

STUDY PROPOSAL

**A RESEARCH PROGRAM TO MONITOR THE PROPOSED
EXPERIMENTAL COMMERCIAL ARCTIC CHAR
(*Salvelinus alpinus*) FISHERY IN
KANGIQSUALUJJUAQ, QUEBEC**

SUBMITTED TO:

**MINISTERE DE L'AGRICULTURE, PECHERIES
ET ALIMENTATION
and
MINISTERE DU LOISIR, DE LA CHASSE
ET DE LA PECHE**

**SUBMITTED BY:
KUUJJUAQ RESEARCH CENTRE
MAKIVIK CORPORATION**

**KUUJJUAQ
JANUARY 1988**

TABLE OF CONTENTS

	Page
INTRODUCTION	4
STUDY OBJECTIVES	5
THE PROPOSED FISHERY	6
METHODOLOGY	8
THE FISHERY AND THE FIELD WORK	8
BIOLOGICAL MONITORING	8
SCIENTIFIC/EXPERIMENTAL FISHERY	13
PROJECT PERSONNEL	14
DATA ANALYSES AND REPORT WRITING	15
CONSULTATION, INFORMATION TRAINING	16
FINANCIAL BUDGET	17
LITERATURE CITED	19
APPENDIX 1 The Proponent's Request	20
APPENDIX 2 Examples of booklets and questionnaires	21

LIST OF TABLES

		Page
Table 1	Designated fishery locations including quotas (number) and approximate eviscerated weights (kg) per location.	6
Table 2	Biological data to be collected and parameters to be examined.	10

LIST OF FIGURES

Page

Figure1 Map of designated fishery locations.

7

INTRODUCTION

The incorporated community of Kangiqsualujjuaq (George River) Québec (58°42', 65°57') is located 26 kilometers inland along George River. The most recent census of the human population reports 400 people to permanently reside in the community. Of the resident men (n = 205) a minimum of 85% actively participate in regular subsistence harvesting of country food for local consumption (pers. comm. Bobby Baron, president Anguvigak).

In the past, several attempts have been made to establish commercial fisheries in the Ungava Bay area. The Hudson's Bay Company initiated a commercial fishery of Atlantic Salmon (Salmo salar) in 1881 on the Koksoak river and extended it to the George and Whale rivers three years later (Power 1969). Following fifty years of exploitation this fishery was abandoned ostensibly due to declining catches (although see Power 1976). More recently, an experimental commercial fishery for salmon was initiated in 1961 by D.N.A.N.R. (Department of Northern Affairs and National Resources) and has been successfully operated to date in the Whale and Koksoak rivers by fishermen from Kuujjuaq (Fort Chimo) Québec (58°06', 68°25'). Finally, Arbess (1966) reports a commercial fishery of Arctic Char (Salvelinus alpinus) being conducted in the George River by the "George River Eskimo Fishermen's Cooperative" in 1959 with the frozen product being shipped to Montreal markets.

Until recently, the status of Arctic Char as a commercially-exploitable specie in Québec has been unclear. However in the fall of 1986, amendments to the "Fisheries Act" were made through the authority of M.L.C.P. (Ministère du Loisir de la Chasse et de la Pêche) instating it as a commercial specie (pers. comm. Gilles Harvey, M.L.C.P.). To this end, there has currently been much interest shown by several Inuit parties to initiate commercial inshore and offshore fishery ventures in the Ungava Bay region. As outlined, several attempts at commercializing Arctic fisheries, (both char

and salmon) have been made in the past. Most of these have been failures, collapsing as a result of overfishing leading to depressed stocks. This suggests that commercialized harvesting of Arctic Char, a slow-growing long-lived specie, must be well planned and monitored in order to sustain itself over the long term.

Specifically, this study proposal addresses the request made by "Annanack and Sons", (the proponents) residents of Kangiqsualujjuaq, to initiate a commercial winter fishery of Arctic Char, land locked Arctic Char and Lake Trout (Salvelinus namaycush) in river and lake systems in the vicinity of Kangiqsualujjuaq. However, due to M.L.C.P.'s concern regarding the vulnerability of northern Québec Lake Trout stocks and the lack of a commercial status for land locked Arctic Char, the proposal is limited to anadromous Arctic Char alone. It's purpose is to initiate a long-term monitoring of the fishery in the event the proponents receive an experimental commercial fishing permit.

STUDY OBJECTIVES

The objectives of the proposed study are threefold. Firstly to obtain a continuous informed data base on population levels/dynamics of the target fish specie harvested in designated fresh water systems through the implementation of a comprehensive biological monitoring program. Secondly, to document harvest levels and catch per unit effort (C.P.U.E.) of both commercial and subsistence fishery activities. Thirdly, to implement a rigorous scientific study at a selected system (preferably one having received minimal fishery exploitation) prior to a commercial fishery being conducted in that system. Inherent in all three objectives is the desire to ensure that guaranteed subsistence harvest levels as outlined in the 1975 J.B.N.Q.A. are not compromised by a commercial fishery. Furthermore, in keeping with Makivik Corporation's "Policy on the Commercialization of Renewable Resources" (Draft, November 1986) it is desired that experimental fisheries of this nature expand into self-sufficient commercial ventures. Alternatively, in the event of inadequate fish

stocks, the commercial fishery should be discontinued to avoid damaging subsistence fisheries. As such, data on which sound management decisions can be made regarding quota allocations on a per species and a per harvest location are critical to ensure financial viability of the operation without depleting fish stocks.

THE PROPOSED FISHERY

In their proposal, the proponents asked to fish a total of seventeen systems (see attached request, Appendix 1) however, Table 1 presents quotas approved by M.L.C.P. for 12 systems. Figure 1 is a map indicating locations of the fisheries.

TABLE 1. Designated fishery locations including quotas (number) and approximate eviscerated weights (kg) per location.

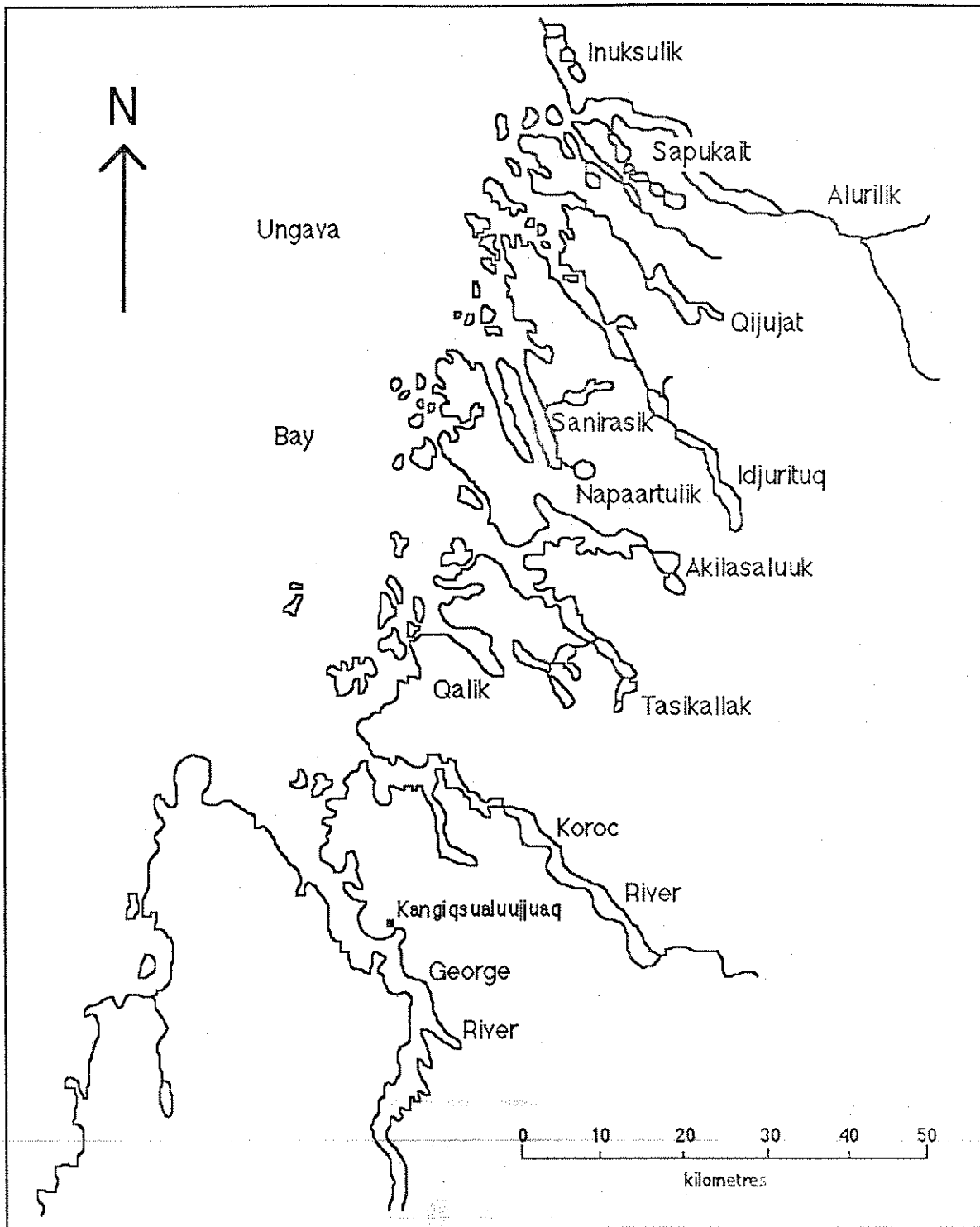
Fishing Site	Approximate eviscerated weight (kg) *	Quota (number)
George River	680	300
Koroc	340	150
Qalik	227	100
Tasikallak	454	200
Akilasaluuk	1236	545
Ijurituk	3686	1250
Napaartulik	964	425
Saniraksik **	2041	900
Qijujat	1746	770
Alurilik	1179	520
Sapukait	1746	770
Inuksulik	1746	770

* catch weights derived using average eviscerated weights for anadromous char based on available information: Idjurituk: 2.9 kg (6.5 lbs)

All other locations: 2.3 kg (5 lbs)

** site of the scientific fishery

Figure 1. Map of designated fishery locations.



METHODOLOGY

THE FISHERY AND THE FIELD WORK

Holes will be drilled through the ice at selected sites using an ice auger or alternatively an ice chisel. Gill nets (mesh size ranging from 11.4 - 15.2 cm, depending on location) will be set using an ice jigger. Furthermore, a single predetermined mesh size will be used exclusively per lake system to ensure consistency of C.P.U.E. data within and between fishing years. The number of nets per system will vary depending on system size, the number of productive sites located, and the number of fishermen present. However, it is safe to assume that a minimum five to six nets will be set at each site. The proponent has agreed that he will not fish at more than one site concurrently, and will fulfill his quota at a given site before moving to a new one, thereby greatly facilitating the monitoring process.

Several contingencies must be accounted for with regards to conducting a successful fishery including the period of time required to locate "hot spots" on the less known systems, travel days, work days lost to poor weather, sick/injury days, time lost to repairs and finally time taken off as "holidays". It is therefore of paramount importance that the proponent cooperate with the researchers to ensure a coordinated monitoring program. Furthermore, due to the number of sites and quotas involved in the proposed fishery, it should be expected there will be a minimum of five to six fishermen setting nets at a given site. In order to maintain an efficient track of fishing activity, all fishermen should be registered under the proponents "umbrella" licence.

BIOLOGICAL MONITORING

With regards to conducting a biological monitoring of the fishery it is proposed

that research personnel accompany fishermen to fishing sites at all opportunities. Research personnel will consist of staff members from the Kuujjuaq Research Centre (K.R.C.) in addition to someone hired locally in Kangiqsualujjuaq (Simeonie Baron).

In a document prepared by Gillis (1986) current Arctic Char management practices were reviewed. A number of different analyses were discussed that may be used in evaluating the size of a harvestable stock, the optimal sustainable catch and the effect of a given fishery on the population. The data required in each analysis are similar, however the selection of the appropriate analysis depends on the number of data-years available, in addition to the inherent assumptions.

The safest approach is to use different analyses and monitor several aspects of both the harvestable stock and the population itself. The necessary data for this are available from two sources:

- 1) an ongoing fishery itself
- 2) an independent/separate biological study

The current proposal addresses the monitoring of an experimental commercial fishery, hence the fishery itself is the logical data source. Table 2 summarizes the data required from the fishery for use in specific analyses. Three groups of data are to be collected.

- 1) morphometric measurements of sampled fish (biological data)
- 2) catch statistics (harvest data)
- 3) distribution of harvested stock(s).

Similarly the parameters examined are divided into three groups:

- 1) Biological information (derived from the collected data)
- 2) Factors to be monitored (that may be detrimentally affected by an ongoing commercial fishery)
- 3) Evaluation of the permissible harvest (calculations used to determine whether quotas should be reduced or increased)

Table 2. Biological data to be collected and parameters to be examined

DATA COLLECTED	PARAMETERS EXAMINED
<p>Biological Data</p> <ul style="list-style-type: none"> - fork length (cm) - round weight (kg) - total age - sex <p>Catch Data:</p> <ul style="list-style-type: none"> - daily fish catch per site - fishing effort - fishing sites 	<p>Biological Information</p> <ul style="list-style-type: none"> - age: length key - weight: length - gear selectivity <p>Factors to Monitor:</p> <ul style="list-style-type: none"> - mean age at maturity - length frequency in the catch - age (or size) at full recruitment - range of recruited ages - growth rate - condition factor - catch per unit effort <p>Evaluation of Permissible Harvest:</p> <ul style="list-style-type: none"> - yield per recruit - origin and distribution of stocks

It is important to note that individual elements in 1) or their interrelationships may change as a result of the fishery hence should be reexamined each year.

Likewise "factors to be monitored" must be collected annually in order to provide a long term perspective of the fisheries impact on available stocks. With a larger data base available from several years of monitoring, greater confidence may eventually be placed in allocating an accurate permissible harvest relative to available population stocks.

A minimum 150 sample of the catch (or the total quota in the event it is less than 150) will be processed for the following data:

- fork length measured on a fish board (± 0.5 cm)
- round weight measured on a spring scale (± 0.01 kg)
- sex of the specimen
- age

All fish caught in commercial nets will be tagged in the field using tags provided by M.L.C.P. following data sampling and evisceration. In the event quotas exceed 150 fish, the sample population will be selected using a systematic sampling procedure.

$$P = \frac{N}{n} \quad \text{where : } n = \text{size of the sample}$$
$$N = \text{size of statistical population}$$

All fish, except those in the sample population, will be tagged through the opercular opening. Tags for sampled fish will be placed through the tail permitting removal of heads on return to the community and subsequent otolith extraction at the Research Centre (due to temperature extremes it will be impossible to remove otoliths in the field). Any fish that are scarred, very skinny or of an unmarketable size will be considered rejects and not be tagged. However, these fish will be sampled should they fall in the sample population (choice of rejects will be as objective as possible). The proponent and his fishermen are responsible for all aspects of tagging and evisceration but will be assisted by research personnel if required.

Biological data will be recorded in field booklets which are formatted for easy comprehension. Subsistence fishery harvest data will be obtained using booklets distributed to all fishermen in the community. Fishermen will be visited on a bi-monthly basis to encourage recording of data and will be asked to answer a questionnaire concerning harvest efforts should booklets not be filled out (see Appendix 2 for examples of booklets and questionnaires utilized). The following data regarding catch per unit effort and total harvest will be recorded in respective booklets for both commercial and subsistence fisheries:

- fisherman (men) involved
- date of capture
- specific location
- mesh size used
- length of net
- time of net set
- time of any subsequent net checks
- number of char (or other spp.)

In the event Research Centre staff cannot accompany the proponent or his fishermen to a fishing site, the locally-employed researcher will be responsible for recording the forementioned harvest data and for placement of tags. Physiognometric data will be collected on return to the community at the time heads are removed (these data will be incomplete, however should not compromise analyses due to large data sets). In the community, lengths and eviscerated weights from a subsample of the frozen catches will be collected for comparison with fresh weights and lengths (permitting the calculation of correction factors).

SCIENTIFIC /EXPERIMENTAL FISHERY

The objective of the scientific fishery is to initiate a rigorous study to obtain detailed information concerning the growth/dynamics of the overall population in a given system. The system should preferably have received minimal exploitation in recent years, the population theoretically being comprised of the least-disturbed age cohorts (hence a "natural" population). Comparison of data from this system with that of those receiving commercial exploitation will indicate possible overharvesting and allow informed decisions to be made regarding permissible quota levels. Following meetings with the community of Kangiqsualujjuaq, it was mutually agreed that Saniraksik (see Figure 1) would serve as a suitable system for the scientific fishery.

The scientific fishery will tentatively be initiated in March and a minimum 350 fish will be sampled before any commercial fishery commences at Saniraksik. It has been agreed that any marketable fish caught in the scientific fishery will be given to the fishermen involved, for sale to the proponent. These fish will be included in the commercial quota for this system ($n = 900$) reducing the allowable commercial catch by an equivalent amount. Four experimental nets, each comprised of seven 6 m panels with the following combination of stretched mesh sizes (cm) will be used in the scientific fishery: ^{6.0" 4.5" 3.0" 2.5" 2.0" 1.5" 1"} 15.2, 11.4, 7.6, 6.4, 5.1, 3.8, and 2.5. In addition to the same forementioned data collected at all other sites, the left pectoral fin will be taken from all sampled fish to evaluate whether fin rays can yield accurate age readings (if viable, this may eliminate the need of removing heads for otolith extraction in subsequent years, increasing the marketability/value of these fish).

PROJECT PERSONNEL

The study will be directed by biologists Stas Olpinski and Tom Boivin hired under salaried contract by the Kuujjuaq Research Centre (K.R.C.). Peter May (a researcher at K.R.C.), will also be hired under salaried contract and will be involved in monitoring aspects of both the commercial and scientific fisheries. Project supervisors hold ultimate responsibility for the study and their role includes establishing the protocol to be followed during the monitoring of the fishery, communication/meeting with the proponents, Land Holding Corporation and Anguvigaapik to discuss implementation of this protocol. Furthermore, they will be involved in the hiring of local personnel mutually acceptable to the proponents and the Research Centre, training of fishermen and any field staff with regards to data sampling techniques.

Data compilation, analyses and report writing will be undertaken by the project supervisors and delegated Research Centre staff. Finally, coordinating feedback to the community and the proponents in the form of an "information session" will be undertaken by the project supervisors.

Simeonie Baron has been chosen by mutual agreement of the proponents and project supervisors for a salaried position as a research employee. He is a local resident of Kangiqsualujjuaq, has experience with biological monitoring projects and will not be directly involved in profit from the fishery. He will accompany the proponent to fishing sites on all trips either with a member of the Research Centre staff, or alone in some cases.

Allen Gordon will be hired under salaried contract by the Research Centre to age fish by otolith interpretation. Mr. Gordon, who has accumulated experience in aging eastern Ungava Bay Arctic Char, will be assisted by Peter May and Tom Boivin.

Inuit student researchers hired on a part-time basis (hourly wage) by the Research Centre will assist in computer data entry. Report layouts, tables, graphs, diagrams and maps will be produced by Morrie Portnoff, a cartographer employed at the Research Centre.

Stenographic preparation of the projects results in a report format will be undertaken at the Research Centre by Ms. Mae Saunders.

DATA ANALYSES AND REPORT WRITING

Total age of fish will be determined by counting annual saggitae growth rings (annuli) under a dissecting microscope. Fin rays collected at Saniraksik will also be examined under a dissecting microscope to evaluate their accuracy in age readings (comparison between ages obtained by otolith interpretation and fin ray analyses will function as a control). All raw data (biological and harvest) will be entered on an Apple Macintosh P.C. for statistical analyses using "Statview" software.

Interim reports, together with the "fiche de pêche" will be submitted to M.L.C.P. and M.A.P.A.Q. on mutually agreed dates. A final report will be prepared in three languages (English, Inuttitut and French) and made available to the proponents, M.A.P.A.Q., M.L.C.P. and Anguvigaq.

CONSULTATION, INFORMATION AND TRAINING

As in previous situations, this project will be preceded by a consultation with the parties concerned. In this case these would include the proponents "Annanack and Sons", the Land Holding Corporation of Kangiqsualujjuaq, the Anguvigaapik in Kangiqsualujjuaq, the Kuujjuaq Research Centre (represented by project supervisors and a researcher) a designated representative of M.A.P.A.Q. and a delegate from M.L.C.P. At the initial meeting different components of the proposed monitoring program will be reviewed in terms of it's implementation and its role in the long term management of the proposed experimental fishery. This meeting will be held in Kangiqsualujjuaq, the location for the fishery and the domicile of it's proponents.

In a subsequent orientation or time permitting during the initial consultations, personnel involved in any of the sampling/monitoring procedures will receive specific instruction and training pertaining to all aspects of data collection.

Following completion of data analyses and report writing a three-day training session involving techniques of aging, data analyses and statistical computation will be held at Kangiqsualujjuaq. The purpose of such a session is to familiarize personnel with what/why is ultimately done with the data they helped provide. At this session the report, including results of the monitoring program and their implication for management will be presented to the relevant parties.

FINANCIAL BUDGET

1. Preparation

Airfare	3 x Kuujjuaq = Kangiqsualujjuaq @ \$200	600.
Salaries	Biologists 6 man days @ \$125	750.
	Researcher 3 man days @ \$105	315.
Accomodation	9 man days @ \$35	<u>315.</u>
	Sub Total	1 980.

2. Field Work

Airfare	15 x Kuujjuaq = Kangiqsualujjuaq @ \$200	3 000.	1 200
Salaries	Biologists 60 man days @ \$125	7 500.	7 500
	Researcher 30 man days @ \$105	3 150.	3 000
	Inuit technician (in G.R.) 70 man days @ \$85	5 950. ✓	
	Inuit students (G.R.) 35 man days @ \$50	1 750.	7 700

Rental and Sustenance:

Skidoos	Biologists and Researcher 60 skidoo days @ \$45/day	✓ 2 700.	2 700
	Inuit technician 60 skidoo days @ \$45/day	✓ 2 700.	2 700

Camping units and equipment: = 4203

	Biologists and Researcher 60 man days @ \$50/wk	450.	450
	Inuit technician 60 man days weeks @ \$50/wk	450. ✓	450
	Gasoline 22 L/day x 120 days = 2 640 L @ \$.90/L	2 376.	2 400
	Naptha 100 L @ \$2.27/L	227.	240
	Parts	500.	500
	Radio rental	600.	600
	Sampling kits 6 @ \$50	300.	300
	Food 120 man days @ \$20	2 400.	2 400
	Community Accomodation 70 days @ \$35	<u>2 450.</u>	

Sub Total 36 503.

36 300

3. Data Analyses and Report Preparation

Salaries	Reading otoliths 76 man days @ \$105	7 980.
	Data entry 10 man days @ \$105	1 050.
	Statistical analyses and report writing 15 days @ \$125	1 875.
	Graphics 20 hrs @ \$15/hr	300.
	Word processing 20 hrs @ \$20/hr	500.
	Translation 20 hrs @ \$25/hr	<u>500.</u>
	Sub Total	12 205.

4. Rentals (Office Equipment)

	Microscope 76 days @ \$7.50/day	570.
	Computer 10 days @ \$10/day	<u>100.</u>
	Sub Total	670.

5. Printing costs

	Booklets and data sheets	<u>500.</u>
	Sub Total	500.

6. Cargo Cost

	Shipment of equipment (kits) and samples 100kg @ \$2.50/kg	<u>250.</u>
	Sub Total	250.

7. Information and Animation of results

Airfare	2 x Kuujjuaq = Kangiqsualujjuaq @ \$200	400.
Salaries	Biologist 4 man days @ \$125/day	500.
	Researcher 4 man days \$105/day	420.
	Workshop session 7 @ \$85	595.
	Accommodation 8 man days @ \$35	<u>280.</u>
	Sub Total	2 195.

TOTAL 54 303.

8. 10 % Administration Fee 5 430.

GRAND TOTAL \$ 59 733.

LITERATURE CITED

- Arbess, S.E. 1966. Social change and the Eskimo Co-operative at George River Quebec MS c thesis McGill University 79 pp.
- Gillis, D. 1986. Artic Char fisheries management: a review of current techniques and the availability of pertinent information concerning Northern Quebec char resources. Report for M.L.C.P. by Makivik Corporation 64 pp.
- Power, G. 1969. A report on the 1969 fishery for Atlantic salmon in Ungava. MS Rpt. 19 pp.
- Power, G. 1976. History of the Hudson's Bay Company Salmon fisheries in the Ungava Bay Region. Polar Record 18: 151-161.

APPENDICES

APPENDIX 1

THE PROPONENTS REQUEST

NA' ...
Conseil Régional de Développement KATIVIK
KATIVIK Regional Development Council

C.P. 9, KUUJJUAQ, QUÉBEC, J0M 1C0 • TÉL.: (819) 964-2941

April 30, 1986

Mr. Camille Choquette
SAGMAI coordinator
MAPAQ
Kuujjuaq, Québec
J0M 1C0

Ref.: Experimental - commercial fishing project
Annanack & Sons

Sir,

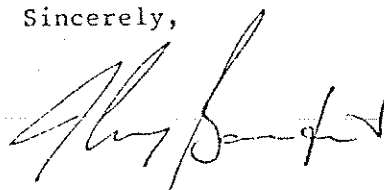
The object of this letter is to request a commercial fishing permit for Annanack & Sons to catch and distribute 61,500lbs of char and lake trout in the lakes and rivers in the area Kangirsualujjuaq.

According to your criteria, the company has obtained a resolution from its landholding corporation supporting the project as well as the volume of fish to be caught.

This project, like that of Gordon, Koneak, Watt fisheries will be experimental in scope (in that there is no data available) and therefore the company will comply with the obligation of submitting to proper authorities all data pertinent to the sound management of the species and the fishing process.

If you should require additional information please do not hesitate to contact David Annanack (819-337-5292) or myself.

Sincerely,



Jean Guy Bousquet
Coordinator

JGB/dt

cc: Pierre Vagneux, MAPAQ
Gilles Harvey, MLCP
Yan Juniper, Auiturvik

Encl.

RESOLUTION NO. 86-6

Minutes of a meeting of the board of directors of Qiniqtik Corporation held at Kangirsualujjuag on the 24 day of APRIL 1986. At the office of Qiniqtik Corporation.

- WHEREAS the community of George River has received a request from Annanack and Sons for the approval of this commercial fishing project;
- WHEREAS the community feels it has enough resource for commercial use;
- WHEREAS also the community needs more data on the resources potential in the area;
- WHEREAS the community needs more jobs that could generate revenue;

THEREFORE hereby resolved that Annanack and Sons be given approval for their project under the following conditions:

Catch Limits:	Arctic Char	-	45,000	lbs
	Lake Trout	-	10,000	lbs
	Landlocked Char	-	<u>6,500</u>	lbs
	Total		61,500	lbs

Monitoring: that Annanack and Sons monitor and control fishermen's catches on the designated lakes and river systems of our community and that such information be forwarded to the proper authorities upon request.

Directors of LANDHOLDING CORPORATION here to sign:

[Signature]
President

[Signature]
Vice-President

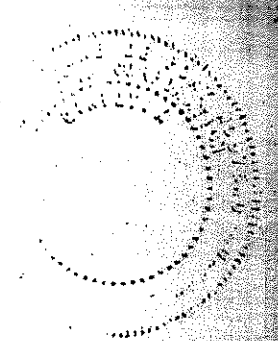
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Secretary-Treasurer

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Director

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Director

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Director

Director



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APPENDIX 2

EXAMPLES OF BOOKLETS AND QUESTIONNAIRES

The goal of the Kangiqualuujuaq Fish Study is to estimate the number of all fish species, especially Arctic char, which are harvested by the community.

It is important that we record the total number of fish harvested by the Kangiqualuujuaqmiut. The information obtained will be used to evaluate the fish populations of each area, and to help in the management of the local fishery. The identity of each hunter/fisherman will be kept anonymous.

In order to obtain the best possible information, it is important that the hunters record the following:

- 1) The location where fish were harvested and date of catch
- 2) The number of fish (by species) that you catch every day, by net or with other fishing methods (jigging, kakivak, gaff)
- 3) The number of nets you use every day, even if you did not catch any fish

The family head should record all fish caught by member of his immediate family (spouse and children) who do not have their own booklet

Thank you for your cooperation with this study.

Date: _____

ᑭᑦᑭᑦᑭᑦ:

Where did you fish today? _____

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How many nets did you use today? _____

ᑭᑦᑭᑦᑭᑦ ᑭᑦᑭᑦᑭᑦ ᑭᑦᑭᑦᑭᑦ?

Fish Species ᑭᑦᑭᑦᑭᑦ	Net Catch ᑭᑦᑭᑦᑭᑦ		Jigging ᑭᑦᑭᑦᑭᑦ	Kakivak or Gaff ᑭᑦᑭᑦᑭᑦ ᑭᑦᑭᑦᑭᑦ
	Good ᑭᑦᑭᑦᑭᑦ	Spoiled ᑭᑦᑭᑦᑭᑦ		
Arctic Char ᑭᑦᑭᑦᑭᑦ				
Land Locked Char ᑭᑦᑭᑦᑭᑦ				
Lake Trout ᑭᑦᑭᑦᑭᑦ				
Brook Trout ᑭᑦᑭᑦᑭᑦ				
Whitefish ᑭᑦᑭᑦᑭᑦ				
Atlantic Salmon ᑭᑦᑭᑦᑭᑦ				
Sculpins ᑭᑦᑭᑦᑭᑦ				
Cod Fish ᑭᑦᑭᑦᑭᑦ				

Have you filled in all the information (date, location, catch)?
ᑭᑦᑭᑦᑭᑦ ᑭᑦᑭᑦᑭᑦ ᑭᑦᑭᑦᑭᑦ (ᑭᑦᑭᑦᑭᑦ, ᑭᑦᑭᑦᑭᑦ, ᑭᑦᑭᑦᑭᑦ)?

Date: _____ Location: _____
 ٤٠٥٠٠٠ _____
 Time Net Set: _____ Time Of Check: _____
 ٤٠٥٠٠٠ _____
 Number Caught: _____ Length of Net: _____ Depth Set: _____
 ٤٠٥٠٠٠ _____

♂	Tag # ٤٠٥٠٠٠	Mesh (mm) ٤٠٥٠٠٠	Length (cm) ٤٠٥٠٠٠	Weight (g) ٤٠٥٠٠٠	Sex M F S R	Color ٤٠٥٠٠٠	Tag ٤٠٥٠٠٠	OL	Set	Comments ٤٠٥٠٠٠

SET: X = Invalid catch (i.e. caught by tooth or tangled) / otherwise leave BLANK