obtained for White and Vansittart Islands in the study site. All imagery will be manually and independently reviewed by multiple observers to ensure consistency in identification of bears. The

abundance estimates from the satellite imagery will be compared with the estimates from the aerial survey to determine if this is a viable method of population estimation.

Application of results: The results of this project will be documented in a Government of Nunavut file report. The results will provide advice and information on polar bear distribution and population size, which will be used for policy development and management. Wildlife surveys through satellite imagery are potentially an effective way for communities to get population estimates without the cost, planning, and risks (to researchers and wildlife) associated with aerial surveys and may allow for more routine monitoring of populations; however, this method has yet to be proven as a viable way to survey wildlife .

Community involvement / consultation: Consultations have not yet been initiated, but are scheduled to occur between April and July 2013, prior to the start of the survey. The Coral Harbour and Resolute Bay Hunters and Trappers Associations have not yet been contacted with a request for support. It is indicated that local HTA members will be hired to participate in the aerial surveys and the satellite imagery analysis. Participants will be hired for 20 person days, and will be trained on the methods used for the surveys.

As per the NWRT policy, if the project is funded by the NWRT the project is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Sarah Spencer, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 3-13-29

Applicant: Steve Ferguson

Title: Bowhead whale movement and ecology.

Funding Requested: Single Year Funding - \$37,500 for 2013-2014

Rank: 8 / 22

Total Score 77.00 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 5.50 / 7.50
Quality: 24.50 / 35.00
Consultation: 7.50 / 15
Funding: 22.00 / 25

Project Summary: The main objectives of this research project are to: 1) collect relevant information from Igloodik and Pangnirtung residents on past and present sightings and behaviour of bowhead whales; 2) deploy satellite-linked position and dive recording tags on bowhead whales in Foxe Basin; 3) collect bowhead biopsy samples in both Foxe Basin and Cumberland Sound; 4) collect location data from location tags for mapping of movements and seasonal distribution; 5) collect dive data for analysis of surface time and depth, duration and frequency; 6) perform genetic analysis to provide the sex and genetic fingerprint of each animal; and 7) map and analyze the movements and dives of tagged whales.

Project Contributions:

Requested from NWMB	\$37,500	30%
Other Contributions	<u>\$87,500</u>	<u>70%</u>
Total	\$125,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #3 Baffin – Bowhead: Update management plan & Total Allowable Harvest.

Project design: The field work is planned to be conducted July and August 2013 in northern Foxe Basin and Cumberland Sound. The tagging crew will consist of a combination of scientific staff and local assistants. The local assistants will advise on local bowhead knowledge, drive the boats and assist with tagging and biopsy operations. The proposal indicates that all tags will be attached to the whales by means of a harpoon head firmly implanted in the blubber using a hand held pole. Biopsy samples are obtained at the same time whales are tagged, using a small biopsy tip attached near the end of the pole, which removes a small amount of skin when the tag anchor is pushed into the whales blubber. Each time a whale is tagged and biopsy samples are collected the following information will also be collected: (a) date, time and location; (b) approximate length, (c) duration of pursuit, (d) group composition, and (e)

observations of behavior before and after tagging. The biopsy samples will be analyzed for genetic analysis.

Application of results: The study addresses the issue of stock range, stock identity, migration routes, and seasonal distribution and habitat use. All of this information would be applicable to the NWMB in its management responsibilities pertaining to the development of management plans. The Board should be aware that a component of the project seeks to conduct genetic mark-recapture analysis to determine population size, however in order to achieve this objective the project would require significant long-term funding. The Board should also be aware that this work has been supported significantly since 2001 for a total of \$307,000 of NWRT funding. As per the NWRT policy the NWRT does not contribute to long-term monitoring studies and the Board should consider that when deciding whether or not to fund the project for another year.

Community involvement / consultation: The project plans to hire five locals for a total of 85 days and training will be provided on scientific field research methods. The project leader has contacted the Igloodik Hunters and Trappers Organization and Pangnirtung Hunters and Trappers Organization request support for the project and has provided evidence to demonstrate this, but there is no indication that the project leader has received a response. The Board should be aware that initially, the Pangnirtung Hunters and Trappers Association had raised concerns in regards to Steve Fergusons decision to not hire members of the Hunters and Trappers Association to assist in his research; however, support has recently been given by the Pangnirtung Hunters and Trappers Association for this project, in a letter dated February 7th, 2013. The project leader has plans to visit both communities to present the project to the Hunters and Trappers Organizations to seek support for the project, as well as communicate the findings in the final report.

As per the NWRT policy, if the project is funded by the NWRT the project is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Anna Magera, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

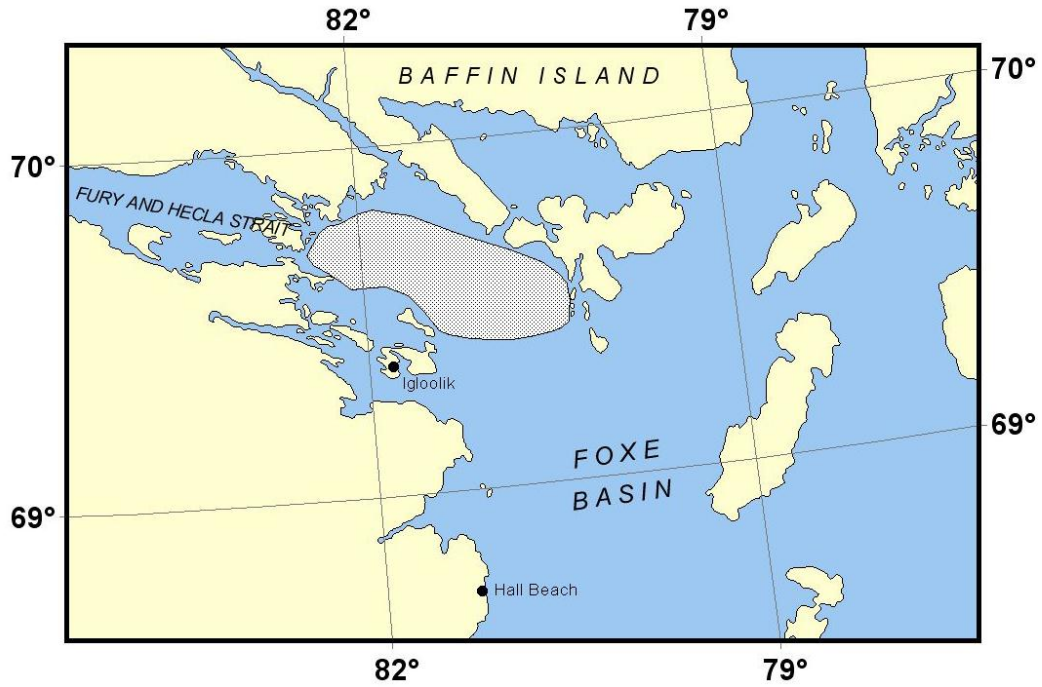


Figure 1: Planned bowhead whale tagging and genetic mark-recapture study area, northern Foxe Basin, July 2013.

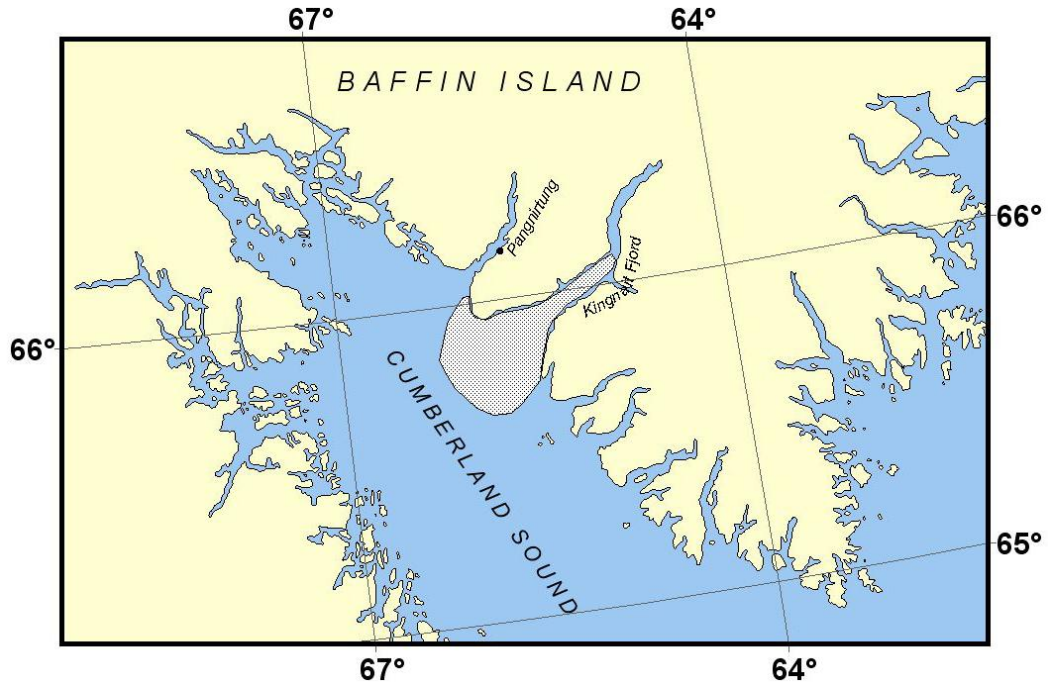


Figure 2: Planned bowhead whale genetic mark-recapture study area, Cumberland Sound, August 2013.

PROPOSAL REVIEW

Project Number: 2-13-11

Applicant: Lisa-Marie Leclerc

Title: Muskox (*Ovibos moschatus*) aerial survey of the Kitikmeot Region, Nunavut.

Funding Requested: Single Year Funding - \$75,000 for 2013-2014

Rank: 8 / 21

Total Score 76.13 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 6.50 / 7.50
Quality: 25.00 / 35.00
Consultation: 12.00 / 15
Funding: 15.13 / 25

Project Summary: The main objectives of this research project are to: 1) determine the number of muskox in each respective zone: MX11, MX19, and MX22; 2) determine age and sex ratio to provide information on herd composition and production; and 3) determine the distribution of muskox to identify areas of high and low density and possibly population range.

Project Contributions:

Requested from NWMB	\$75,000	50%
Other Contributions	<u>\$75,000</u>	<u>50%</u>
Total	\$150,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #2 Kitikmeot – Muskoxen population assessment on King William Island (quota increase sought).

Project design: Aerial surveys will be conducted in June and August, within current management units for Cambridge Bay, Kugluktuk, and Gjoa Haven. A minimum of 20% of each management zone will be covered, while two observers count muskox. Muskox population numbers will be estimated, and percentage of production will be calculated.

Application of results: The project manager has indicated that a report expressing the new muskox status will be distributed upon the completion of the research. Information gained through this study will assist in the re-evaluation of existing quotas in the Kitikmeot region, and will assist in the generation of the Muskox Management Plan.

Community involvement / consultation: The project leader has contacted the Kugluktuk and Gjoa Haven HTOs to request support for the project and has provided evidence to demonstrate that both HTOs have responded, giving their support. There is also an indication that Cambridge Bay has not yet been contacted, but there is intent to do so. Close contact with the communities will continue throughout the project; hunters'

observations and insight will be taken into account when planning the air survey transects. Upon completion of the research, public meetings will be held in each community, with a brief summary posted in public locations to reach the majority of the community.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Sarah Spencer, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 2-13-19

Applicant: Moshi Kotierk

Title: The Knowledge of the Public, Inuit and Inuit Elders and Hunters of Baffin Bay Polar Bears and Wildlife Management.

Funding Requested: Single Year Funding - \$15,000 for 2013-2014

Rank: 9 / 21

Total Score 74.93 / 100

(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50

Regional Priority: 7.50 / 7.50

Quality: 28.00 / 35.00

Consultation: 12.50 / 15

Funding: 9.43 / 25

Project Summary: The primary objective of this research is to randomly survey the public of Clyde River, Pond Inlet and Qikiqtarjuaq, allowing for the measurement and documentation of public and Inuit interests and perspectives on numerous issues, including: 1) overall interests and interests in wildlife management specifically; 2) perspectives on the Baffin Bay polar bear population; 3) confidence and perceptions of the wildlife management systems performance; 4) perception of their participation in the wildlife management system.

A secondary objective of this research is to speak with elders and hunters, allowing for the documentation of: a) overall interests and interests in wildlife management specifically; b) perspectives on historical, and possible future, trends of the Baffin Bay polar bear population; c) their confidence in the wildlife management system and perceptions of its performance, particularly with the creation of Nunavut and areas for improvement; and d) their perception of their participation in the wildlife management system, particularly with the creation of Nunavut and areas for improvement.

Project Contributions:

Requested from NWMB	\$15,000	24%
Other Contributions	<u>\$47,250</u>	<u>76%</u>
Total	\$62,250	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #1 Baffin – Increase community involvement in wildlife management.

Project design: Two approaches will be used to gain public information in this research: 1) conduct public opinion polls in Qikiqtarjuaq, Clyde River, and Pond Inlet; and 2) conduct one-on-one interviews with Inuit elders and hunters about the Baffin Bay polar bear population. Potential participants for the public opinion polls will be identified randomly using community maps showing the location of houses; residents 18 years of

age or older, living at the randomly selected residences will be asked to participate in the survey. Local Hunters and Trappers Organizations will be consulted to determine key individuals as potential participants for the one-on-one interviews. Information on a range of issues from perceived polar bear population size, to participation and confidence in wildlife management systems will be gathered in both the public opinion poll and the one-on-one interviews.

Application of results: The primary outcome of this project will be the increased public participation/community involvement in wildlife management. The information gained through the public opinion polls and one-on-one interviews will be used to assist with the improvement of communication tools and inclusion of elder and hunter information in wildlife management. Information gained on the Baffin Bay polar bear population will also be used in current management of the population.

Community involvement / consultation: Clyde River, Pond Inlet and Qikiqtarjuaq have each been contacted with requests for support. It was indicated in the proposal that all three have verbally provided their support; however, only Pond Inlet has provided written support, for which no evidence was provided. All three communities are closely involved with this project, as members of the public, elders and hunters will be consulted through public opinion surveys and interviews. In-community updates will be presented during the research, informing on the progress, while the overall results will be presented to the Hunters and Trappers Organizations in March 2014.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Sarah Spencer, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 3-13-31

Applicant: Steve Ferguson

Title: Eastern Canadian Arctic Killer Whale Study.

Funding Requested: Single Year Funding - \$30,000 for 2013-2014

Rank: 10 / 21

Total Score 73.65 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 5.50 / 7.50
Quality: 21.00 / 35.00
Consultation: 6.00 / 15
Funding: 23.65 / 25

Project Summary: This research project was initiated in the eastern Canadian Arctic in 2009. The ongoing objectives of this project are to: 1) determine distribution and movement patterns in the eastern Canadian Arctic and North Atlantic using satellite telemetry and photo identification; 2) study diet using analyses of biopsied skin and blubber samples, including assessment of foraging preferences; 3) estimate population size using photo identification; 4) assess group and population structure using genetic analysis of biopsied skin; 5) develop a network of research teams comprising Northerners in several communities across the eastern Canadian Arctic who are trained and equipped to independently satellite tag, biopsy, and photograph killer whales.

Project Contributions:

Requested from NWMB	\$30,000	26%
Other Contributions	<u>\$87,000</u>	<u>74%</u>
Total	\$117,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #3 Baffin – Killer Whales: Impacts on other marine mammals.

Project design: The field work is planned to be conducted in August 2013 in Cumberland Sound and Pond Inlet/Eclipse Sound. Research teams will conduct boat-based surveys for killer whales over one to several days. When killer whales are located, the research team will work from one or two boats to deploy satellite transmitter tags and collect biopsies, as well as photographs. Deployed tags will transmit data up to 300 times daily, as the whale surfaces, and have been known to remain on an individual for up to 120 days. Skin and blubber tissue samples will be collected by biopsy dart and analysed to determine prey composition and foraging regions, as well as genetic information such as sex, and group and population structures. Photographs will be used for individual identification, which can be used to determine movement patterns, and group and population abundance.

Application of results: The study will assist in the definition of relationships between seasonal habitat use and diet of Arctic killer whale populations, as well as further our understanding of killer whale influence on Arctic ecosystem structure and function. Understanding eastern Canadian Arctic killer whale distribution and diet is fundamental to developing appropriate management plans to address conservation challenges to both predator (killer whale) and prey (narwhal, beluga, and bowhead) posed by a changing Arctic ecosystem; results of this study may influence the development or alteration of these management plans.

Community involvement / consultation: The project plans to hire five local community members for a total of 150 days and will provide training on scientific field research methods. The project leader has contacted the Pond Inlet Hunters and Trappers Organization and the Pangnirtung Hunters and Trappers Association to request support for the project, and has provided evidence to demonstrate this. The Board should be aware that initially, the Pangnirtung Hunters and Trappers Association had raised concerns in regards to Steve Fergusons decision to not hire members of the Hunters and Trappers Association to assist in his research; however, support has recently been given by the Pangnirtung Hunters and Trappers Association for this project, in a letter dated February 7th, 2013. The project leader has plans to visit both communities to present the project to the Hunters and Trappers Organizations' Boards to seek support for the project, as well as communicate the findings in the final report.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a "conscientious" job of consulting; **OR** (3) provide the required information to demonstrate that "conscientious" consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Anna Magera, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 2-13-25

Applicant: Stephen Atkinson

Title: Baffin Bay Polar Bear Genetic Mark-Recapture.

Funding Requested: Single Year Funding - \$75,000 for 2013-2014

Rank: 11 / 21

Total Score 72.13 / 100
(12 point deduction)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 7.50 / 7.50
Quality: 30.50 / 35.00
Consultation: 12.00 / 15
Funding: 16.63 / 25

Project Summary: The project's main objectives are to: 1) estimate the population size and composition of polar bears in Baffin Bay (BB); 2) compare the estimate of population size to past studies to determine population trend and status of the BB polar bear subpopulation; 3) estimate survival and reproduction to conduct population analyses; 4) evaluate polar bear distribution with respect to environmental variables (e.g. ice conditions, food availability); and 5) demonstrate the utility of genetic mark-recapture as a less invasive survey method for population monitoring.

Project Contributions:

Requested from NWMB	\$75,000	11%
Other Contributions	<u>\$583,000</u>	<u>89%</u>
Total	\$658,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #1 Baffin – Polar Bear: Population estimate (Baffin Bay).

Project design: The project design is similar to physical mark-recapture studies conducted on polar bear but does not involve the immobilization and handling of bears. Instead bears are “marked” by being darted with a DNA biopsy dart that extracts a small sample of skin and hair. The “recapture” event occurs when the same bear is darted on a later occasion, or when a genetic sample is recovered from a harvest in either Nunavut or Greenland. The DNA biopsy dart is fired from a helicopter and after contact with the bear the dart falls to the ground for retrieval. The method has been tested in the field on polar bears and grizzly bears. In addition for each bear observed the following information will be recorded: location, behavior, body condition, estimated age and sex and group/litter size.

The DNA biopsy darting will be conducted in the fall of 2013 in the same manner as in 2011 and 2012. The amount and distribution of sampling effort will be guided by dividing the study area into areas of high, medium and low polar bear densities. To achieve a

reliable population estimate, samples from between 250 and 450 bears per year will be required.

Application of results: The application of the project's results are directly relevant to the NWMB's land claim responsibilities as the results will produce a new abundance estimate for the Baffin Bay polar bear subpopulation which would be available to the Board in 2015. The results would directly contribute to any reconsideration of the current total allowable harvest for the Baffin Bay polar bear subpopulation. The results of the project will also contribute to the: a) development of management plans and inter-jurisdictional agreements; b) updating of status reports at the territorial, national and international levels; c) further development of non-invasive research methods; and d) understanding of distribution and habitat use.

Community involvement / consultation: The project leader has obtained letters of support from all affected communities (refer to appendices of the application) and continued community consultation is planned during the research and at the completion of the research. In addition, three Hunter and Trapper Organization representatives will be hired for up to 10 days each to assist in the field work and will receive training in aerial survey methods.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a "conscientious" job of consulting; **OR** (3) provide the required information to demonstrate that "conscientious" consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Sarah Spencer, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 3-13-30

Applicant: Steve Ferguson

Title: Jones Sound Narwhal Study.

Funding Requested: Single Year Funding - \$65,000 for 2013-2014

Rank: 12 / 21

Total Score 71.94 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 6.50 / 7.50
Quality: 23.50 / 35.00
Consultation: 7.00 / 15
Funding: 17.44 / 25

Project Summary: The objectives of this project are to: 1) obtain information on the seasonal distribution and diving behaviour of Jones Sound narwhals as it relates to stock identity, climate change, autumn ice entrapments, and wintering area; 2) gather information on the overall health of captured animals and the level of stress during restraint; and 3) determine narwhal diet by analyzing skin and blubber samples.

Project Contributions:

Requested from NWMB	\$65,000	43%
Other Contributions	<u>\$85,000</u>	<u>57%</u>
Total	\$150,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #2 Baffin – Narwhal: Population estimate (Baffin wide).

Project design: The field work will be conducted in from May through August 2013 in near Grise Fiord. Narwhals, captured by stationary nets attached to the shore, will be restrained for up to 35 minutes while a satellite tags are attached and body measurements and skin, blubber and blood samples are collected. During the restraint period heart and breathing rates will be monitored. If an animal appears to be stressed during the restraint it will be released without application of a tag. There is a remote chance that a whale may drown in the net.

Application of results: The study will provide scientific advice on stock identity, migration timing in relation to entrapments, and wintering areas in relation to commercial fishing and industrial activity, all of which could be used to assist in the development or modification of management plans. These results may also aid in providing information necessary to assess maintaining closure of the narwhal winter use area in Northwest Atlantic Fishery Organization (NAFO) Subarea 0A.

Community involvement / consultation: The project leader has contacted the Grise Fiord Hunters and Trappers Organization to request support for the project, but has not received a response. It has also been indicated that 4 local Hunters and Trappers Organization members will be hired for a combined 60 days to assist with the field work; all necessary training will be provided. The project leader plans to visit the Grise Fiord Hunters and Trappers Organizations to present the results and final report.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Anna Magera, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 3-13-09

Applicant: Kimberly Howland

Title: Surveillance for Aquatic Invasive Species in the Canadian Arctic.

Funding Requested: Single Year Funding - \$30,000 for 2013-2014

Rank: 13 / 21

Total Score 69.75 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 8.50 / 17.50
Regional Priority: 7.50 / 7.50
Quality: 25.25 / 35.00
Consultation: 15.00 / 15
Funding: 13.50 / 25

Project Summary: The main objective of this project is to develop an inventory of existing biota and environmental conditions in areas of the Arctic with the highest risk for introduction of exotic species. There are two underlining goals for this project: 1) establish a baseline for further monitoring and early detection of aquatic invasive species; and 2) provide environmental data and information on species composition that will allow for the modeling of future risks associated with climate change and shipping activity in the Canadian Arctic.

Project Contributions:

Requested from NWMB	\$30,000	30%
Other Contributions	<u>\$70,000</u>	<u>70%</u>
Total	\$100,000	100%

Note: The project budget stipulates that \$38,000 is for student stipends and post doc salaries; it is NWRT funding policy to not fund government department or student stipends.

NWMB Staff Evaluation:

NWMB Priority: #4 - Contributes to the provision of advice regarding the Nunavut Settlement Area's marine areas and proposed decisions which would affect those marine areas.

Regional Priority: #1 Baffin – Environmental protection from increased marine shipping and industrial development.

Project design: Open water surveys for zooplankton and benthic invertebrates at each port were conducted over a 2 week period during July-August of both 2011 and 2012 in Churchill, MB, Iqaluit and Steensby Inlet, NU, and Deception Bay, QC. Field surveys will be conducted using a combination of sampling methods by boat, diving and from shore to maximize the diversity and numbers of organisms encountered. In addition, the project will be testing the use of moorings for the collection of colonizing invertebrates, such as barnacles in Iqaluit. This method had not yet been tested in an Arctic system.

All samples will be identified and the information will be stored in a database for comparison at both the regional and local level. The following information will be gathered: total invertebrate abundance; the number of different species; and the proportion of each species compared to others. Species composition will also be analyzed at the local level in relation to differences in salinity, temperature, and depth. The abundance of native and invasive species of plankton diversity will be compared among Arctic ports and in relation to ports on the East and West coasts and in the Great Lakes.

Application of results: The proposal indicates that there is currently little information on the potential for invasive species, and on the existing small marine plants and animals in the Arctic region. This research is the first step in minimizing the effects of invasive species. This study will provide an inventory of species in the coastal marine region of Baffin Island and in marine areas adjacent to NSA waters (Zone ii, Hudson Bay and Hudson Strait). This information will be valuable in understanding the ecology and will assist in maintaining the integrity of coastal marine ecosystems which are critical to the production and survival of harvested fish and marine mammal stocks in Nunavut.

Community involvement / consultation: The proposal states that researchers will keep the Hunters and Trappers Organizations of Iqaluit, Igloolik, Hall Beach, and Salluit (Nunavik) informed of the progress of the study, and the analysis of the results through a combination of letters, faxes, emails, circulation of reports and in-person visits. These four Hunters and Trappers Organizations, as well as Nunavik Marine Region Wildlife Board have given their support for the project.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

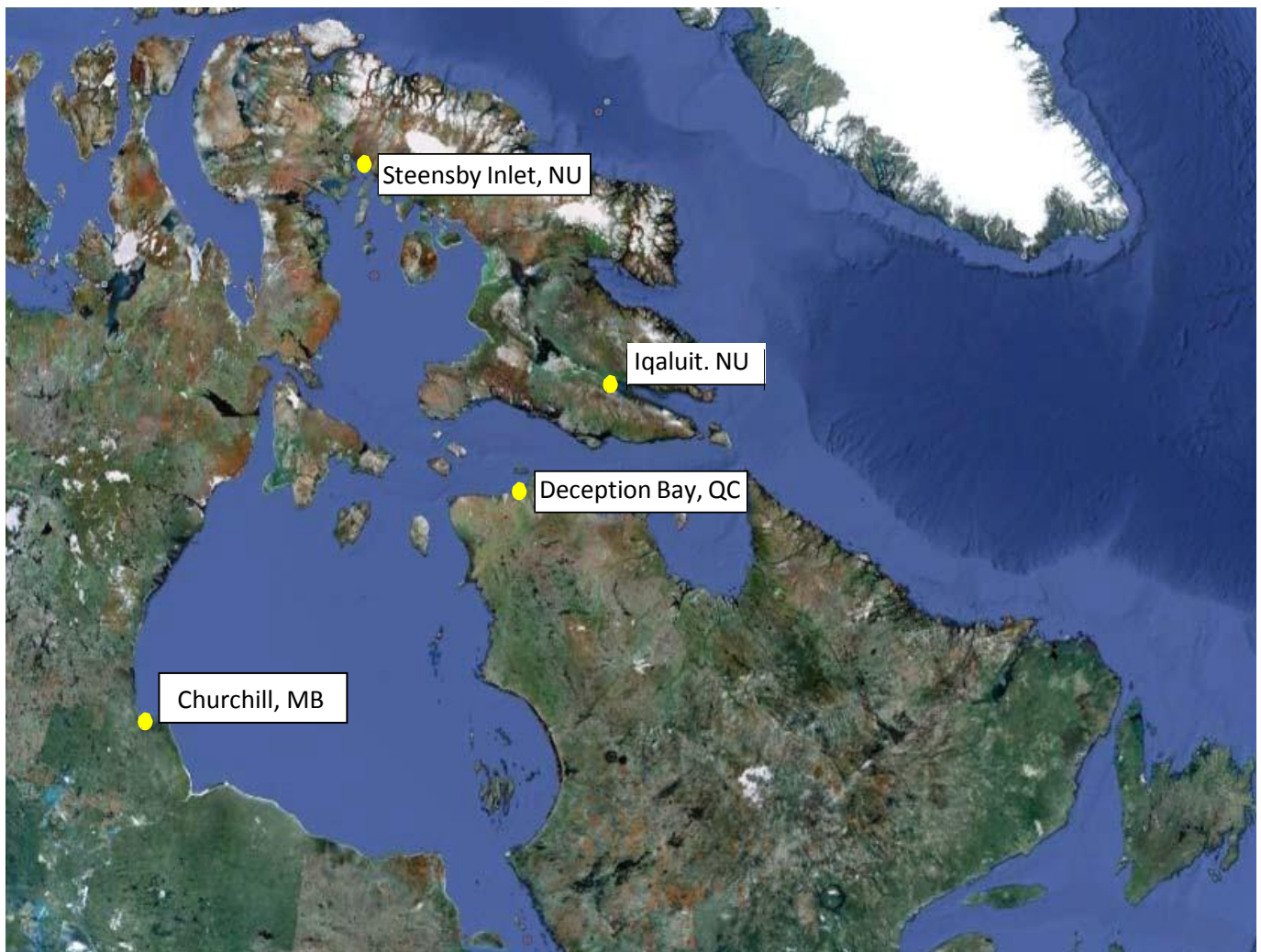
Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing;
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy; and
3. Funding from NWRT must be used to fund budget items other than student stipends and post doc salaries.

Consultations: Anna Magera, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

Map of study area showing high risk ports surveyed in 2011 (Churchill and Iqaluit) and 2012 (Deception Bay and Steensby Inlet).



PROPOSAL REVIEW

Project Number: 3-13-28

Applicant: Steve Ferguson

Title: Aerial Survey to Estimate the Abundance of the Baffin Bay Narwhal Population.

Funding Requested: Multiple Year Funding¹ - \$75,000 for 2013-2014

Rank: 14 / 21

Total Score 69.50 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 6.50 / 7.50
Quality: 20.00 / 35.00
Consultation: 10.50 / 15
Funding: 15.00 / 25

Project Summary: The objectives of this project are to obtain up-to-date population estimates for 5 narwhal stocks (including an initial estimate for Smith Sound/Jones Sound), the eastern Arctic bowhead population, and the Eastern Arctic and Cumberland Sound beluga populations, as well as new information on the distribution of these three species in their summer habitats.

Project Contributions (Year 1):

Requested from NWMB	\$75,000	5%
Other Contributions	<u>\$1,387,000</u>	<u>95%</u>
Total	\$1,462,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #2 Baffin – Narwhal: Population estimate (Baffin wide).

Project design: The field work is planned to be conducted in July and August 2013 throughout several key sites across Nunavut, including the coastal waters of Ellesmere Island; the waters around Somerset Island; the Gulf of Boothia; northwestern Foxe Basin, Roes Welcome Sound in northern Hudson Bay, and numerous fiords and coastal waters of Baffin Island. These sites will be surveyed using 3 Twin Otter planes and a combination of visual observers and belly mounted digital cameras. Together observers and digital photography will be used to determine population estimates, as well as identify individuals.

Application of results: This multi-species survey will provide a comprehensive assessment of narwhal, beluga and bowhead whales throughout a broad geographic range in Nunavut (the Canadian Arctic Archipelago, Baffin Bay, Davis Strait). The survey results will provide a more comprehensive understanding of the status of these marine

¹ This proposal does not meet the minimum criteria of the four areas of evaluation by the NWMB; therefore, it does not qualify for Multi Year Funding, but should be considered for Single Year Funding.

mammal populations compared to smaller-scale assessments that encompass a limited portion of a population's or stock's range. The resulting assessments will form the basis of Science Advice regarding current population status, size and harvest levels.

Community involvement / consultation: The proposal indicates that 14 communities have been contacted with a request for support, 4 have responded showing their support; evidence for this has been provided. The Nunavut Wildlife Research Trust policy indicates that a letter of support is required from the affected Regional Wildlife Boards when a project affects more than five communities. Given that this project affects 14 communities throughout Nunavut, letters of support from the three Regional Wildlife Boards would satisfy the consultation requirements. The project leader has indicated that the three Regional Wildlife Boards had shown support at the planning workshop in November, and that written support has been formally requested, but has not yet been received. The Board should also be aware of concerns raised by the Pangnirtung Hunters and Trappers Association in regards to Steve Ferguson's decision to not hire members of the Hunters and Trappers Association to assist in his research. The project leader has indicated that there are plans to consult with all communities in May 2014 upon the completion of the research. Community members from Igloodik have also noted some concerns; researchers are currently following up with the community to clarify and address these concerns.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a "conscientious" job of consulting; **OR** (3) provide the required information to demonstrate that "conscientious" consultation has been conducted by June 30th, 2013.

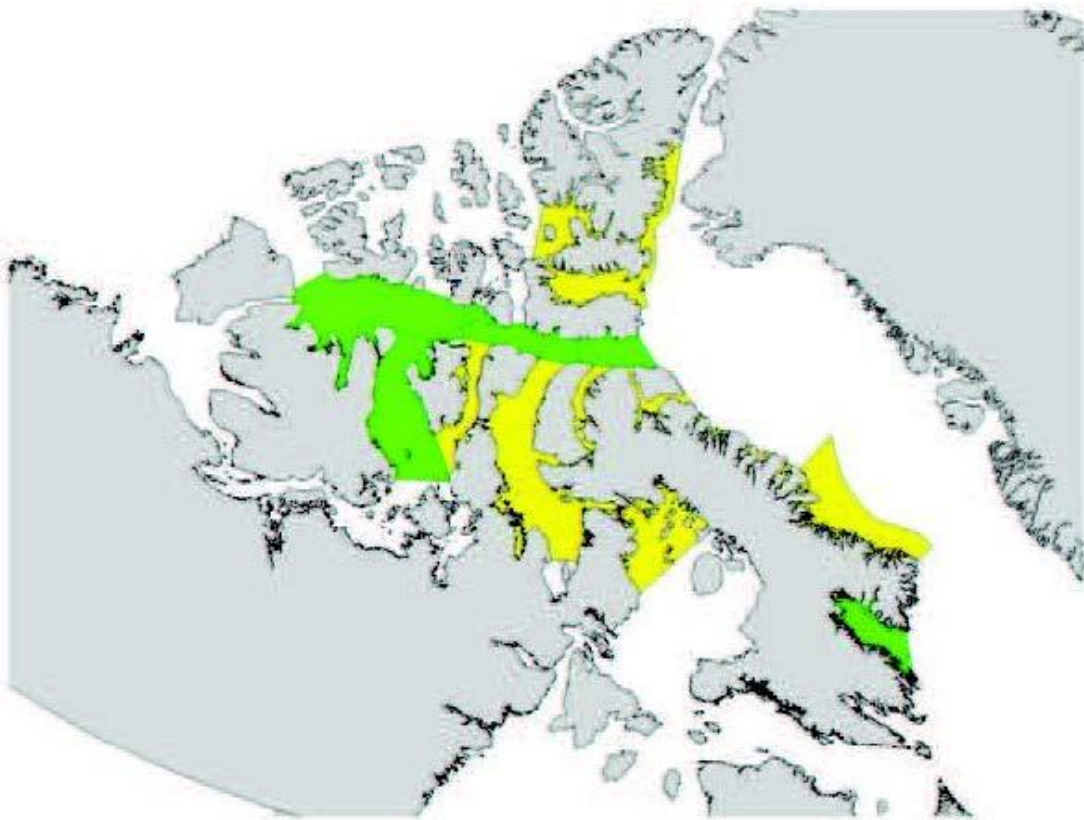
Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Note: Should the Board be uncomfortable with the lack of support from the Pangnirtung Hunters and Trappers Association, it could be stipulated that funding only be used for the survey of high priority areas, therefore excluding a survey of Cumberland Sound.

Consultations: Anna Magera, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB



Map of survey areas. High priority areas for 2013 are shown in yellow and lower priority areas for 2013 are shown in green.

PROPOSAL REVIEW

Project Number: 2-13-33

Applicant: Wayne Lynch

Title: Nunavut Coastal Resource Inventory (NCRI).

Funding Requested: Multiple Year Funding¹ - \$75,000 for 2013-2014

Rank: 15 / 21

Total Score 68.87 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 8.50 / 17.50
Regional Priority: 7.50 / 7.50
Quality: 33.50 / 35.00
Consultation: 8.50 / 15
Funding: 14.87 / 25

Project Summary: The primary objective of this project is to complete the Nunavut Coastal Resources Inventory for all Nunavut communities. As of March 31, 2012 ten communities were completed, with two more being done in 2012-2013. Plans are to complete two to three additional communities per year. The objectives of the Inventory are to: 1) identify and obtain existing information about coastal resources; 2) identify and record IQ through discussion with local residents and integrate it with modern science; 3) produce a database about coastal resources; 4) identify gaps in the existing knowledge base; and 5) produce and publish informational material on the project in a way that aims to integrate western science and IQ.

Project Contributions:

Requested from NWMB	\$75,000	22%
Other Contributions	<u>\$270,000</u>	<u>78%</u>
Total	\$345,000	100%

NWMB Staff Evaluation:

NWMB Priority: #4 – contributes to the provision of advice regarding the Nunavut Settlement Area's marine areas and proposed decisions which would affect those marine areas.

Regional Priority: #1 Baffin – Increase community involvement in wildlife management.

Project design: The funding requested will expand an already-established project to document information about Nunavut's coastal resources into new communities. The researchers will first conduct a literature search to obtain existing information about Nunavut's coastal resources. Once the existing documented information is reviewed and recorded, IQ will be identified and recorded through community-based interviews with local residents. The information obtained through both sources will be analyzed and entered into a database and maps will be prepared when possible. This information will be used to prepare a final report that will be circulated to the GN's co-management partners, and the communities. The project leader is planning to work on the inventory of

¹ This proposal does not meet the minimum criteria of the four areas of evaluation by the NWMB; therefore, it does not qualify for Multi Year Funding, but could be considered for Single Year Funding.

coastal resources in and around the communities of Kugaaruk and Coral Harbor in 2013-2014.

Application of results: The proposal indicates that this work will provide a database and interactive digital mapping files that will be useful in a number of wildlife management applications. Large scale resource maps will be produced, along with full colour, bound, and paper copies of the reports for each community.

Community involvement / consultation: The proposal indicates a thorough consultation process for the project to: 1) obtain community and HTO buy-in; 2) a pre-project visit to present information, identify key contacts, discuss project roles and responsibilities, etc. The application suggests the two communities to be part of this research in 2013-2014 have not been contacted about this project, have not been asked to provide support, and have therefore not given their support.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Anna Magera, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 3-13-24

Applicant: Ross Tallman

Title: Community Consultation and Traditional Knowledge Studies on Arctic Char in Qikiqtarjuaq Fishing Areas with Emphases on Changes over the Last 15 years.

Funding Requested: Preliminary Study Funding - \$15,000 for 2013-2014

Rank: 16 / 21

Total Score 66.90 / 100

(6 point deduction)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50

Regional Priority: 7.50 / 7.50

Quality: 31.50 / 35.00

Consultation: 7.00 / 15

Funding: 9.40 / 25

Project Summary: The two main objectives of this study are to: 1) consult and collect traditional ecological knowledge from Qikiqtarjuaq on the Arctic char in adjacent fishing areas, with an emphasis on changes during the past 15 years; and 2) use the information and traditional ecological knowledge gained in these consultations as baseline information for proposing and designing further scientific research.

Project Contributions:

Requested from NWMB	\$15,000	50%
Other Contributions	<u>\$15,000</u>	<u>50%</u>
Total	\$30,000	100%

Note: Financial contributions (\$30,000) exceeds total budget (\$28,000).

NWMB Staff Evaluation:

NWMB Priority: #1 – contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #1 Baffin – Increase community involvement in wildlife management.

Project design: A preliminary meeting/workshop will be held with the community for consultation on community support, level of involvement, participation and research methods for further scientific studies. The preferred method for acquiring traditional ecological knowledge will be the use of a structured specific questionnaire addressing a range of topics about climate and ecosystem level changes. The questionnaire will also gathering information specific to Arctic char population, stocks, size and fishery changes, changes in diet, habitat, spawning and migration patterns. Preliminary results will be presented to the community followed by an opportunity for the community to provide feedback and discussion before finalizing the results.

Application of results: The results from the proposed study will document changes in Arctic char stocks, habitat and ecology in Qikiqtarjuaq fishing areas during recent years and will be used as a baseline to develop further scientific research. In the long term, the

proposed work will help with the potential identification of new commercial fishing opportunities and in the development of integrated fishery management plans.

Community involvement / consultation: The proposal indicates a thorough consultation process is the focus of this project, with the collection of information and traditional ecological knowledge from community members as the central component. The application indicates that pre-research consultation has occurred with Nattivak Hunters and Trappers Organization in Qikiqtarjuaq in December 2012; a formal request for support has been given, but support has yet to be obtained.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Anna Magera, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 3-13-27

Applicant: Steven Campana

Title: Growth and Sustainable Yield of Lake Trout in Nunavut.

Funding Requested: Multi Year Funding¹ - \$55,000 for 2013-2014

Rank: 17 / 21

Total Score 65.69 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 0.00 / 7.50
Quality: 20.00 / 35.00
Consultation: 8.50 / 15
Funding: 19.69 / 25

Project Summary: The objectives of this research are to: 1) use modern, accurate ageing methods to determine the age composition of lake trout in a sample of lakes across Nunavut; 2) estimate growth rate and parameters for each of the studied lakes; 3) measure the key defining characteristics of each of the studied lakes, including area, shoreline, mean and maximum depth, location, altitude, mean water temperature, degree days, transparency, relative abundance of lake trout and Arctic char, and an indicator for fishing history (such as proximity to people); 4) develop a growth model for lake trout which will predict growth based on the defining characteristics of the lake; 5) map the expected surplus production and yield of lake trout throughout the Canadian north based on location and lake characteristics; and 6) develop a simple, semi-automated overlay for Google Earth which will allow managers to simply point and click on a web-based map to determine the long-term sustainable yield of lake trout in any lake in Nunavut.

Project Contributions (Year 1):

Requested from NWMB	\$55,000	22%
Other Contributions	<u>\$195,000</u>	<u>88%</u>
Total	<u>\$250,000</u>	100%

Note: Financial contributions (\$250,000) exceeds total budget (\$245,000).

NWMB Staff Evaluation:

NWMB Priority: #1 – contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: Does not address regional priorities from any region.

Project design: There are four components to the proposed study: 1) sample lake trout and define lake characteristics across Nunavut; 2) determine lake-specific age, growth and yield estimates; 3) prepare a mathematical model estimating lake trout age, growth

¹ This proposal does not meet the minimum criteria of the four areas of evaluation by the NWMB; therefore, it does not qualify for Multi Year Funding, but could be considered for Single Year Funding.

and yield for unsampled lakes; 4) prepare a simple web-based map overlay for Google Earth which will give managers 'point and click' access to long-term yield estimates for lake trout anywhere in Nunavut.

Lake trout will be sampled from a minimum of 24 lakes, across a range of habitats in Nunavut. Lakes will be identified based on location relative to the known distribution of lake trout, physical lake criteria and consultation with local Hunters and Trappers Organizations to determine past fishing history. Trout will be captured using research-graded gillnets, and will be measured, sexed, and have tissue samples collected.

Statistical modeling will be done, using the data collected in this study, to determine the expected growth rate and yield in all other unsampled lakes in Nunavut.

Application of results: The intent of this research is to develop a simple, semi-automated tool based on electronic maps (such as Google Earth) which will allow fishery managers, sport fishing operators and Hunters and Trappers Organizations to predict the sustainable yield of lake trout in lakes throughout Nunavut, including in lakes for which no stock assessment currently exists. Such a tool will greatly simplify the large-scale management of lake trout, and help insure that catches, catch rates and economic growth remain as high as possible over the long term.

Community involvement / consultation: The project leader has indicated that correspondence with several Hunters and Trappers Organizations and the Kivalliq Wildlife Board have begun, although no formal support has been received. It is also stated that consultations will continue with Hunters and Trappers Organizations and the Kivalliq Wildlife Board throughout the research and upon its completion.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a "conscientious" job of consulting; **OR** (3) provide the required information to demonstrate that "conscientious" consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Anna Magera, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 2-13-26

Applicant: Stephen Atkinson

Title: Kane Basin Polar Bear Genetic Mark-Recapture.

Funding Requested: Single Year Funding - \$62,000 for 2013-2014

Rank: 18 / 21

Total Score 65.50 / 100
(12 point deduction)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 1.50 / 7.50
Quality: 30.00 / 35.00
Consultation: 15.00 / 15
Funding: 13.50 / 25

Project Summary: The project's main objectives are to: 1) estimate the abundance and composition of polar bears in Kane Basin; 2) compare new estimates of abundance with those derived from earlier studies in-order to assess population trend; 3) estimate survival and reproduction rates to determine if the population is sustainable; 4) delineate the boundaries of the Kane Basin sub-population and reassess the validity of the area as a demographic unit; and 5) evaluate polar bear distribution and habitat use with respect to environmental variables, particularly ice conditions, topography and food availability distribution.

Project Contributions:

Requested from NWMB	\$62,000	18%
Other Contributions	<u>\$284,000</u>	<u>82%</u>
Total	\$346,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 - Contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: Baffin – Not identified as a Regional Priority but has letter of local support.

Project design: The project design is similar to physical mark-recapture studies conducted on polar bear but does not involve the immobilization and handling of bears. Instead bears are “marked” by being darted with a DNA biopsy dart that extracts a small sample of skin and hair. The “recapture” event occurs when the same bear is darted on a later occasion, or when a genetic sample is recovered from a harvest in either Nunavut or Greenland. The DNA biopsy dart is fired from a helicopter and after contact with the bear the dart falls to the grounds for retrieval.

The DNA biopsy darting will be conducted in late April to May on the sea-ice and coastal areas around Kane Basin. In addition, to the darting GPS locations and information on location, behavior, body condition, estimated age/sec and group/litter size will also be recorded. The survey area will be determined based on previous mark-recapture and

telemetry studies combined with information on sea-ice conditions at the time of sampling. The proposal does indicate that due to the uncertainty about the abundance of bears in Kane Basin and the rate at which samples can be collected, the time and effort required cannot be determined at this time. The goal for year 1 is to sample as many bears as possible based on available funding.

The project will also deploy 20 satellite instruments (10 ear tags; 10 collars) which will require immobilization of bears in order to support the reassessment of the boundaries of the Kane Basin subpopulation.

Application of results: The application of the project's results are directly relevant to the NWMB's land claim responsibilities as the results will produce a new abundance estimate for the Kane Basin polar bear subpopulation. It will assess if the Kane Basin subpopulation is a distinct demographic unit and results will be available to the NWMB by 2015. The results of the project will also contribute to the: a) development of management plans and inter-jurisdictional agreements; b) updating of status reports at the territorial, national and international levels; c) further the development of non-invasive research methods; and d) understanding of distribution and habitat use.

Community involvement / consultation: The proposal specifies that in-community consultations was conducted in Grise Fiord before the research (Jan. 2012), and will also continue to occur during the research (April 2012, 2013, and 2014) and at the conclusion of the research (Fall 2014). The project will employ a field assistant that is nominated by the Hunters and Trappers Organization and the field assistant will receive training in survey methods.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a "conscientious" job of consulting; **OR** (3) provide the required information to demonstrate that "conscientious" consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Sarah Spencer, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

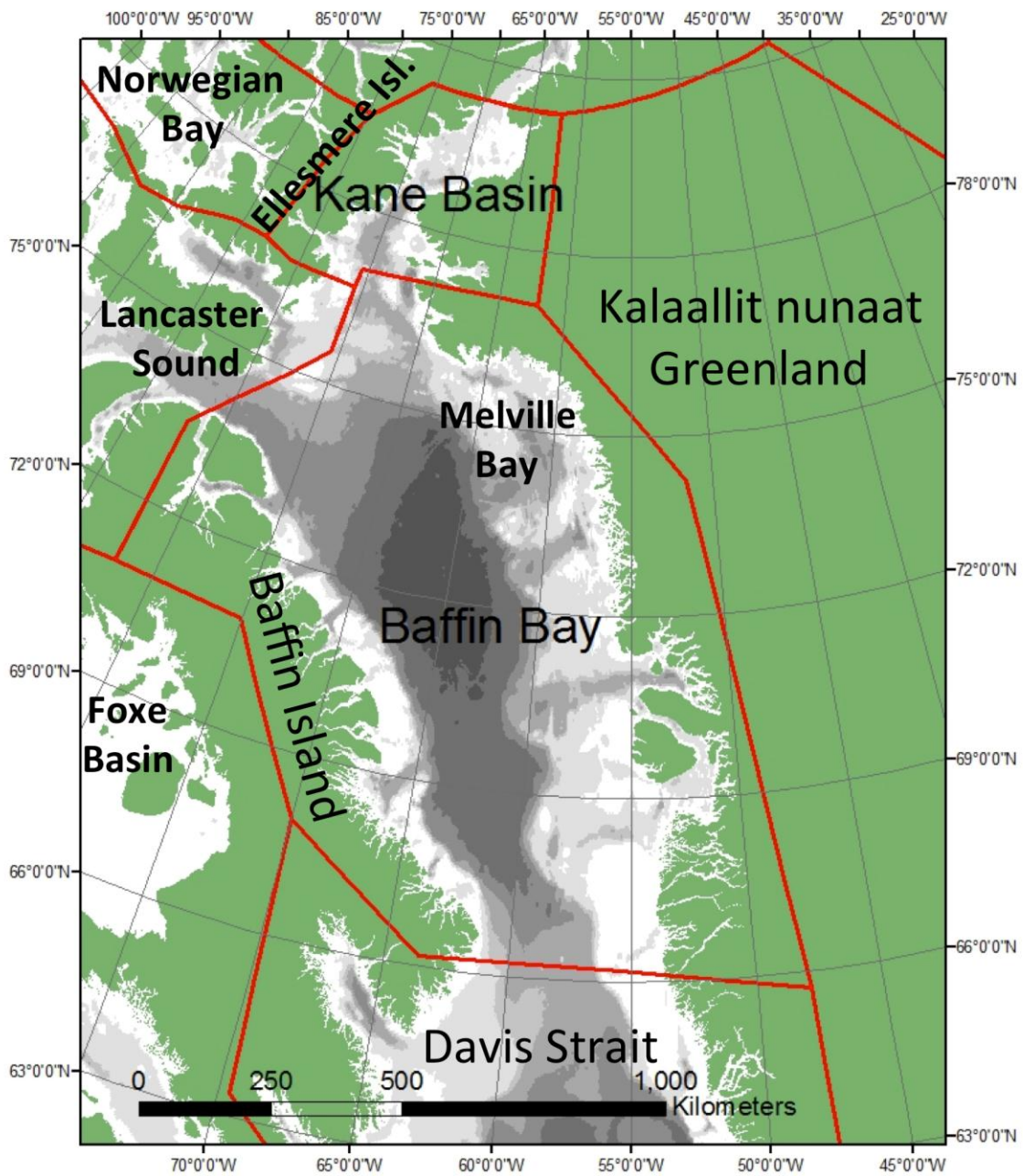


Figure 1: Kane Basin study area.

PROPOSAL REVIEW

Project Number: 3-13-23

Applicant: Ross Tallman

Title: Fishery Independent Survey of Cambridge Bay Arctic Char and Halovik River Weir Enumeration.

Funding Requested: Multiple Year Funding¹ - \$40,000 for 2013-2014

Rank: 19 / 21

Total Score 65.37 / 100

(6 point deduction)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50

Regional Priority: 0.00 / 7.50

Quality: 26.00 / 35.00

Consultation: 10.00 / 15

Funding: 17.87 / 25

Project Summary: The main objectives of this study are to: 1) continue the collection of fishery-independent data for several systems, including the Jayko and Halovik rivers, where a time-series has been established; and 2) extend research surveys to include a weir enumeration and tagging study on the Halovik (30 Mile) River.

Project Contributions:

Requested from NWMB	\$20,000	22%
Other Contributions	<u>\$70,000</u>	<u>78%</u>
Total	\$90,000	100%

Note: Financial contributions (\$90,000) exceeds total budget (\$88,000).

NWMB Staff Evaluation:

NWMB Priority: #1 – contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: Kitikmeot – Not identified as a Regional Priority.

Project design: Sampling will occur at two commercially harvested water bodies in the Cambridge Bay area. During August and September, 2013, 200 Arctic char will be captured using multi-mesh gillnets that will permit the capture of all sizes and ages. Location data such as position (determined by GPS), time of year, time of day, net depth, water temperature, weather and other environmental conditions will be recorded for each net set. To estimate catch-per-unit effort, the net type, set time, lift time and soak time will also be recorded. Fork length, round weight, gonad weight, sex and maturity stage, structures for determining the age and stomach contents of each fish will be taken. Ovaries from mature individuals will also be collected and preserved as a means to estimate fecundity (egg number per female). Sub-sampling of the carcasses for contaminants (mercury and radium) will also be done and tissue samples that will be

¹ This proposal does not meet the minimum criteria of the four areas of evaluation by the NWMB; therefore, it does not qualify for Multi Year Funding, but could be considered for Single Year Funding.

used in future genetic assessments will be collected. Observations of parasites and general health of the fish will also be recorded. Additionally, 1000-2000 Arctic char will also be tagged with T-bar anchor tags and rewards will be offered for the return of any tags from fish captured in subsequent fisheries.

Application of results: The results of this study will be used to provide advice to Fisheries and Oceans Canada Fisheries Management and the Nunavut Wildlife Management Board on the sustainability of harvest levels for Cambridge Bay Arctic char. These inputs may assist in the evaluation of fisheries management strategies and integrated fishery management plans.

Community involvement / consultation: The proposal indicates that 2 Cambridge Bay residents will be hired as field assistance during the sampling and processing of Arctic char. The project leader has indicated that the Cambridge Bay Hunters and Trappers Organization has been contacted with request for support, but support has not been obtained. The project schedule indicates that in-community consultations will occur before research from January 21st – 25th, 2013, during research between August 1st and September 5th, and upon the completion of the project in February 2014.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Anna Magera, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

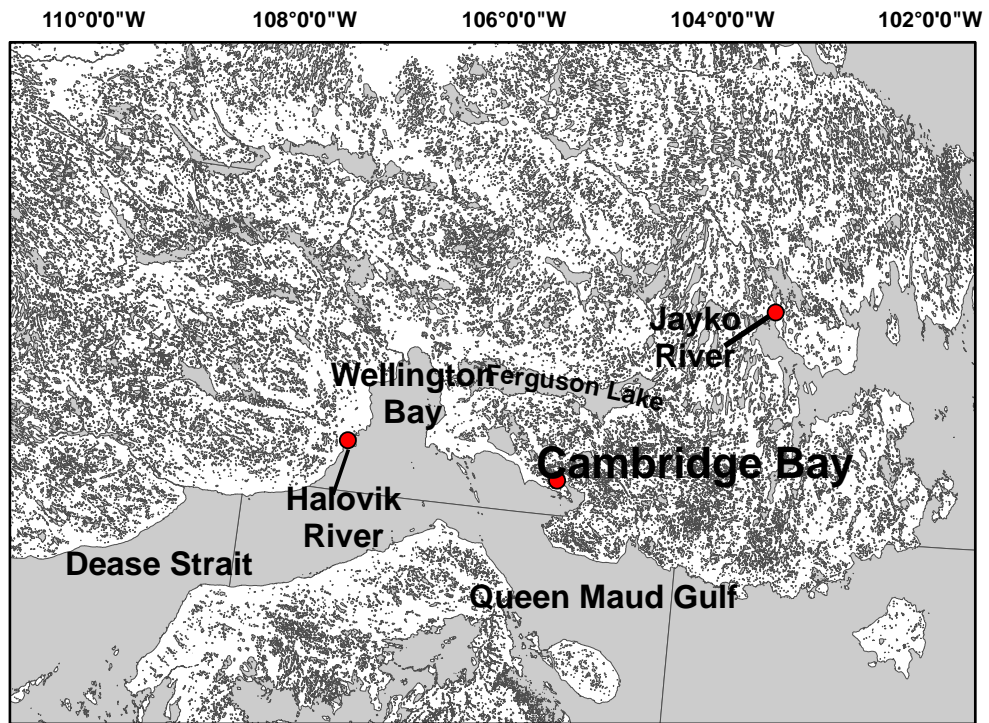


Figure 1. Map of sampling locations (Jayko and Halovik rivers) for proposed fishery-independent sampling and weir assessment.

PROPOSAL REVIEW

Project Number: 3-13-07

Applicant: Jason Hamilton

Title: Walrus Aerial Survey.

Funding Requested: Multiple Year Funding¹ - \$75,000 for 2013-2014

Rank: 20 / 21

Total Score 65.36 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 2.50 / 7.50
Quality: 26.50 / 35.00
Consultation: 8.50 / 15
Funding: 10.36 / 25

Project Summary: The main objectives of this study are to: 1) design a survey acceptable to residents of Igloodik, Hall Beach, and Sanikiluaq; 2) compare aerial photography techniques for surveying walrus; 3) conduct walrus population surveys for Foxe Basin, and south and east Hudson Bay; and 4) inventory walrus habitat in Foxe Basin.

Project Contributions:

Requested from NWMB	\$75,000	38%
Other Contributions	<u>\$122,000</u>	<u>62%</u>
Total	\$197,000	100%

Note: Financial contributions (\$197,000) exceeds total budget (\$150,000).

NWMB Staff Evaluation:

NWMB Priority: #1 – contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: #6 Baffin – Walrus: Management plan (Foxe Basin).

Project design: Field work will be conducted over a two week period in September, 2013. One aircraft will be used to take photos from a low angle at a low altitude, while a second aircraft will take vertical images from a higher altitude. The two image types will be used to assist in making population estimates. The images from the two aircraft will also be compared to determine the most viable option for surveying walrus populations.

Application of results: Upcoming reassessments of Canadian walrus through CITES and COSEWIC require population estimates for all stocks. As such there is a growing need for a modern assessment of this population of walrus. Through more accurately estimating the population size of walrus in various stocks and populations DFO will be able to offer its co-management partners and clients more sound advice for

¹ This proposal does not meet the minimum criteria of the four areas of evaluation by the NWMB; therefore, it does not qualify for Multi Year Funding, but could be considered for Single Year Funding.

management of walrus. These population estimates will also assist with the modification of Total Allowable Harvest numbers for walrus in the survey area.

Community involvement / consultation: The project leader indicates that Hunters and Trappers Organization representatives from Igloodik, Hall Beach, and Sanikiluaq will be hired as observers during walrus surveys. It has also been indicated that Hunters and Trappers Organizations have not been contacted for formal project support, but communication between parties in regards to the proposed project has occurred. The project schedule indicates that in-community consultations will occur before, during, and after research has been conducted.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Anna Magera, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

PROPOSAL REVIEW

Project Number: 2-13-14

Applicant: Malik Awan

Title: Estimation of Population Size for Wolverines (*Gulo gulo*), in the Vicinity of Baker Lake, Using DNA Based Mark-Recapture Method.

Funding Requested: Multiple Year Funding¹ - \$30,000 for 2013-2014

Rank: 21 / 21

Total Score 65.00 / 100

(14 point deduction)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50

Regional Priority: 1.50 / 7.50

Quality: 25.00 / 35.00

Consultation: 13.50 / 15

Funding: 21.50 / 25

Project Summary: The main objectives of this study are to: 1) determine wolverine density near Baker Lake; 2) establish baseline wolverine population data which can be used for population monitoring in the long term; 3) determine wolverine movement patterns through genetic mark-recapture; and 4) provide training and employment to Hunters and Trappers Organization members, and increase collaboration between government and resource users.

Project Contributions:

Requested from NWMB	\$30,000	30%
Other Contributions	<u>\$70,000</u>	<u>70%</u>
Total	\$100,000	100%

NWMB Staff Evaluation:

NWMB Priority: #1 – contributes to the establishment, modification or removal of levels of Total Allowable Harvest (S 5.6.16 to S 5.6.18) for stocks or populations where there is believed to be a conservation concern or that are priority species for harvest by Inuit.

Regional Priority: Kivalliq – Not identified as a Regional Priority but has letter of local support.

Project design: Field work will be conducted during the spring of 2013. 225 baited hair-snap posts will be deployed in a large grid northwest of Baker Lake. Posts will be checked three times at 10-day intervals; all visible hair will be collected and labeled. Labeled samples will be genetically analyzed for individual wolverine identification. Using information gained through this analysis, coupled with available information on the wolverine population, current population estimates will be made.

Application of results: The results of this project will assist in determining Total Allowable Harvest for wolverine, and will also be used in the development of the upcoming Wolverine Management Plan, which is required under the Species at Risk Act (SARA)

¹ This proposal exceeds the minimum criteria in each of the four areas of evaluation by the NWMB; therefore, it qualifies for Multi Year Funding.

for species listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The wolverine is currently listed as a species of special concern.

Community involvement / consultation: The project leader indicates that Hunters and Trappers Organization representatives from Baker Lake will be trained and hired as hair-snag surveyors. The Baker Lake Hunters and Trappers Organization has given support for this project, evidence of this has been provided. The project schedule indicates that in-community consultations in regards to the results of the study will occur.

As per the NWRT policy, if the project is funded by the NWRT the project leader is required to: (1) provide a letter of support from all affected communities by June 30th, 2013; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2013 and provide evidence that the research has done a “conscientious” job of consulting; **OR** (3) provide the required information to demonstrate that “conscientious” consultation has been conducted by June 30th, 2013.

Recommendations: If this project is funded, the following conditions should apply:

1. Funding should be conditional on other funding, as identified in the proposal, being approved. This should be confirmed in writing; and
2. Funding should be conditional on meeting the consultation requirements identified as per the NWRT policy.

Consultations: Sarah Spencer, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB

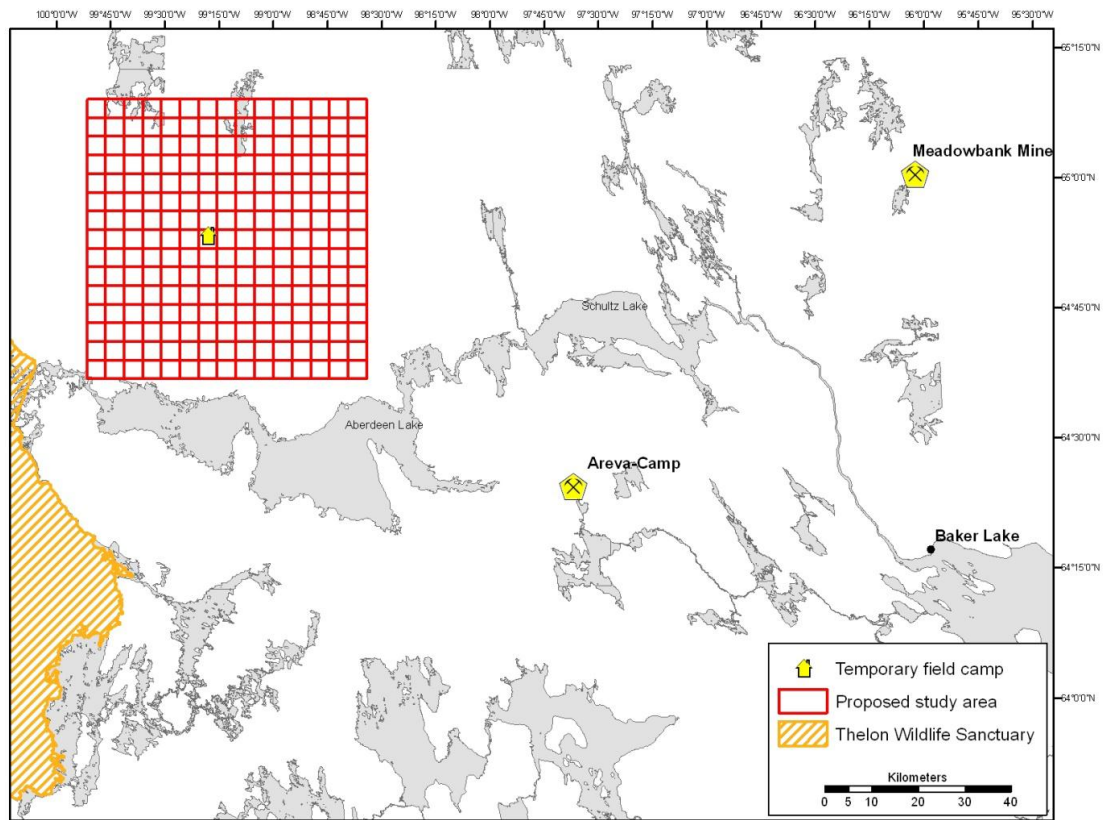


Figure 1: Study area (3,600 km²) with 225, 4x4 km cells. One hair-trap will be set in each cell.