

PROPOSAL REVIEW

Project Number: 3-14-01

Applicant: Steven Campana

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

Funding Requested: Multi Year Funding¹ - \$55,000 for 2014-2015

Rank: 13 / 18

Total Score 71.88 / 100
(no deductions)

Scoring Breakdown: NWMB Priority: 17.50 / 17.50
Regional Priority: 0.00 / 7.50
Quality: 23.25 / 35.00
Consultation: 10.00 / 15
Funding: 21.13 / 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:

Requested from NWMB	\$55,000	46%
Other Contributions	<u>\$65,000</u>	<u>54%</u>
Total	\$120,000	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: 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 and yield for unsampled lakes; 4) prepare a simple web-based map overlay for Google

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, and is being brought to the Board for Single Year Funding for 2014-2015.

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, 2014; **OR** (2) provide a letter of support from a majority of the affected communities by June 30th, 2014 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, 2014.

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: Danica Crystal, Wildlife Management Biologist, NWMB

Prepared By: Peter Kydd, Wildlife Management Biologist, NWMB