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A PRELIMINARY STUDY OF THE NATIVE HARVEST OF WILDLIFE IN THE KEEWATIN REGION, NORTHWEST TERRITORIES

by

R. L. Gamble[1]

Western Region
Department of Fisheries and Oceans
Winnipeg, Manitoba R3T 2N6

This is the 171st Technical Report
from the Western Region, Winnipeg

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[1] Keewatin Wildlife Federation, Rankin Inlet, N.W.T. XOC OGO

PREFACE

This report is presented in fulfillment of Department of Supply and Services Contract DSS 01 SU A7-110-1-0001 let to the Keewatin Wildlife Federation for a preliminary study of the native harvest of wildlife in the Keewatin Region of the Northwest Territories. The work was done on behalf of the Federal Government departments of Environment Canada (Canadian Wildlife Service), Fisheries and Oceans (Western Region), and Indian Affairs and Northern Development; the Government of the Northwest Territories Department of Renewable Resources; and the Keewatin Wildlife Federation.

The report is accepted upon recommendation by the steering committee for the study made up of representatives of the agencies noted above (Appendix 1) and chaired by Mr. F. McFarland of the Department of Indian Affairs and Northern Development. The harvest study material is published under the auspices of the DFO technical report series by agreement of the steering committee in order to ensure that the data achieve a wide circulation, be accessible to the interested public, and be published in a standardized format generally recognized as appropriate for the dissemination of such information.

A modified version of this report in Inuktituk will also be published by Nortext Information Design Ltd. of Ottawa as an insert to the periodical Caribou News (Suite 100, 196 Bronson Ave., Ottawa, Ontario K1R 6H4).

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ABSTRACT

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Harvest data were collected from Inuit residents in the seven communities of the Keewatin Region from October 1981 to September 1983 as part of a preliminary study designed to lay down a framework for the ongoing collection of such information. Results were aggregated at a community level. The variability in results was due, in part, to the cross cultural nature of the study where it was attempted to elicit statistically valid harvest information by a survey technique common to the Euro-Canadian culture but basically foreign to the traditions of the Inuit. However, the direct involvement of Inuit in the study, particularly in data collection, increased cooperation by harvesters. Other causes for variability were those common to surveys including the effort by individual fieldworkers to collect information, lost data, and turnover of fieldworkers within certain communities. There is a relationship between the availability of particular species to harvest and those that are actually harvested by communities. However cultural preference can also be an important contributing factor which determines the components of the harvest.

Key words: resource management; catch statistics; domestic harvest; monitoring; food resources; country foods; terrestial mammals; marine mammals; birds; fish; computerized harvest study; Inuit organization.

RESUME

Gamble, R.L. 1984. A preliminary study of the native harvest of wildlife in the Keewatin Region, Northwest Territories. Can. Tech. Rep. Fish. Aquat. Sci. 1282: iv + 48 p.

Des données relatives à la récolte furent recueillies auprès des résidents Inuit des sept collectivités de la région Keewatin, entre octobre 1981 et septembre 1983. Elles font partie d'une étude préliminaire entreprise en vue d'établir le cadre nécessaire pour la collecte permanente de telles données. Les chiffres ont été établis par collectivités. Ils varient pour diverses raisons: en partie à cause des groupes culturels impliqués dans l'étude. En effet, nous avons essayé d'obtenir des données, statistiquement valables, sur la récolte à l'aide d'une technique d'enquête répandue chez les Euro-Canadiens mais essentiellement étrangère aux traditions Inuit. Toutefois, le fait de faire participer directement les Inuit à l'étude, notamment à la cueillette des données, a provoqué la coopération des pêcheurs. Les autres causes de variation (de chiffres) sont les mêmes qu'on retrouve lors de n'importe qu'elle enquête, notamment l'effort plus ou moins grand que fournit chaque enquêteur, les données perdues, le roulement des enquêteurs dans certaines collectivités. Il existe aussi un rapport entre la facilité d'accès qu'ont les pêcheurs à telle ou telle espèce et les espèces qui sont effectivement pêchées. Toutefois, les préférences d'une culture pour telle espèce peut aussi être un facteur important pouvant expliquer les composantes de la récolte.

Mots-clés: gestion des ressources; statistiques de la récolte; récolte (pêche familiale); surveillance; ressources alimentaires; aliments régionaux; mammifères (terrestres); mammifères marins; oiseaux; poissons; étude de récolte en mémoire d'ordinateur; organisation des Inuit.

INTRODUCTION

In September, 1981, a study was initiated for the collection of harvest data from hunters residing in the Keewatin Region of the Northwest Territories. It should be noted that throughout this report hunter, harvester, trapper and fisherman are used as synonyms. Included in the term hunter are Inuit males and females over 16 who hunt (they may or may not have a general hunting licence), Inuit youths under 16 who hunt regularly, and some long term residents in the area of other ethnic origins who hunt. This latter group comprises less than 1% of the total hunters in the Region.

Negotiations concerning the conditions of the study began in May, 1981, and involved representatives of the Inuit Tapirisat of Canada (now Tungavik Federation of Nunavut), the Kivalirmi Inuit Land Claims Association, the Keewatin Wildlife Federation (KWF) (who became the Inuit sponsors of the study) and the various government agencies (Federal and Territorial) noted in the preface. However, the details of the contractual agreement were not finalized until February, 1982.

The main objectives of the study as specified in the contract were to:

1) determine by survey techniques the hunter kill by Inuit living in District of Keewatin communities and outpost camps;
2) develop an approach for the collection of timely, statistically reliable data on wildlife harvesting which could be undertaken by an agency such as the Keewatin Wildlife Federation (KWF) upon completion of the preliminary study;
3) determine the number of Inuit directly participating in subsistence harvesting in each community and to compare the proportion of harvest taken by hunters of different ages;
4) provide an estimate of the harvest sufficient to determine a measure of its value to each community as food or income, and
5) analyze and publish the data collected in a timely report and scientifically acceptable format.

The means of achieving these objectives were described in a proposal submitted to the Federal Department of Supply and Services (DSS) by Kivalirmi Inuit Land Claims dated May 28, 1981, entitled, "Unsolicited Proposal for a Preliminary Wildlife Harvest Study in the Keewatin Region". A limited number of copies of this unpublished document are available from members of the Steering Committee (Appendix 1) should reference to it be required. This proposal was accepted with the following modifications:

a) The harvest data to be collected was changed to include information on the following species: ringed seal, bearded seal, harp seal, harbour seal, walrus, beluga whale, narwhal, bowhead whale, lake trout, Arctic charr, polar bear, caribou, red fox, Arctic fox, muskox, grizzly bear, wolverine, wolf, otter, moose, lynx, Canada geese, snow geese, Brant geese, common eider and oldsquaw. Species, other than those listed above, were to be included in the category "other" for each of the four major headings: fish, fowl, terrestrial mammals and marine mammals.
b) Harvest data forms (calendars and note books) were modified to include provisions for the recording of the date when an animal was taken and the location where it was harvested.

The study area of approximately 386 000 km^2 (Fig. 1,A) included the entire Keewatin district of the Northwest Territories which contains seven permanent communities. Listed north to south they are Repulse Bay, Baker Lake, Coral Harbour, Chesterfield Inlet, Rankin Inlet, Whale Cove and Eskimo Point. Throughout the remainder of this report the convention has been adopted of listing the communities alphabetically. Current information about these communities including population can be obtained from the NWT Data Book (1982). Historically the Inuit were not concentrated in these locations but were scattered in small groups that migrated with the seasons to various locations throughout the boreal-tundra ecotone of the Keewatin region, and along the adjacent coastline of Hudson Bay.

MATERIALS AND METHODS

STUDY DESIGN

The details of the study were adapted from the James Bay, Northern Quebec Native Harvesting Study (Native Harvesting Research Committee 1975 and 1976) and the subsequent Baffin Regional Inuit Association (BRIA) Harvesting Study with several refinements as elaborated below to suit the Keewatin Region. The project attempted to include 100% of the region's hunters who are primarily Inuit (less than 1% are of other ethnic origin) and whose primary language, both oral and written, is Inuktitut.

Initially an objective of the study was to collect data on both a community and outpost camp level. In other studies the coverage of outpost camps has been a problem (R. Peet, DFO, Winnipeg, personal communication). However in the Keewatin a separate coverage of outpost camps was not necessary because hunters living on the land visit home communities frequently. For example Inuit living at Padlei (usually in the summer) return to Eskimo Point approximately once a month. Community fieldworkers were able to include these hunters in their regular interviews together with hunters operating exclusively from main centres. In addition field diaries (discussed below) were provided to record harvests while hunters were on the land.

In accordance with contractual requirements, a steering committee (Appendix 1), as

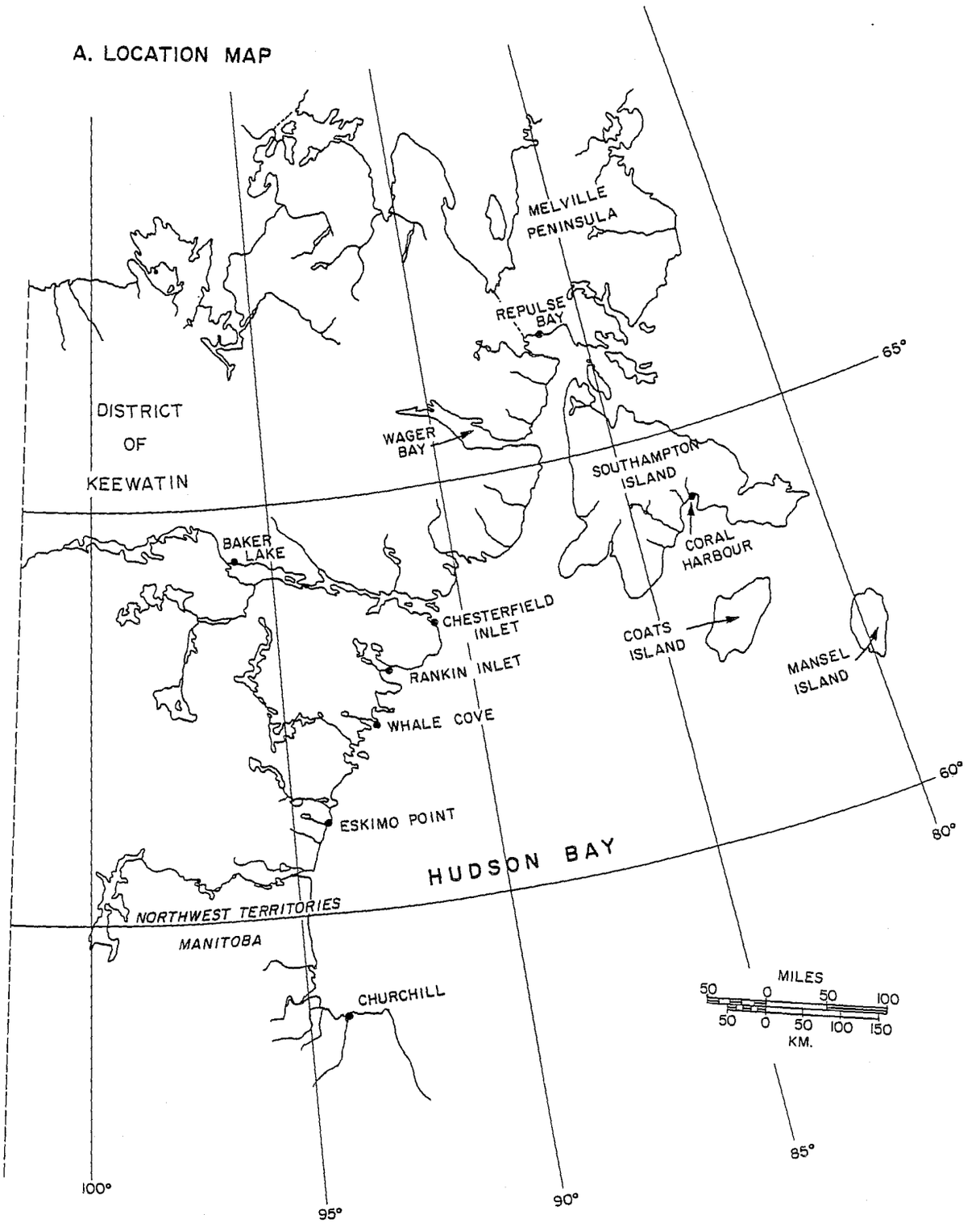


Fig. 1. Map of the Keewatin District showing the seven communities surveyed during the harvest study and the zonal grid used to locate kills.

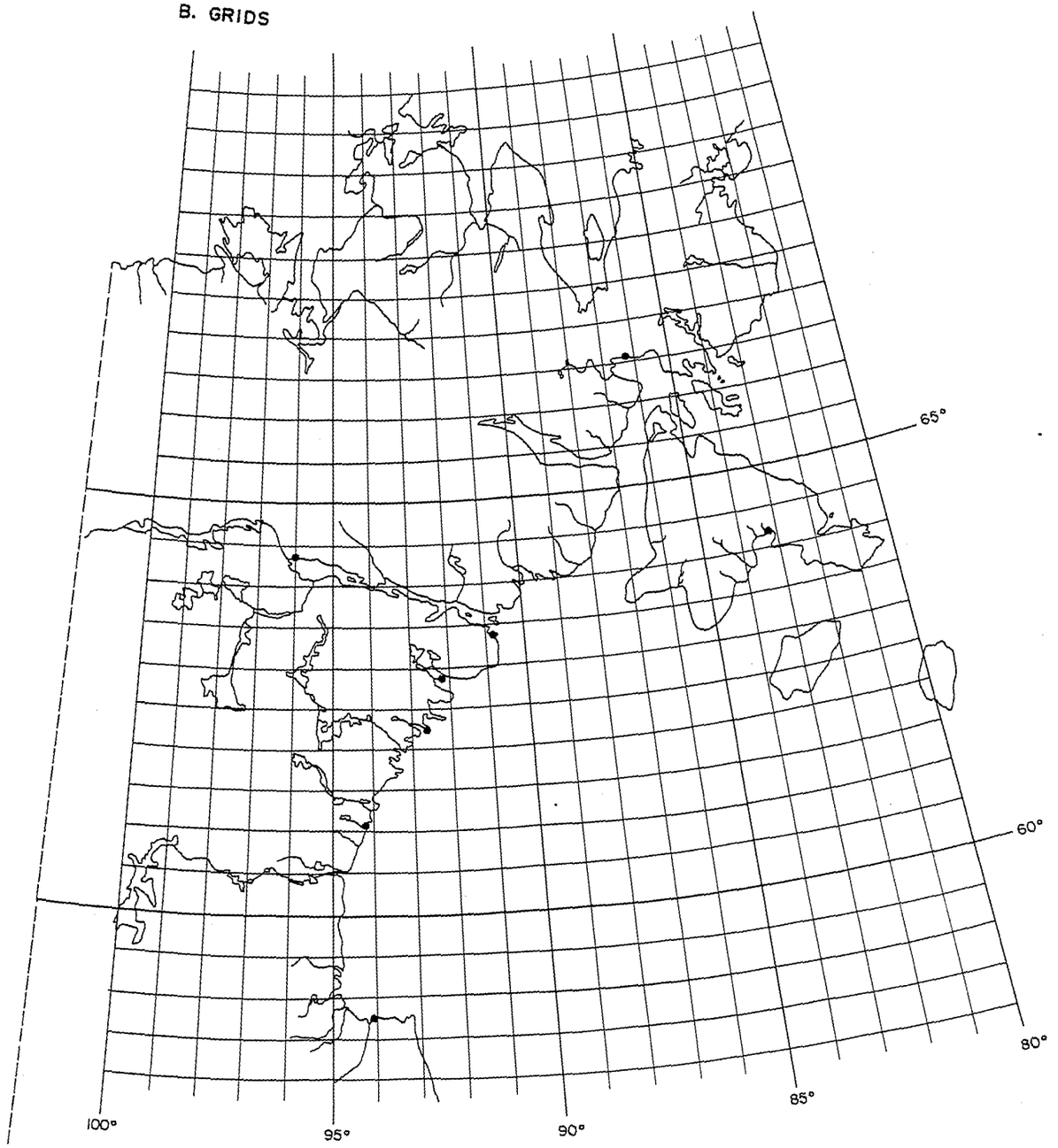


Fig. 1. Cont'd.

outlined in the preface, was established to liaise with the project manager and biologist. In this manner both funding and sponsoring agencies were kept up to date on progress and had input into the development of the study.

HUMAN RESOURCES

In each of the seven communities in the region an Inuit was hired as a fieldworker to interview hunters and collect data. Duties included explaining the project to hunters; distributing the study materials (calendars and field notebooks) to hunters; keeping an up to date list of hunters; interviewing hunters beginning on the first day of each month to collect harvest statistics for the previous month and recording this information on the appropriate data sheets; making sure the data collected was as accurate as possible; and promptly forwarding a monthly report following an interview period to the Project Manager located at Eskimo Point.

The Project Manager, an Inuit employee under contract to the KWF, was responsible for managing the study. His/her primary functions were to coordinate data collection from the fieldworkers in each community and to summarize the data in a format suitable for analysis. Other responsibilities included the training of fieldworkers (workshops and personal contact); translation; designing and ordering forms and equipment in conjunction with recommendations made by the Project Biologist; attending community meetings to keep the public informed about the study; and liaising with the various government agencies funding the study through the steering committee.

The project also employed a biologist on a half time basis (the other half of his/her time was concerned with KWF business) who acted as the technical support for the study; assisted in development of an acceptable survey format; oversaw the interpretative phase of the project; and prepared the final report.

MATERIALS

Data sheets

Over the course of the study, October, 1981, to September, 1983, all materials underwent a progressive evolution to provide hunters with the best format for data collection.

Figure 2 shows the initial data sheet adopted from the BRIA Harvest Study. This format was used from October to December, 1981. Each sheet listed the species which might be harvested (as determined from historical information), and in the case of caribou, the hunter was also asked to separate the animals taken by sex and herd (i.e. Kaminuriak, Beverly, and other). Location of kill was listed by community and the date of kill was noted by month. This data sheet was produced during the summer of 1981 and supplied to fieldworkers during an orientation workshop held in September of that year.

Figure 3 shows the revised form used from January, 1982 to December, 1982. This sheet was divided into four sections by major groupings (i.e. marine mammals, terrestrial mammals, fowl and fish) but individual species were not listed. It was assumed that hunters could identify particular species within categories and would list them. As most species are seasonal in their movements, this format provided more space for reporting and allowed the hunter to provide both the sex and date of capture for all species taken and the location of the kill (e.g. nearest lake). Identifying the location of the kill greatly enhanced the species information. This was especially important in the case of caribou because it was then possible to identify the probable herd from which an animal was taken (i.e. Kaminuriak, Beverly, Southampton, Coates, Wager, North of Chesterfield and unknown herd).

The final version of the data sheet (Fig. 4) was used from January to September, 1983. Modifications were slight, simply adding "zones" so that in cases where the hunter could not provide a suitable topographical description the fieldworker could locate the site of the kill on a map and provide the appropriate zone designation. Zones were defined as units bounded by 1° longitude x 1/2° latitude (Fig. 1,B). Locations provided previously in 1981-82 were similarly assigned to a zone.

Calendars

Calendars were distributed as part of the harvest study in 1982 and 1983, but it was not possible to have them ready in time for the initial three months of the study in the latter part of 1981. Data sheets were provided as inserts in both annual calendars.

In 1982 the format for each month consisted of three separate pages in the following sequence: illustration, data sheet, and table of days. This caused a problem in that the data sheet overlapped and obscured the table of days. It was frequently torn out and subsequently lost or not completed. In 1983 this problem was remedied by combining the illustration and table of days on a single page with the data sheet following as a facing page such that when hung, both sheets were clearly presented (Fig. 5). In both years the moon phases were included because tides affect the movement of marine and anadromous species such as Arctic charr and hence their accessibility to hunters. To encourage participation in the study, photographs depicting hunting scenes and the species harvested were solicited from residents and used as illustrations in the calendars.

Field diaries

Field diaries were given to participants in January of 1982 and 1983 so that records could be kept while out hunting. Initially, a commercially available pocket sized diary in English (16 cm x 9 cm x 3 cm), produced by Textron was provided for the period September, 1981, to December, 1982. This proved to be inadequate because it did not indicate the information required (i.e. species harvested, date of

COMMUNITY ᓄᓇᓕᒃ ______________________

FIELDWORKER ᐅᒪᔪᖅ ᑕᐃᒃᓯᖅᓯᖅ ᓇᓴᐃᔨ ______________________

DATE ᐅᓪᓗᖅ ᐸᓖᑉ ᐱᑦ ______________________

MONTH ᑕᖅᑭᖅ ______________________

HUNTER ᒫᓇᐃᑎ 1. ____________ 2. ____________

HOUSE NUMBER ᐃᒡᓗᐅᑉ ᓈᓴᐅᑕ ______________________

ᐃᖃᓗᒃᐱᒃ MIGRATING CHAR			
ᒪᑲᐃᑎ HUNTER 1		ᒪᑲᐃᖅᑎᐅᑉ ᐊᐃᑉᐸᖓ HUNTER 2	
ᓇᒦᑦ ᓇᑭᑦ PLACE	ᖃᑦᓯᓂᒃ NUMBER	ᓇᒦᑦ ᓇᑭᑦ PLACE	ᖃᑦᓯᓂᒃ NUMBER
ᐃᓗᕿᖅ LAKE TROUT			
ᒪᑲᐃᑎ HUNTER 1		ᒪᑲᐃᑎᐅᑉ ᐊᐃᑉᐸᖓ HUNTER 2	
ᓇᒦᑦ ᓇᑭᑦ PLACE	ᖃᑦᓯᓂᒃ NUMBER	ᓇᒦᑦ ᓇᑭᑦ PLACE	ᖃᑦᓯᓂᒃ NUMBER
ᐊᔾᔨᒋᑦ OTHER			

ᑎᖕᒥᔪᑦ	ᐊᓯᕙᖅᑎ HUNTER 1	ᐊᓯᕙᖅᑎᐅᑉ ᐊᐃᑉᐸᖓ 2
ᐊᕐᑭᒡᒋᖅ ROCK PTARMIGAN		
ᑲᒡᒍᖅ SNOW GOOSE		
ᓂᕐᓛᖅ CANADA GOOSE		
ᓂᖅᓕᖅᓇᖅ BRANT		
ᑕᑎᒐᖅ SANDHILL CRANE		
ᒥᑎᖅ COMMON EIDER		
ᐊᒃᒋᐊᕐᔪᒃ, ᐊᐊᖕᒋᖅ OLDSQUAW		
ᐱᑦᓯᐅᓚᖅ GUILLEMOT		
ᑎᒻᒥᐊᑦ ᐊᓯᖏᑦ OTHER BIRDS		

ᐃᒪᕐᒥᐅᑕᑦ	ᒪᑲᐃᑎ HUNTER 1	ᒪᑲᐃᑎᐅᑉ ᐊᐃᑉᐸᖓ 2
ᓇᑦᓯᖅ RINGED SEAL		
ᐅᒡᔪᒃ BEARDED SEAL		
ᑲᐃᒍᓕᒃ HARP SEAL		
ᐊᕐᕕᖅ BOWHEAD		
ᖃᓯᒋᐊᖅ HARBOUR SEAL		
ᐊᐃᕕᖅ WALRUS		
ᕿᓚᓗᒐᖅ ᑑᒑᓕᒃ NARWHAL		
ᕿᓚᓗᒐᖅ ᖃᐅᓪᓗᖓᖅ BELUGA		
ᓇᓄᖅ POLAR BEAR	M ___ F ___	M ___ F ___
ᑭᒋᐊᖅ, ᑳᐱᐊᖅ OTTER, MUSKRAT		
ᐸᐃᕆᐊᔪᒃ OTHER		

ᓄᓇᒥᐅᑕᑦ	ᒪᑲᐃᑎ HUNTER 1	ᒪᑲᐃᑎᐅᑉ ᐊᐃᑉᐸᖓ 2
ᑐᒃᑐ, ᑲᒪᓂᕆᐊᒃ CARIBOU, KAMANIRIAK	M ___ F ___	M ___ F ___
ᑐᒃᑐ, ᐊᔾᔨᖑ CARIBOU, BEV./OTHER	ᐊᖑᑦ ___ ᐊᕐᓇᖅ ___	ᐊᖑᑦ ___ ᐊᕐᓇᖅ ___
ᐅᒥᖕᒪᒃ MUSK-OX	___ ___	___ ___
ᐅᑲᓕᖅ ARCTIC HARE		
ᐊᒪᕈᖅ WOLF	___ ___	___ ___
ᑎᕆᒐᓂᐊᖅ WHITE FOX		
ᖃᕝᕕᒃ WOLVERINE		
ᐊᒃᖤᒃ GRIZZLY BEAR	___ ___	___ ___
ᑐᒃᑐᕙᒃ MOOSE		
ᐱᖅᑐᖅᓯᖅ LYNX		
ᐱᔪᑦ ᐊᔾᔨᖏ OTHER		

Fig. 2. Data sheet used in the Keewatin harvest study from October to December, 1981.

NAME ᐊᑎᖅ ______________ PLACE ᓇᓇᒻᒪ ______________ DATE ᐅᑉᓗᖓ ______________ 19

ᐃᒪᖅᒥᐅᑕᑦ MARINE ᓂᕐᔪᑦ	NO. ᖃᑉᓯᑦ	SEX ᓱᓇ	DAY ᐅᑉᓗᖓ	PLACE ᓇᑭᑦ ᓇᒥᑦ	ᐱᓱᖅᑎᑦ TERRESTRIAL ᓂᕐᔪᑦ	NO. ᖃᑉᓯᑦ	SEX ᓱᓇ	DAY ᐅᑉᓗᖓ	PLACE ᓇᑭᑦ ᓇᒥᑦ

COMMENTS ᐅᖅ ᑲᐅᓯᒃ ᓴᑦ

COMMENTS ᐅᖅ ᑲᐅᓯᒃ ᓴᑦ

ᑎᖕᒥᐊᑦ FOWL FOWL/BIRDS ᓂᕐᔪᑦ	NO. ᖃᑉᓯᑦ	DAY ᐅᑉᓗᖓ	PLACE ᓇᑭᑦ ᓇᒥᑦ	ᐃᖅᑲᓗᐃᑦ FISH TYPE ᖃᓄᐃᓘᖅ	NO./LBS. ᖃᑉᓯᑦ/ᐅᖅᑯᒪᐃᓂᖅ	PLACE ᓇᑭᑦ ᓇᒥᑦ

COMMENTS ᐅᖅ ᑲᐅᓯᒃ ᓴᑦ

COMMENTS ᐅᖅ ᑲᐅᓯᒃ ᓴᑦ

FIELDWORKER ᖃᐅᔨᓴᖅᑎ

Fig. 3. Data sheet used in the Keewatin harvest study from January to December, 1982.

NAME ᐊᑎᖅ ______________ PLACE ᓄᓇᖓ ______________ MONTH ᑕᖅᑭᖅ ______________ 19

<u>ᐃᒪᕐᒥᐅᑕᑦ</u>

day ᐅᑉᓗᖅ	marine ᓂᕐᔪᑦ	No. ᖃᑉᓯᑦ	M ᐊᖑᑦ	F ᐊᕐᓇᖅ	PLACE ᓇᑭᑦ	ZONE ᓇᓴᐅᑦ
Comments ᐅᖃᐅᓯᒃᓴᑦ						

<u>ᐱᓱᒃᑎᑦ</u>

day ᐅᑉᓗᖅ	TERR. ᓂᕐᔪᑦ	No. ᖃᑉᓯᑦ	M ᐊᖑᑦ	F ᐊᕐᓇᖅ	PLACE ᓇᑭᑦ	ZONE ᓇᓴᐅᑕ
Comments ᐅᖃᐅᓯᒃᓴᑦ						

<u>ᑎᖕᒥᔭᑦ</u> fowl

day ᐅᑉᓗᖅ	bird ᓂᕐᔪᑦ	No. ᖃᑉᓯᑦ	day ᐅᑉᓗᖅ	Place ᓇᑭᑦ ᓇᒥᑦ	Zone ᓇᓴᐅᑕ
Comments ᐅᖃᐅᓯᒃᓴᑦ					

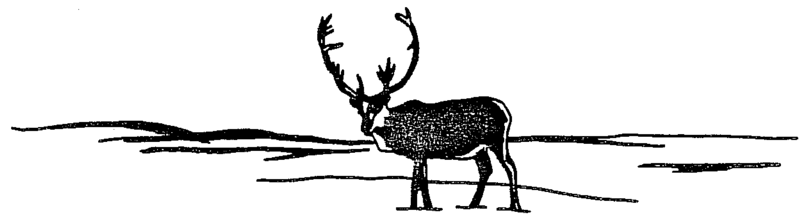
ᐃᖃᓗᐃᑦ fish

day ᐅᑉᓗᖅ	Fish ᐃᖃᓗᒃ	No. ᖃᑉᓯᑦ	lbs /ᐅᖁᒪᐃᓂᖅ	Place ᓇᑭᑦ ᓇᒥ	Zone ᓇᓴᐅᑕ
Comments ᐅᖃᐅᓯᒃᓴᑦ					

date ᐅᑉᓗᒥ ______________ Fieldworker ᖃᐅᔨᓴᖅᑎ ______________

Fig. 4. Data sheet used in the Keewatin harvest study from January to September, 1983.

ᐊᐅᒍᔅᑎ 1983 AUGUST



ᓯᓇᕐᓂ SUN.	ᒫᓐᑎ MON.	ᒥᕐᑯᐊᖅ TUE.	ᐱᖓᓲᐊᖅ WED.	ᓯᑕᒪᑦ THUR.	ᑕᓪᓕᒪᑦ FRI.	ᓯᓇᕐᓂᐊᕐᕈᓯᖅ SAT.
	1	2 ☾	3	4	5	6
7	8 ●	9	10	11	12	13
14	15 ☽	16	17	18	19	20
21	22	23 ○	24	25	26	27
28	29	30	31 ☾			

NAME ᐊᑎᖅ ______ PLACE ᓄᓇᒃ ______ MONTH ᑕᕿᖅ ______ 19

ᐃᒪᕐᒥᐅᑕᑦ

day ᐅᑉᓗᖅ	marine ᓂᕐᔪᑦ	No. ᖃᑦᓯᑦ	Place ᓇᑭᑦ	Zone ᓇᓯᐅᑦ

Comments ᐅᖃᐅᓯᒃ ᓴᑦ

ᐱᓯᒃ ᑎᑦ

day ᐅᑉᓗᖅ	Terr. ᓂᕐᔪᑦ	No. ᖃᑦᓯ	Adults ᐃᓐᓇᖅ M ᐊᖑ	Adults ᐃᓐᓇᖅ F ᐊᕐᓇ	Calves ᓄᕐᖅ M ᐊᖑ	Calves ᓄᕐᖅ F ᐊᕐᓇ	Place ᓇᑭᑦ	Zone ᓇᓯᐅᑦ

Comments ᐅᖃᐅᓯᒃ ᓴᑦ

ᑎᒻᒥᐊᑦ fowl

day ᐅᑉᓗᖅ	bird ᑎᒻᒥᐊ	No. ᖃᑦᓯᑦ	Place ᓇᑭᑦ	Zone ᓇᓯᐅᑦ

Comments ᐅᖃᐅᓯᒃ ᓴᑦ

ᐃᖃᓗᐃᑦ fish

day ᐅᑉᓗᖅ	fish ᐃᖃᓗᒃ	No. ᖃᑦᓯᑦ	lbs. ᐅᖁᒪᐃᓂ	Place ᓇᑭᑦ	Zone ᓇᓯᐅᑦ

Comments ᐅᖃᐅᓯᒃ ᓴᑦ

date ᐅᑉᓗᒥ ______ Fieldworker ᖃᐅᔨᓴᖅᑎ ______

ᒫᖃᐃᑎᑦ ;

ᑭᓪᓕᖅᒥ ᐆᒪᔪᓂᐱᑦ ᔪᐊᑯᑦ ᖃᐅᔨᓴᖅᑏᑦ ᑕᕝᑕᒪᑦ ᐳᓛᕆᐊᒍᑦ ᐊᐱᖅᓱᕐᑎᐊᖅ ᑐᖅᓗᑎ ᓂᕐ ᔪᑎᓂᖅ ᐱᑕᓚᐅᖅᑕᑦ ᓂᖅ, ᐊᖑᑕᑎᓚᐅᖅᑕᑦ ᓂᖅ, ᖁᓚᓂ ᑎᑎᕋᑦ ᐱᖅ ᓴᖁᑦ ᓱᓇᐅᓂᒥ, ᖃᑦᓯᐅᓂᒋᓗ ᑎᑎᕋᖅᑕᐳᐃᒥᑦ ᐃᑲᔪᕆᔭᐅᖅᐳᑎᑦ.

To all hunters:
Our harvest study fieldworker will interview you at the beginning of each month to collect your monthly kill record. Please list all animals you have harvested on the above form. Your cooperation is appreciated.

Fig. 5. Calendar used for data collection in the Keewatin harvest study from January to September, 1983.

kill etc.) to the hunter and because most hunters needed instructions in Inuktitut. A replacement was provided in January, 1983 (Fig. 6), and 1300 copies (1000 Inuktitut, 300 English versions) were produced and distributed. The 1983 diary was sectioned into semi-monthly units, listing all the major species normally harvested and included eggs as a category.

DATA ANALYSIS

The system used to analyze the harvest data and to arrive at estimates of the total hunter kill by community required several steps. Beginning on the first day of each month the fieldworkers began interviews so that they could divide the hunter population for each community into the survey categories defined below and list the number of animals killed per species for successful hunters that were interviewed. This monthly interval was defined as an interview period during which harvest statistics were collected from hunters for the previous month of hunting. The fieldworker submitted this information to the Project Office where the data were summarized each month against a master list of hunters for individual communities and then entered into the computer. The numbers in some categories were subsequently adjusted the following month (i.e. the second month past the actual hunting episode) if acceptable reports were submitted by fieldworkers on hunters who had been interviewed after a particular interview period had passed.

	Definition	Category
1)	The number of hunters who report taking a harvest during an interview period (i.e. successful).	A
2)	The number of hunters who report they were not successful in taking a harvest during an interview period (i.e. unsuccessful).	B
3)	The number of hunters who report they did not hunt during an interview period (i.e. didn't hunt).	C
4)	The number of hunters who were out hunting during the interview period but who were not interviewed (i.e. hunted but not interviewed).	D
5)	The number of hunters who were out of the area of the harvest survey during the interview period for any reason (i.e. out of hunt area).	E
6)	The number of hunters within the harvest study area during the interview period whose activities were unknown (i.e. activities unknown).	F

It should be noted that the number of hunters in categories D and E for any month is usually known with a high degree of accuracy because of the small size of the communities involved and common local knowledge concerning the whereabouts of individuals, especially when it pertains to trips outside the local area.

Subsequently the summarized monthly information from fieldworkers contained in categories A, B, C and E, concerning the number of hunters involved in the harvest and those that obtained kills, was used to calculate ratios of hunter success and participation. Participation ratio refers to the percent of hunters in each community that were interviewed as part of the study in relation to the total number of hunters that could have hunted each month. The hunter success ratio was applied to hunters in categories D and F to obtain an estimate of probable hunter success within these groups. The results for all categories were summed to get an estimate of total hunter success and to calculate the theoretical kill factor. This is the value by which the reported kill per species is multiplied to arrive at the estimated harvest.

For the purpose of this analysis four main assumptions were made:

1) The involvement of hunters in the harvest is the same for those whose activities are unknown as for those that are known.
2) The success ratio is the same for hunters who hunted in the unknown categories as for the known categories.
3) The probability of a kill of any individual animal is the same for all species when calculating the estimated harvest.
4) Reported kills are accurate.

Appendix 2 provides an example of the steps taken in arriving at an estimate of total monthly hunter kill and participation by community using data from Eskimo Point, September, 1982. Table 15 lists the theoretical kill factors that were calculated for each month of the study for each community.

DATA PROCESSING

It was anticipated from experience with other harvest studies that there would be a large volume of time sequential data collected. The project was designed to make use of computers to accommodate the timely analysis of this material, to eliminate transcription errors as far as possible, and to allow efficient manipulation of the data.

In the project proposal it was suggested that the study use computer services available at the Institute of Animal Resource Ecology, University of British Columbia. However, early in the study it became evident that it was more practical to purchase a micro-computer and analyze the data collected at the project headquarters in Eskimo Point with programs specifically developed for that purpose. This eliminated time delays and communication problems inherent in using a distant facility.

The computer hardware used included an Apple II plus micro-computer with two disc drives, an Apple III monitor, and an Epson MX-100 printer. Software was based on a data base by Stoneware (DB Master 1982) with additional verification of data using Basic programs developed by Hayward Computer Services, 1983.

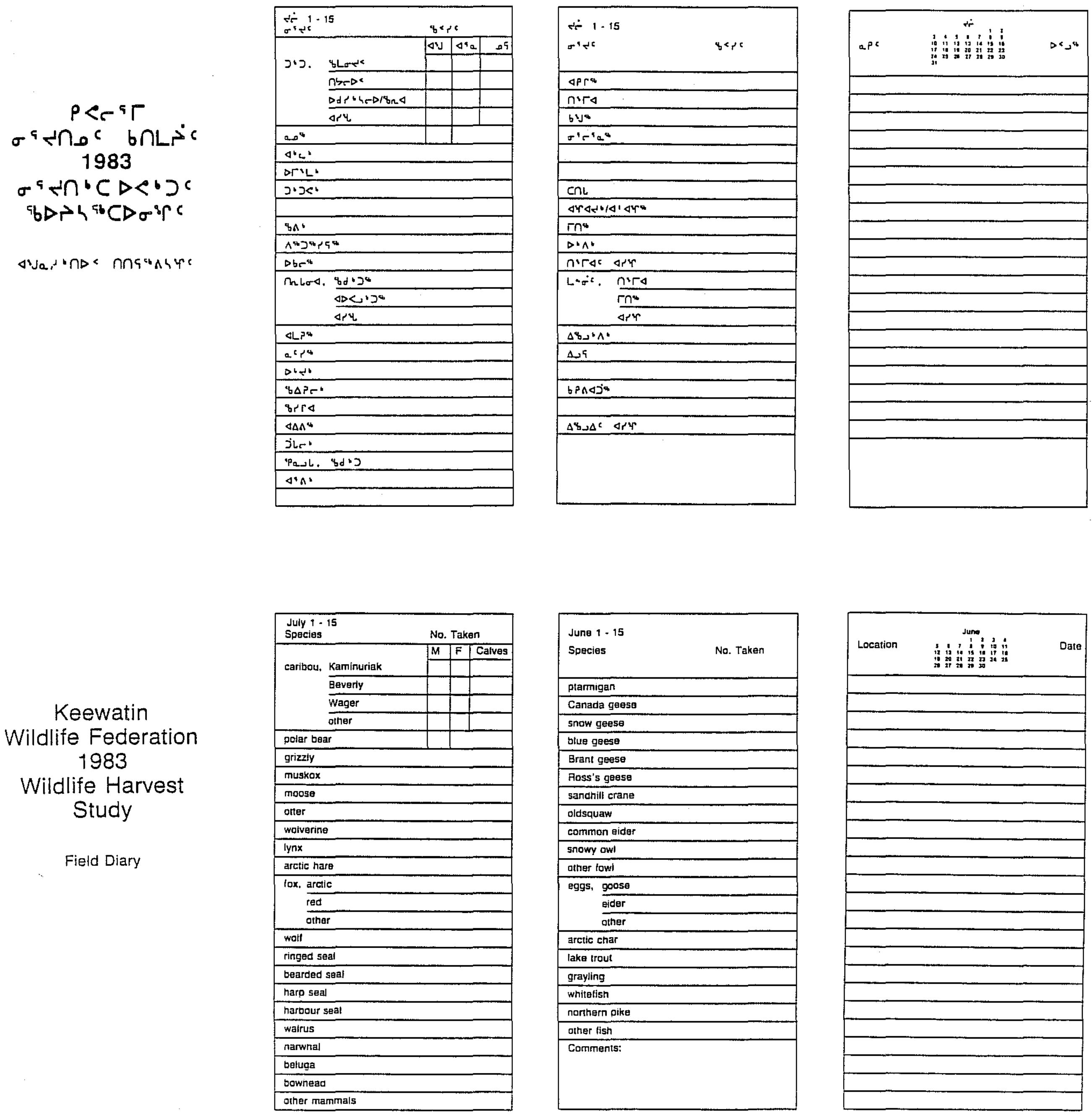


Fig. 6. Example of the field diary in Inuktitut and English provided to hunters from January to September, 1983.

The harvest system data was organized on the computer into eight interrelated subsystems: entry, participation, hunters, zones, animals, transfer, annual and monthly. These are described below. Each subsystem consisted of a DB Master data structure which was used to enter, modify and search the data, and to generate various reports.

Entry

The Entry subsystem allows input of the information gathered from hunter interviews into the harvest study system. Entering the data from each community was normally performed once a month. The first step was to write the hunter and animal codes on the monthly interviews. The entry diskette contains the information for one community gathered over one year and each entry file contains the following: a code for the community, the month, the hunter code, the animal code, the sex code, the zone code, the number of animals harvested, and the calendar year. After the kill numbers for the month are entered, the monthly reports of the entry subsystem may be generated to validate the hunter interviews that have just been entered. However, the edited report generated by the Transfer (edit) Program is a better report to use for editorial purposes because of the verification process noted below.

Participation

The Participation subsystem provides statistics concerning the monthly involvement of hunters in the various harvests and a calculation of the theoretical kill factor. Both community participation in the study and the theoretical kill factor are based upon the monthly summaries submitted by the fieldworkers in each community. The participation data is identified by the community code together with the year and month in which the harvest occurred. This information is listed in the categories defined above under the section on data analysis. The theoretical kill factor is used to adjust the reported harvest to a computed value for those hunters who were not interviewed. Appendix 2 provides a numerical example to show how these estimates were calculated.

The theoretical kill factor was not used when those hunters that were successful were the only data supplied by a fieldworker for a given month. This would simply adjust the reported harvest by a multiple of total hunters while nothing would be known about the involvement of all the hunters in the harvest. Instead, in such an instance, it was assumed that the reported harvest was a better estimate of the actual harvest for a community in that particular month.

Hunters

The Hunters subsystem is a list of all of the hunters participating in the harvest study. The harvest study does not record the harvest by an individual hunter's name to protect anonymity; rather each hunter is assigned a code. The Hunters file includes a community code, a four digit numeric code for each hunter, birth date, age class, current year, and current month.

For the purposes of this study the hunters are classed by their ages. Age class is automatically calculated from the birthdate and the current date. Age classes used for the purpose of this study were: 0-15, 16-30, 31-45, 46-60, 61-75, and 76-99. The design of the program dictated there had to be a category for hunters with unknown ages. The age group 76-99 was used for this purpose because only 8 hunters of known age fell within this group. Figure 7 shows a graphical presentation of the age structure of the population by community and the hunter subpopulation for the District of Keewatin.

Zones

The Zone subsystem is the most tractable for the location of hunter kill. The area covered by the harvest study was divided into zones of equal size (Fig. 1) and each kill was reported by zone. The zones were coded, south to north (a to z), and east to west (0-21). Each kill was reported by zone and verified against a stored list of valid zones. A feature of this subsystem is that new zones can be added or unused ones removed as the study progresses.

Animals

The purpose of the animal subsystem is to provide a list against which each hunter's monthly interview can be compared. The subsystem contains a list of all animals that are reported in the harvest study and is divided into five classes: terrestrial mammals, marine mammals, fowl, fowl eggs and fish. The first character of the four number code distinguishes the class, the second the species, the third a particular group (e.g. herd for caribou, sea-run versus landlocked for Arctic charr), and the fourth, the sex.

The animal subsystem also contains an arbitrary maximum kill number for each species which is used as a check on the validity of the harvest reported by an individual hunter for a given species. Should the reported kill level exceed the maximum provided in this file, the reported value can be checked and adjustments made as required. This maximum is an indication of the expected harvest for each species and is based on historical information from hunters.

Transfer

The Transfer (edit) subsystem receives the hunter's monthly interviews previously processed by the Entry subsystem; verifies them against the lists contained in the hunter, animal, and zone subsystems; generates an edited report; and transfers the harvest data to the Annual and Monthly subsystems.

Annual and monthly

The Annual and Monthly subsystems each contain the results of the harvest interviews (edited) over the harvest year for a community.

These subsystems generate reports and statistics for the study. Both Annual and Monthly subsystems can generate three types of reports: reported harvest, estimated harvest, and a report listing the contents of the file. The Monthly subsystem generates statistics by species, for a given month, whereas the Annual subsystem summarizes the data over a twelve month period. Both provide a mean and standard deviation for the estimated harvest for each species. Tables 1 to 14 are the product of these systems.

EDIBLE WEIGHT

Edible weight in kilograms was calculated for each species by multiplying the reported and estimated harvest by the weight values provided in Table 16 which were compiled from the sources listed. Metric conversion was used for those sources that gave values in other measurements.

In the case of beluga and narwhal the mean length of the sample taken by Sergeant and Brody (1969) was assumed to represent the mean size of harvested animals in this study. This was converted to weight by sex from the formula given in that reference. Estimated sex ratios for the harvested whales were determined from hunter interviews. The quantity of edible blubber for both whale species was determined by multiplying the mean weight by 43.4% (Sergeant and Brodie 1969).

The mean weight for male and female bird species were combined to obtain an average. This value was multiplied by 60% (a standard used by poultry producers) to obtain an estimate of edible weight.

Edible weight values for fish were calculated using the conversion values provided by Keleher (1964). This reference did not provide a conversion value for Arctic grayling but it was suggested that the value given by Keleher for whitefish could be used (A. Kristofferson, DFO, Winnipeg, personal communication).

Total edible weight values for country products harvested by a given community were calculated from the estimated harvest. These figures were then divided by the number of days the harvest represented and the Inuit population of the community given in Table 21 to obtain the edible weight $day^{-1} \cdot person^{-1}$.

A weight estimate of edible country products was chosen rather than a cash value estimate, because by this method the data can be interpreted under prevailing or future market conditions simply by converting the weights by the current price. Similarly, a cash value was not provided for such products as furs, narwhal and walrus tusks, as these items are subject to a wide range of market conditions. For reference a table of prices for beef and fowl that were current at the time of the study are provided in Table 22. Some non-edible country products have a cultural significance such as caribou hides and bone, but there is no standard criterion upon which to determine their economic value.

RESULTS

Tables 1 through 14 summarize the results from analysis of the data collected between October, 1981, and September, 1983. Odd numbered tables (1 through 13) provide the reported monthly harvest by species expressed as numbers of animals, and gives the percent of hunters reporting each month, while even numbered tables (2 through 14) give the reported and estimated annual harvests. The mean monthly harvest per hunter and standard deviation about the mean are also included.

Tables 1 and 2 give information for the community of Baker Lake, and cover a ten month period for 1981-82 and an eleven month period for 1982-83. More hunters participated in the harvest survey for the latter than in the former interval. The separation of the caribou harvest into particular herds is a difficult problem in the Baker Lake area because the community has seasonal access to at least three herds, perhaps four. In conjunction with Inuit visual reports and GNWT data on herd movements, kills were assigned by the author as the best educated "guess" of which herd was occupying a particular area at a given time.

Tables 3 and 4 give harvest levels for the community of Chesterfield Inlet. Uniform data collection was not achieved until August, 1982. In Tables 3 and 4, caribou were treated as separate groups designated as occurring north or south of Chesterfield Inlet (i.e. the water body). Animals south of Chesterfield Inlet are known to come from the Kaminuriak herd but those animals north of the Inlet cannot be assigned to a particular group because definite population boundaries have not been defined.

Tables 5 and 6 combine the data that could be obtained from the community of Coral Harbour because consistent monthly data collection did not begin until June, 1982, due to difficulties in obtaining a regular fieldworker. Coral Harbour is distinctive from other communities in this region because its principle animal resources are marine.

Tables 7 and 8 give the information for the community of Eskimo Point and contain the most complete set of data collected for any community in this study. The 1982-83 estimated results are as little as 4% higher than the actual reported harvest for species such as caribou, indicating that an almost complete coverage of hunters was obtained.

Tables 9 and 10 give the data collected from November, 1981, through June, 1983, at the community of Rankin Inlet. For the 1981-82 interval the estimate covers 11 months, November through September, while the estimate for the 1982-83 period is for 12 months. The irregularity of reporting in 1982-83 caused a wider margin of error in estimated values for this period when compared to 1981-82.

Data collection has been constant over the last two years at the community of Repulse Bay but improvement is needed in the efforts of

fieldworkers to collect all available reports and to solicit as much data as possible on all species harvested. Tables 11 and 12 give the data collected for this community.

Tables 13 and 14 show the harvest reported by the community of Whale Cove from October, 1981, to March, 1983. Reporting was consistent for this period. However, the project was unsuccessful in finding a replacement fieldworker from April, 1983 until September, 1983, and data is missing for this interval.

Table 15 gives the monthly theoretical kill factors which were used in determining the estimated harvest for each community. Error is greater for those values significantly larger than 1. As values approach 1 the estimated harvest approaches the reported harvest. At 1, one hundred percent of the hunters have been interviewed and the actual harvest has been obtained for a given month. Those values which were bracketed in the table were not used because only those hunters that were successful were reported, therefore the success ratio and the participation ratio could not be calculated.

Table 16 gives the estimated individual species values for edible weight (kg) used to calculate the total edible weights given in Tables 17, 18 and 19. These individual values were defined using the existing information sources noted.

Tables 17 and 18 give the reported and estimated edible weight (kg) values by species for each community for the periods October, 1981, to September, 1982, and October, 1982, to September, 1983, respectively. The total annual reported and estimated edible weight per species was simply divided by the number of months within a calendar year that the community participated in the survey to arrive at the monthly average.

Table 19 provides the total estimated edible weight (kg) by community and class (terrestrial mammals, marine mammals, fish and fowl) for October, 1981, to September, 1983. Estimated edible weights per species were calculated monthly to obtain the totals for each category given in this table. The percent of the total estimated edible harvest for each category is also provided. Table 20 gives the estimated edible weight (kg) of meat available per person per day for a given community. Edible meat is defined as including the flesh of all species of terrestrial mammals, marine mammals fowl and fish. Population figures used were from the same sources noted in Table 21. Three communities (Eskimo Point, Repulse Bay, and Whale Cove) appear to have reduced their gross harvest levels between survey periods whereas Baker Lake, Chesterfield Inlet, and Rankin Inlet have remained relatively constant in their community harvest for the two periods of survey. It is difficult to make any comparisons between periods for Coral Harbour because of the few months for which there are data and because those months are not the same for each period.

Table 21 shows the age distribution of the general population and hunters for the seven communities of the Keewatin region. These values were used to produce Fig. 7.

Table 22 provides a list of prices (February, 1984) for meat and fish sold commercially in the NWT. These can be used to determine a current commercial value of country products to Inuit during the time of the study.

DISCUSSION

The results given in Table 1 through 14 demonstrate that data collection over the last two years was highly variable both within and between communities. This can be attributed to several factors:

1) collection effort;
2) lost data;
3) the high turnover of fieldworkers in some communities;
4) the social significance of particular species;
5) the recall of individual hunters;
6) availability of species to harvest;
7) translation difficulties within the social context;
8) financial and managerial difficulties, and
9) information flow.

These are discussed below.

Comparison of fixed quota levels placed on certain species (e.g. narwhal and polar bear) with the results in Tables 1 to 14, shows that some reported harvest levels from this study are not in agreement with those reported by government agencies. This problem is a difficult one and has not been resolved.

COLLECTION EFFORT

One of the major objectives of this study was to try and involve all Inuit from the region as participants in the study in order to acquire an approximation of the kill that is as close to the actual harvest as possible, or to obtain at least a statistically secure estimate of the harvest. The entire system is dependent upon fieldworkers contacting as many traditional users of wildlife as possible, and the subsequent cooperation of hunters in providing the necessary information. Although the study was based on sound scientific principles, putting these into practise was difficult for several reasons.

Socially, this kind of data collection is foreign to the Inuit culture and there is a reluctance to divulge information of this sort especially to strangers. This problem is not unique to Inuit. Cooperation has increased in this situation largely because of the involvement of the Keewatin Wildlife Federation and because the majority of project personnel are Inuit.

Participation is a measure of the amount of effort (number of contacts) made by field-

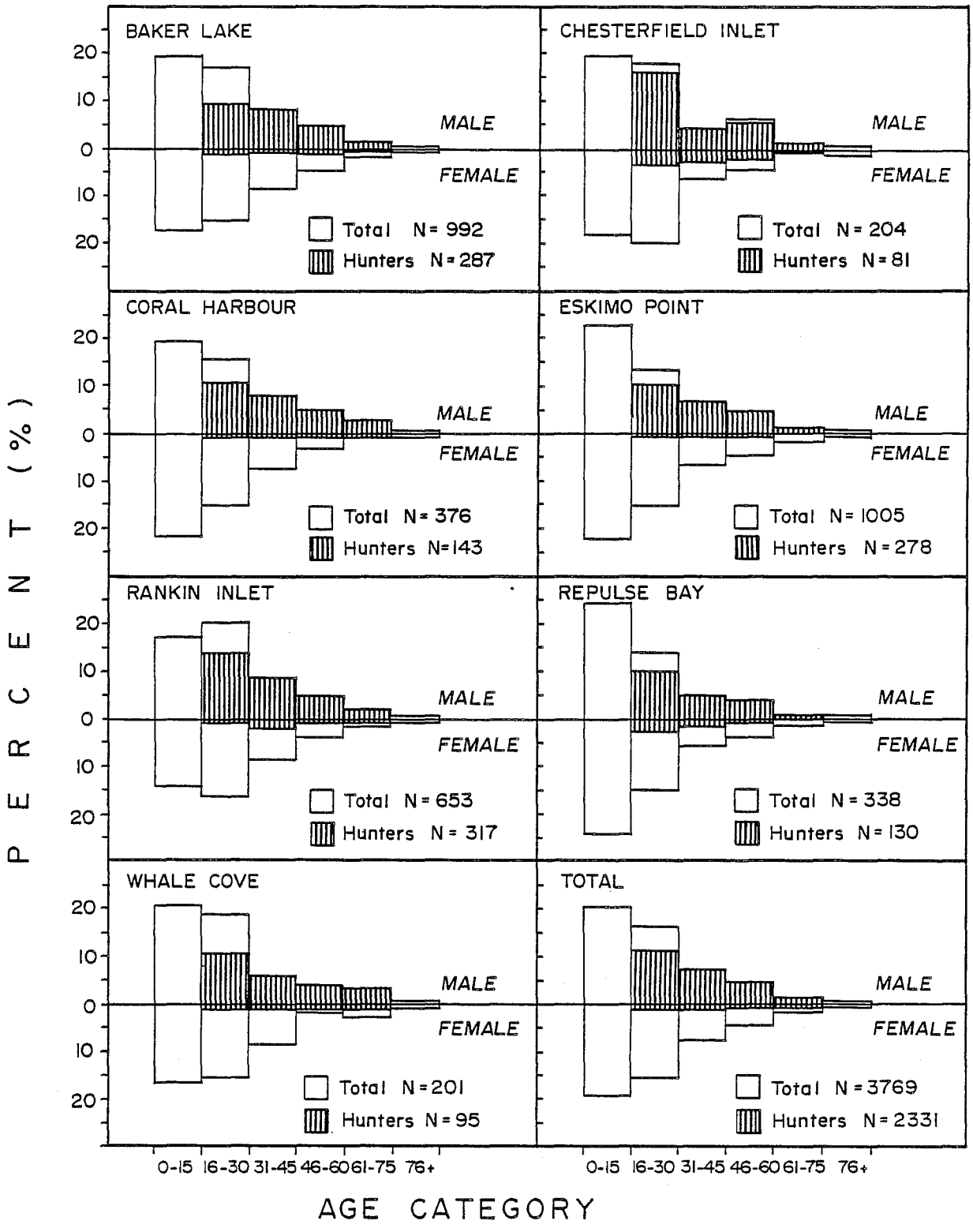


Fig. 7. The age structure of the population of the District of Keewatin by community and the age distribution of hunters within communities.

workers at a community level and this effort directly affects the results that were obtained. The worker must make an effort to contact all hunters and/or collect all the relevant species specific data. Data may be incomplete for particular species if all hunters are not contacted or the fieldworker fails to record all the data. Low participation rates or high theoretical kill factors (Table 15) are a measure of collection effort and can be used by the project manager as an indication where specific attention is required especially when dealing with newly hired fieldworkers.

All communities, except Eskimo Point, have recorded low participation values in the study for some periods. This situation can be attributed to a variety of causes including a fieldworker not fully comprehending the nature of the work; low performance standards being set by the fieldworker; proximity to the project office (i.e. help is closer and more easily obtained); or perhaps due to a possible error in the assumptions used to calculate participation rates and the theoretical kill factors.

In calculating the participation rate one must have information on the total number of hunters in order to arrive at an estimated value. Initially this number was defined as the number of general hunting licence (GHL) holders in each community but in some communities (Eskimo Point, Baker Lake, Rankin Inlet and Whale Cove) fieldworkers included non GHL holders in the survey while in others (Repulse Bay, Coral Harbour) the number of GHL holders listed was greater than the actual numbers of hunters (i.e. some GHL holders were not resident or did not hunt). Therefore, as pointed out in the introduction, the definition of hunter had to be expanded to include Inuit hunters without GHL's, youths who hunt regularly, and long-term residents of other ethnic origin. Where the number of hunters exceeded those listed as GHL holders, the total of the actual number of hunters interviewed and the number whose whereabouts were known was used on any given month. Chesterfield Inlet lists 59 GHL's. Fifteen of these are known to have moved and 2 are deceased, but on a given month 60 reports are usually received from individual hunters. In contrast, Repulse Bay has yet to exceed 70 hunters although the GHL's are listed as 90. Yet it appears the fieldworker in this community is making a concerted effort to collect all information.

This information suggests that in some communities the estimated harvest might be underestimated and in others, overestimated. The only way to maintain or to improve the current level of accuracy is through continual checking and updating of hunter lists within each community.

LOST DATA

Baker Lake, Chesterfield Inlet, Coral Harbour, Rankin Inlet, Repulse Bay, and Whale Cove are missing data for one or more months. The missing information for October, 1981, was the result of insufficient lead time in initiating the study. The remaining gaps were either because information was not provided (Chesterfield Inlet, Coral Harbour, Repulse Bay and Whale Cove) or because reports were lost in the postal system (Baker Lake). Usually data was not provided because a community fieldworker had resigned without the project headquarters office being informed, or due to difficulties in finding replacements to collect information once resignations were known. The solution to this problem is constant communication with fieldworkers in communities and to enlist the support of the KWF in finding replacements. To prevent further losses of data in the postal system fieldworkers were asked to send reports via the GNWT internal mail system or by registered (collect) mail.

FIELDWORKER TURNOVER AND INEXPERIENCE

The turnover rates for fieldworkers varied between communities but in several instances, as pointed out above, data was lost due to insufficient notice of termination of service. Over two years Eskimo Point has had three fieldworkers, Rankin Inlet four, Whale Cove one, Baker Lake two, Repulse Bay two, Chesterfield Inlet four and Coral Harbour more than six (the exact number is uncertain for this community).

Since the study was structured so that fieldworkers collected data the month following the actual harvest and because mail delivery normally took up to two weeks, information from the previous month was not expected at least until the end of the month following the hunting episode. Unannounced resignations by fieldworkers frequently resulted in the loss of data due to the protracted time period which occurred. Hunters, when finally interviewed, could not recall with any degree of accuracy what they had harvested during a given month once more than six weeks had passed.

Another contributing factor is that new untrained fieldworkers typically have low production levels for the first few months, primarily caused by inexperience.

Fieldworker meetings were scheduled once a year to help diminish such problems but due to the high turnover between these sessions, this system was not totally effective. As pointed out in the previous section the most effective remedy seems to be continual checking with fieldworkers in communities and scheduling periodic visits but this latter action adds significantly to the cost of the study.

SOCIAL SIGNIFICANCE OF SPECIES

Within communities wildlife can be divided into two groups: high profile and low profile species. A high profile species is one which has a high economic and cultural importance (e.g. caribou, polar bear, Arctic charr, etc.) and is usually identifiable at a local level but not on a regional basis because availability to harvest influences importance (i.e. high profile

species differ between communities). Low profile species usually have low economic or cultural importance (e.g. Arctic cod, ptarmigan, Arctic hare, etc.).

The significance of high and low profile species becomes clear when reviewing the data. Within communities high profile species are typically recorded accurately, whereas, low profile species are reported infrequently or not at all.

Seasonal abundance and the availability of viable alternatives also dictates whether a species is of particular importance at a given time of year and is therefore reported in the harvest. For instance snow geese usually arrive early in the spring and are the most abundance goose species. This means that they are the species most commonly harvested and reported (e.g. 1982). By the time other species such as Canada geese arrive, most harvesting needs have been met. However in 1983 snow geese were not available due to a late spring. Canada geese were available and abundant (although not nearly so numerous as snow geese normally are) and this was the species commonly harvested for that spring.

Some fish species provide another example. When anadromous Arctic charr are available in sufficient quantities to meet community needs, lake trout are not reported or harvested in large quantities. However, when charr are not abundant as occurred in 1983, lake trout and other species such as whitefish and northern pike, become more important to fishermen and frequently appear in the reported harvest.

There is also a problem with terminology. Baker Lake Inuit will call lake trout 'Iqaluq' while Rankin Inlet Inuit use 'Iqaluq' to mean Arctic charr. If other fish species are harvested a more distinctive term is used. This is also true for other species. For example to an Inuit fox always means Arctic fox and seal means ringed seal. However geese can mean either snow or Canada geese while eggs always refer to goose eggs.

The estimated harvest provides an accurate indication of a community's need for, and use of, high profile species but may underestimate the harvest of low profile animals and hence give a false impression of their importance. In this study when a species is reported at all it demonstrates that a particular resource is used by the community. Even low profile species reported in small numbers should not be overlooked in considering opportunities for increased or alternative harvests.

RECALL BY INDIVIDUAL HUNTERS

The study provided both calendars and field diaries to hunters but verbal reports by fieldworkers suggest that many hunters recall harvest data from memory rather than using these forms. Most hunters can recall this data accurately when contacted near the beginning of the month following a hunting episode but on occasion some individuals did not differentiate between similar species, nor were they able to recall particular species, sex or the number harvested exactly.

In addition when large numbers of a species are harvested within a short period of time there is a tendency to underestimate the actual number of animals taken. This results in the harvest of species such as Arctic fox and Arctic charr being underestimated, especially in a year of high abundance. Also some low profile species are frequently included in the harvest of a more commonly recognized relative (e.g. white fronted geese are generally included with snow geese).

In the rare instances when data was so anomalous that it could not be substantiated, then that information was considered to be unrealiable and not used for the purpose of the study. An example was the receipt of summary harvests for a community well after (i.e. several months) an interview period, with no individual data sheets. It was not possible to verify the summaries by going back to individual hunters because of the recall problem and the summaries were not included for that community.

AVAILABILITY OF SPECIES

The assumption that any edible species that is locally available, accessible, and culturally acceptable will be harvested is generally correct for Keewatin communities.

Availability, defined here as a species being present and accessible to hunters, directly effects the composition of the harvest. For example, flooding and ice breakup during late spring prevents access to some species of terrestrial and marine mammals which are normally of prime interest to hunters. During the same period waterfowl are available and accessible to almost any inhabitant of coastal communities. Hence, waterfowl, for a short period, become a primary species for harvest. Similarly, during freeze up in the fall, whitefish in inland lakes become accessable to Inuit using nets and are also used more heavily in those years when Arctic charr abundance is down (e.g. Eskimo Point, 1981 and 1983).

Besides seasonal fluctuations, geographic location also has an effect in the species composition of the harvest. Coral Harbour has a restricted access to caribou and therefore tends to rely more heavily on marine mammal resources. In contrast, Baker Lake hunters harvest two primary species, caribou (from three herds) and lake trout. The remaining Keewatin communities harvest a broad range of species as shown in Tables 1 to 14.

TRANSLATION

Inuit have a number of recognizable dialects of which several are evident in the Keewatin. Neither the harvest study staff nor the Keewatin Wildlife Federation are linguists and

dialectic anomalies have caused some difficulties in translation. The two major problems were related to the correct translation of hunter and place names.

Inuit names translated from syllabics, frequently interchange letters, for instance, Q's and K's and O's, A's and U's. A name such as 'Owlajoot', may be spelled 'Auladjut' or 'Ulajut'. In some communities two persons with the same Christian name (e.g. Fred) may also have the same last name when the syllabic spelling is used, but a distinctive surname in English (ie. one uses 'Auladjut' and the other 'Owlajoot'). A distinct inflection in pronouncing the name in Inuktitut may distinguish an individual. However, unless one is fully familiar with the community these distinctions are difficult to recognize. Using community lists and discussion with our workers have removed some of these difficulties.

Translation of place names is also a problem in identifying where particular species were harvested. Inuit have distinctive names for rock formations, valleys and lakes. Since no known English names exist for these localities, translation is sometimes impossible. To alleviate this situation a zone system (Fig. 1,B) was devised, although not in time for inclusion in this report. In future this will allow greater precision in designating the location for kills. A map printed in syllabics would have to be produced to provide finer distinctions.

FINANCIAL AND MANAGERIAL CONSIDERATIONS

Though overall funding was adequate, delays in scheduling interim payments frequently impeded operations. A problem might be recognized early, but low cash balance prevented immediate action being taken, leading to extra costs and lost data. This was particularly the case in the early part of the harvest study (1981-82) until the steering committee provided a $10 000.00 advance. Delays in the decision making process also impeded the study but this was primarily due to this project being experimental and in its preliminary stages.

INFORMATION FLOW

Analysis of data is dependent on the smooth flow of reports from the fieldworker to the project manager and subsequently to the biologist for analysis. Failure to collect complete data occurred at all levels and disrupted the process.

At a community level, it was assumed that the fieldworker would act as liaison between the Project administrative office and the people. This did occur in all communities except Coral Harbour where there is still a definite need for community consultation to encourage involvement in the study. Because of the low involvement level at Coral Harbour there are currently gaps in the data describing that community's harvest. It should be noted that fieldworkers were also assisted in local liaison by the Keewatin Wildlife Federation and this proved to be very useful.

The fieldworker must be recognized as the most critical link in data collection. They must be thorough in collecting all the available data. Even when involvement in the study approaches 100% it is necessary that all species are recorded accurately.

At the Project office, the data should be translated immediately so that problems can be dealt with as quickly as possible and the most effective follow-up taken. Delays in loading data into the computer resulted in the loss of valuable information due to the inability to backcheck accurately because of the time that had elapsed.

CONCLUSIONS AND RECOMMENDATIONS

The Keewatin Wildlife Federation Harvest Study has been successful in its attempt to elicit statistically valid harvest information from hunters using a survey technique common in a Euro-Canadian setting but intrinsically foreign to the Inuit. The preliminary work has laid the foundation for an imaginative process which has involved native people in the gathering of harvest statistics. This information will be important for jointly establishing a wildlife management rationale for the harvest of species which are of national interest and very particular cultural importance to Inuit. Continued cooperation amongst harvesters and wildlife managers will ensure the long term well being of wildlife in this region.

The results obtained when examined superficially, indicate that this study was not an unqualified success because of data gaps and variability in participation in the project by hunters. However, when viewed as a preliminary study, the project was worthwhile. Most objectives were met with some degree of success. Tables 1 to 14 provide estimates of kill by Inuit living in the Keewatin region based on data provided by 1331 individual hunters (Table 21) over the course of the study. This is an accomplishment that was not possible previously. The approach is reuseable but requires refinements of the basic techniques that were used. It is recommended that the following should be implemented for continuation of the study:

1) a secure base of funding be established;
2) fieldworker training should occur at the community level;
3) calendars should continue to be provided;
4) an evaluation be carried out to determine the effectiveness of calendars versus field diaries as a means of recording data;
5) office personnel should be subjected to an annual evaluation and provided with recommendations for improvement, and
6) there should be further development of the computer programmes used and data

retrieval. For instance a plotting capacity would be an asset because then maps of hunter kills could be generated.

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Table 1. The reported harvest by Baker Lake hunters, expressed as number of animals, for the period November, 1981 to July, 1982, September, 1982, and November, 1982 to September, 1983.

Species	Category[1]	1981 Nov.	1981 Dec.	1982 Jan.	1982 Feb.	1982 Mar.	1982 Apr.	1982 May	1982 June	1982 July	1982 Sept.[2]	1982 Nov.	1982 Dec.	1983 Jan.	1983 Feb.	1983 Mar.	1983 Apr.	1983 May	1983 June	1983 July	1983 Aug.	1983 Sept.
Caribou																						
Kaminuriak	M	181	144	116	91	84	53	150	4	190	313	42	45	85		26	232	128		211	168	198
	F	114	122	161	151	73	46	8		1	129	184	60	201		39	102	33		22	39	192
	C										5											
	U				19	7																
	Subtotal	295	266	277	261	164	99	158	4	191	447	226	105	286		65	334	161		233	227	390
Beverly	M	21			3	4	14	5		4	15	11			73	141	174	280		157	38	40
	F	21		5	15	18	9				2	27			226	91	84	38		20	7	47
	C											4										
	U	60																				
	Subtotal	102		5	18	22	23	5		4	17	38			303	232	258	318		177	45	87
Wager Bay	M										5								290	163	180	311
	F																		96	22	55	143
	U																				3	
	Subtotal							5											386	185	238	454
	Total	397	266	282	279	186	122	163	4	195	469	264	105	286	303	237	592	479	386	595	510	931
Muskox						6										11						
Arctic fox		13			28	35	16					393	140	30	6							
Wolf				2		8	1					6				3		2				
Ringed seal																		1				
Ptarmigan		4																				
Charr		128																				
Lake trout[3]		8 744	2 154			188	164										366	788		1 831	181	
Whitefish																	224	52				
Other freshwater fish					80																	
Percent of hunters reporting		27.3	18.6	45.5	56.4	49.5	40.9	57.3	39.5	41.8	90.9	94.1	94.5	99.6	85.5	91.8	95.7	93.2	94.5	92.3	95.9	92.7

[1] Categories are as follows: M means male, F means female, C means calf, and U means unknown.
[2] It should be noted that the fieldworker reports for the months of August and October 1982 were inadvertently lost.
[3] In 1981 a test commercial fishery took place in the Baker Lake area. Fishermen reported the fish caught during this activity as part of the total subsistence harvest for 1981. This one-time event has caused an over-estimate of the catch for that year. The normal long term harvest is probably more represented by the number of fish landed in 1982.

Table 2. The reported and estimated harvest by Baker Lake hunters expressed as numbers of animals. The mean monthly harvest per hunter and standard deviation about the mean are given.

Species	Category[1]	Reported Harvest Nov. 1981[2] - Sept. 1982 Total	Mean	S.D.	Estimated Harvest Nov. 1981 - Sept. 1982 Total	Mean	S.D.	Reported Harvest Nov. 1982 - Sept. 1983 Total	Mean	S.D.	Estimated Harvest Nov. 1982 - Sept. 1983 Total	Mean	S.D.
Caribou													
Kaminuriak	M	1 326	3	3	2 112	5	3	1 135	3	2	1 168	3	2
	F	805	4	3	1 275	6	4	872	4	2	903	4	2
	C	5	2	1	5	2	1						
	U	26	3	2	48	6	3						
	Subtotal	2 162	3	3	3 441	5	4	2 007	3	3	2 070	4	2
Beverly	M	66	4	3	103	6	4	914	3	2	952	3	2
	F	70	4	3	109	6	4	540	4	3	597	4	3
	C							4			5	5	0
	U	60	30	0	60	3	0						
	Subtotal	196	38	6	282	7	7	1 458	3	2	1 553	3	2
Wager Bay	M	5	5	0	6	6	0	944	3	2	986	3	2
	F							316	3	2	331	3	2
	U							3	2	1	3	1	1
	Subtotal	5	5	0	6	6	0	1 263	3	2	1 321	3	2
	Total	2 363	4	3	3 729	6	4	4 728	3	2	4 945	3	2
Muskox		6	1	0	12	2	0	11	1	0	12	1	0
Arctic fox		92	9	6	172	17	11	569	15	12	602	16	13
Wolf		11	2	1	23	4	2	11	2	2	12	2	2
Ringed seal								1	1	0	1	1	0
Ptarmigan		4	4	0	4	4	0						
Charr		128	43	4	128	43	4						
Lake trout[3]		11 250	184	690	11 678	191	691	3 166	102	42	3 236	104	43
Whitefish								276	93	43	276	92	43
Other freshwater fish		80	80	0	142	142	0						

[1] See Table 1.
[2] It should be noted that the fieldworker reports for the months of August and October 1982 were inadvertently lost.
[3] In 1981 a test commercial fishery took place in the Baker Lake area. Fishermen reported the fish caught during this activity as part of the total subsistence harvest for 1981. This one-time event has caused an over-estimate of the catch for that year. The normal long term harvest is probably more represented by the number of fish landed in 1982.

Table 3. The reported harvest by Chesterfield Inlet hunters, expressed as number of animals, for the period January, February, and August, 1982 through September, 1983.

Species	Category[1]	1982 Jan.	1982 Feb.[2]	1982 Aug.	1982 Sept.	1982 Oct.	1982 Nov.	1982 Dec.	1983 Jan.	1983 Feb.	1983 Mar.	1983 Apr.	1983 May	1983 June	1983 July	1983 Aug.	1983 Sept.
Caribou																	
Kaminuriak	M	2	2	6	1		10		4					3		5	2
	F	1	5				13		7	5							
	U									4							
	Subtotal	3	7	6	1		23		11	9				3		5	2
North of Chesterfield	M	12	2	26	31	8	3	24	19	12	31	62	23	9	47	4	10
	F	23	1		3	7	1	19	23	28	19	29	2	2	1	2	9
	C					1				1							
	U											1					
	Subtotal	35	3	26	34	16	4	43	52	41	50	92	25	11	48	6	19
	Total	38	10	32	35	16	27	43	63	50	50	92	25	14	48	11	21
Polar bear		2						1	1	1	4						
Arctic fox		7	7				192	83	53	41	34	40					
Wolf								4		1		2	1				
Ringed seal		5	3	4	25	34	2	1	1	1	7	11	7	16	17	6	11
Bearded seal					2												
Walrus											3	4			1		
Beluga				5	3											7	
Snow geese				13	6	15											
Eider						20								6			
Charr		52												55	36	55	
Lake trout				9 202		20	22				30	76	36	72	7		
Percent of hunters reporting		68.0	48.0	24.0	88.0	78.0	86.0	90.0	62.0	56.0	28.0	58.0	88.0	100	90.0	100	100

[1] See Table 1.
[2] It should be noted that consistent data collection by month did not begin until August, 1982, due to difficulties in obtaining a regular fieldworker.

Table 4. The reported and estimated harvest by Chesterfield Inlet hunters expressed as numbers of animals. The mean monthly harvest per hunter and standard deviation about the mean are given.

Species	Category[1]	Reported Harvest Jan., Feb., Aug. & Sept. 1982 Total	Mean	S.D.	Estimated Harvest Jan., Feb., Aug., & Sept. 1982 Total	Mean	S.D.	Reported Harvest Oct. 1982 - Sept. 1983 Total	Mean	S.D.	Estimated Harvest Oct. 1982 - Sept. 1983 Total	Mean	S.D.
Caribou													
Kaminuriak	M	12	2	1	16	2	1	24	3	1	28	3	1
	F	6	1	0	12	2	1	25	3	1	35	3	2
	U							4	4	4	7	7	0
	Subtotal	18	1	1	28	2	1	53	3	1	70	3	2
North of Chesterfield	M	71	3	2	83	3	2	252	4	4	335	3	3
	F	27	2	1	39	2	1	142	4	4	203	3	3
	C							1	1	0	1	1	0
	U							2	1	0	3	2	0
	Subtotal	98	2	2	122	3	2	397	4	4	543	3	3
	Total	116	2	2	151	3	2	450	3	3	613	3	3
Polar bear		2	1	0	3	1	0	7	1	0	10	1	0
Arctic fox		14	2	1	25	4	2	443	16	16	576	14	14
Wolf								8	2	1	11	2	1
Ringed seal		37	2	1	46	2	1	114	3	2	137	3	2
Bearded seal		2	2	0	2	2	0						
Seal (spp)		39	2	1	48	2	1	114	3	2	137	3	2
Walrus								8	2	1	11	2	1
Beluga		8	2	2	8	2	1	7	7	0	7	7	0
Snow geese		19	10	4	20	10	3	15	15	0	19	19	0
Eider								26	9	8	31	10	11
Charr		52	26	14	76	38	21	146	18	17	152	15	16
Lake trout		202	40	19	220	37	19	263	13	18	333	14	19

[1] See Table 1.

Table 5. The reported harvest by Coral Harbour hunters, expressed as number of animals, for the period February, 1982 and June, 1982 through April, 1983.

Species	Category[1]	1982 Feb.[2]	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1983 Jan.	Feb.	March	April
Caribou													
Coates	M			7	4								
	F		3	4	5								
	Subtotal		3	11	9								
Southampton	M				6	7	2	2	10		1		
	F					1	2	1					
	U							1					
	Subtotal				6	8	4	4	10		1		
	Total		3	11	15	8	4	4	10		1		
Polar bear			1				2	6	5				
Arctic fox		25					166	167	103	37	52	79	3
Arctic hare								9	9			3	
Ringed seal		5	156	63	39	38	42	30	52	21	20	14	4
Bearded seal		8	1	2	1	7	1					1	1
Harp seal				6	21	27							
Unknown seal		16											
Seal spp		29	157	71	61	72							
Walrus		1	5	6	7	9	5	1	1	1	3	1	1
Beluga				10	27	23			1				
Canada geese			23	241	72				9				
Snow geese			2 441			15			22				
Ross's geese			139	4	4	1							
Geese			2 603	245	76	16							
Eider			122		10	60							
Guillemot						2							
Old squaw						1							
Ptarmigan		56	96		6	121	137	151	167	26	9	34	
Snowy owl		1											
Swan			1										
Unknown fowl			3										
Brant eggs				1									
Charr		158	845	522	560	19	12	53					
Lake trout									9			145	
Cod			10										
Percent of hunters reporting		49.5	56.2	59.0	36.2	73.3	18.1	27.6	26.7	31.4	32.4	35.2	18.1

[1] See Table 1.
[2] It should be noted that consistent data collection by month did not begin until June, 1982 due to difficulties in obtaining a regular fieldworker. Only recently (January, 1984) was it possible to replace the current worker after his resignation in May, 1983.

Table 6. The reported and estimated harvest for Coral Harbour hunters expressed as numbers of animals. The mean monthly harvest per hunter and standard deviation about the mean are given.

Species	Category[1]	Reported Harvest Oct. 1981 - Sept. 1982[2] Total	Mean	S.D.	Estimated Harvest Oct. 1981 - Sept. 1982 Total	Mean	S.D.
Caribou							
Coates	M	11	2	1	23	5	2
	F	12	2	1	26	5	1
	Subtotal	23	2	1	49	5	1
Southampton	M	28	2	1	35	2	2
	F	4	1	0	4	1	0
	U	1	1	0	1	1	0
	Subtotal	33	2	1	40	2	2
	Total	56	2	1	89	3	2
Polar bear		14	1	0	15	1	0
Arctic fox		632	14	18	871	19	33
Arctic hare		21	2	2	26	3	2
Ringed seal		484	5	8	821	8	13
Bearded seal		22	2	1	35	3	2
Harp seal		54	3	3	105	6	6
Unknown seal		16	3	2	16	3	2
Seal (spp)		576	4	7	977	7	12
Walrus		41	2	1	73	3	2
Beluga		61	2	3	124	5	7
Canada geese		345	18	27	656	34	47
Snow geese		2 478	41	34	4 387	72	61
Ross's geese		148	5	4	267	9	6
Geese (spp)		2 971	27	32	5 310	48	57
Eider		192	8	10	326	13	18
Guillemot		2			3	3	0
Old squaw		1			1	1	0
Ptarmigan		803	16	21	1 051	21	30
Snowy owl		1			1	1	0
Swan		1			2	2	0
Other fowl		3			5	5	0
Brant eggs		1			3	3	0
Charr		2 169	37	58	4 180	71	118
Lake trout		154	77	68	419	210	201
Cod		10			18	6	2

[1] See Table 1.
[2] Rather than separate the data into five months for 1981-1982 and seven months for 1982-83 the data was combined into one twelve month period for this community.

Table 7. The reported harvest by Eskimo Point hunters, expressed as number of animals, for the period October, 1981 to September, 1983.

Species	Category[1]	1981 Oct.	1981 Nov.	1981 Dec.	1982 Jan.	1982 Feb.	1982 Mar.	1982 Apr.	1982 May	1982 June	1982 July	1982 Aug.	1982 Sept.	1982 Oct.	1983 Nov.	1983 Dec.	1983 Jan.	1983 Feb.	1983 Mar.	1983 Apr.	1983 May	1983 June	1983 July	1983 Aug.	1983 Sept.
Kaminuriak caribou	M	113	76	49	81	102	60	42	24	8	214	245	296	168	29	19	21	9	46	33	37	23	92	132	208
	F	135	220	38	46	52	90	92	23		28	98	199	75	54	57	98	85	235	152	97	2	20	70	148
	C		39	7							2	22	80	16	22	3	15	4	4	1	2	1	1	11	19
	U	14	4	1	20	14	21	14	10		9	65	67	21	8	23	42	24	25	39	5	1	22	18	9
	Total	262	339	95	147	168	171	148	57	8	253	430	642	280	113	102	176	122	310	225	141	27	135	231	384
Wager Bay caribou	U																								1
Polar bear			6					2							12				1	1					
Arctic fox			86	55	32	45	32	86						23	1 403	460	196	56	80	26	6				
Red fox				8			1	1							26	3	5		3	6					
Wolf				5			1	11							1					11	8				
Moose								1																	
Arctic hare				4	4		3	6						1		1	11	1	2	2	3				
Rabbit				1											1			1							
Marten																1									
Muskrat																					1				
Ring seal		62	1	2	1	3	2	5	4	31	16	121	62	68	4	6	3	4		2	2	76	29	26	12
Bearded seal		12					1		1			5		3							3	5	10	1	
Harbour seal		1											1										1	2	
Harp seal												2	2	1								3	1		1
Beluga											7	60	2										7	47	2
Canada geese									40	3		3	2								83	418			7
Snow geese									542	32			8									83			3
Eider		1																				3			
Mallard										2															
Old squaw																						7			
Ptarmigan		43	8	2	11	14	10	24	21		10	10	28		1	13	4	6		2	38	15	6	11	15
Snowy owl				1																					
Goose eggs																					1	030			
Duck eggs																						13			
Other water fowl eggs																							1		
Unknown fowl eggs																						6			
Charr		27	15	21	3	5			1	61	871	847	148	35	54	12	3				59	337	530	674	246
Lake trout		505	427	78	73	9	52	91	193	32	7	53	66	27	5		45	10	213	109	270	67		23	124
Whitefish			17	217	10																				
Northern pike			1		7																			50	33
Grayling			51	32				27				92	4							1	9			1	1
Longnose sucker																									2
Cod										47	43											44			
Sucker											2											1			
Marine fish																							13		
Percent of hunters reporting		57.5	62.8	61.1	79.6	78.3	66.4	50.0	81.4	79.2	80.5	80.1	88.2	97.3	94.7	95.6	97.8	97.0	100	97.5	96.7	95.5	96.2	98.4	97.7

[1]See Table 1.

Table 8. The reported and estimated harvest for Eskimo Point hunters expressed as numbers of animals. The mean monthly harvest per hunter and standard deviation about the mean are given.

		Reported Harvest Oct. 1981 - Sept. 1982			Estimated Harvest Oct. 1981 - Sept. 1982			Reported Harvest Oct. 1982 - Sept. 1983			Estimated Harvest Oct. 1982 - Sept. 1983		
Species	Category[1]	Total	Mean	S.D.	Total	Mean	S.D.	Total	Mean	S.D.	Total	Mean	S.D.
Kaminuriak Caribou	M	1 310	4	4	1 747	4	4	817	2	2	851	2	2
	F	1 021	4	4	1 501	4	4	1 093	3	2	1 139	3	2
	C	150	2	2	194	3	2	100	1	1	105	2	1
	U	240	6	5	317	7	6	237	3	3	248	3	2
	Subtotal	2 721	4	4	3 760	4	4	2 247	3	2	2 342	3	2
Wager Bay caribou	U							1			1		
Moose	F	1			1								
Polar bear		8			14			14			15		
Arctic fox		336	6	11	546	8	16	2 250	12	21	2 365	13	22
Red fox		10			17			43	2	1	1 46	2	1
Wolf		17	2	1	32	3	1	20	3	2	21	3	2
Arctic hare		17	2	1	28	2	2	21	2	1	22	2	1
Rabbit		1			2			2			2		
Marten								1			1		
Muskrat								1			1		
Ringed seal		310	3	3	411	4	4	232	3	3	244	3	4
Bearded seal		19	1	1	29	2	1	22	1	1	23	1	1
Harbour seal		2			3			3			3		
Harp seal		4			5			6			6		
Unknown seal								1			1		
Seal (spp)		335	3	3	448	3	4	264	2	3	278	2	3
Beluga		69	2	1	85	3	1	56	2	2	58	2	2
Canada Geese		48	2	1	59	2	1	508	6	6	545	7	6
Snow geese		582	8	6	715	10	7	86	22	19	93	23	20
Geese (spp)		630	6	6	773	8	7	594	7	8	638	8	8
Eider		1			2			3			3		
Mallard		2			2								
Old squaw								7			8		
Ducks		3			4			10			11		
Ptarmigan		181	6	6	268	9	8	111	4	3	117	4	3
Snowy owl		1			2								
Goose eggs								1 030	64	56	1 112	69	61
Duck eggs								13			14		
Unknown water fowl eggs								1			1		
Fowl eggs								6			6		
Charr		1 999	18	21	2 480	16	21	1 950	15	22	2 048	15	21
Lake trout		1 586	14	46	2 473	19	75	893	9	11	926	9	11
Whitefish		244	61	80	395	99	132						
Northern pike		8			10			83	21	18	86	21	18
Grayling		206	21	20	305	30	27	12			12		
Longnose sucker								2			2		
Cod		90	46	44	108	54	1	44	15	18	47		
Sculpins		2			2			1			1		
Marine fish								13			14		

[1]See Table 1.

Table 9. The reported harvest by Rankin Inlet hunters, expressed as number of animals, for the period November, 1981 to September, 1983.

Species	Category[1]	1981		1982												1983								
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Kaminuriak caribou	M	39	54	27	76	76	55	40	3	47	163	310	56	24	29	42	37	40	46	93	15	4	70	80
	F	122	128	110	19	57	19	3		2	19	90	15	24	39	55	54	76	40	27	2		15	12
	C										2	51	4	1	10			1						
	U				14	2							22	7	1			2				3	1	15
	Total	161	182	137	109	135	74	43	3	49	184	451	97	56	79	97	91	119	86	120	17	7	86	107
Polar bear		3	1			1	1							3			1	1		4				
Arctic fox			4	1	4	11	7					1		364	127	22	20	48	2					
Wolf				4		1	3									2	2	6	13	2				
Arctic hare				1								7				4		2						
Wolverine																				3				
Ringed seal					6	12	11	7	46	102	77	33	44	22	8	9	15	8	10	6	74	27	38	31
Bearded seal							1		1	1	5	1	4	1					4		1	1		2
Harbour seal																								1
Walrus									1						2		12			5				
Beluga										4	17	11								16				
Canada geese								24	512								2	14						
Snow geese								3	1			40						80						
Unknown geese												1												
Eider					4	2						22					2							
Ptarmigan							5	7				11	8	2		2			68				5	
Sandhill crane								3																
Charr			413		235		45	26	417	4 722	1 386	112	488	472	359	204					420	270	1 176	40
Lake trout			19		10	55	20							29			19			98				
Grayling												10												
Other freshwater fish							10	37											100					
Other marine fish																			50					
Percent of hunters reporting		92.7	57.5	92.7	66.8	71.0	33.7	51.6	45.6	63.7	22.8	96.9	61.7	64.8	100	84.5	89.1	84.5	95.9	33.7	19.2	34.2	55.4	61.1

[1]See Table 1.

Table 10. The reported and estimated harvest for Rankin Inlet hunters expressed as numbers of animals. The mean monthly harvest per hunter and standard deviation about the mean are given.

Species	Category[1]	Reported Harvest Nov. 1981 - Sept. 1982 Total	Mean	S.D.	Estimated Harvest Nov. 1981 - Sept. 1982 Total	Mean	S.D.	Reported Harvest Oct. 1982 - Sept. 1983 Total	Mean	S.D.	Estimated Harvest Oct. 1982 - Sept. 1983 Total	Mean	S.D.
Kaminuriak Caribou	M	890	3	2	1 238	4	3	536	3	2	898	5	4
	F	569	3	2	759	4	3	359	2	1	481	3	2
	C	53	3	1	55	3	1	16	2	1	19	2	1
	U	16	4	5	24	6	7	51	6	5	85	7	9
	Total	1 528	3	2	2 076	4	3	962	3	2	1 483	4	4
Polar bear		6	1	0	9	2	1	9	1	0	19	2	1
Arctic fox		28	3	2	51	5	5	583	9	13	793	12	18
Wolf		8	2	1	14	4	2	25	4	2	31	4	2
Arctic hare		8	3	2	9	3	2	6	1	0	7	1	0
Wolverine								3	3	0	9	9	0
Ringed seal		294	3	3	452	4	5	292	3	3	449	5	5
Bearded seal		9	1	0	13	2	1	13	1	0	19	2	1
Seal (spp)		303	3	1	465	4	5	306	3	3	469	5	5
Walrus		1			2			19	2	1	48	4	3
Beluga		32	3	3	35	3	3	16	3	1	29	6	2
Canada geese		536	21	17	1 177	46	37	16	4	2	20	5	2
Snow geese		44	4	3	52	5	3	91	9	8	98	10	7
Unknown geese		1			1								
Geese (spp)		581	16	16	1 250	34	36	107	8	7	118	8	7
Eider		28	4	3	31	4	3	2	2	0	6	6	0
Ptarmigan		23	5	1	48	10	8	85	8	10	228	21	29
Sandhill crane		3			9	5	2						
Charr		7 356	58	85	11 068	87	124	3 429	39	62	5 508	62	115
Lake trout		104	8	10	185	14	19	146	10	12	354	24	35
Grayling		10			10								
Other freshwater fish		47	9	11	147	29	34	100	9	6	104	9	6
Marine fish								50	50	0	52	52	0

[1] See Table 1.

Table 11. The reported harvest by Repulse Bay hunters, expressed as number of animals, for the period October, 1981 to November, 1982 and January to September, 1983.

Species	Category[1]	1981			1982											1983								
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[2]	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Caribou																								
Kaminuriak	M																				1			
	F				1																			
	Subtotal				1																1			
Beverly	M	2	2																					
	F	3	1																					
	Subtotal	5	3																					
Wager	M	59	30	19	13	18	25	29	13	53	7	64	39	8	27	49	20	31	33	27	37	46	39	43
	F	40	29	22	18	44	17	26	3		1	30	11	12	31	29	23	26	28	6	5	2	17	8
	C										3	8	4										4	3
	U				4	3	14	2		3	7	2						4						
	Subtotal	99	59	41	35	65	56	57	16	56	18	104	54	20	58	78	43	61	61	33	42	48	60	54
	Total	104	62	41	36	65	56	57	16	56	18	104	54	20	58	78	43	61	61	33	42	48	60	54
Polar bear			9	1											9		1	1	1					
Grizzly bear							2																	
Black bear																	1							
Arctic fox					5	11	8	20							4	26	16	16	16					
Red fox							1																	
Wolf					2	11	4	1	4							4		4	4	2				
Wolverine							3																	
Arctic hare		8				3							1			1	1	3						
Ringed seal		219	6	4			2	17	2	65	23	38	20	10	2		6	10	10	8	80	22	40	24
Bearded seal		1		5								4	1									1	5	3
Harp seal												1												
Seal (spp)		219	6	9			2	17	2	65	23	45	21	10	2		6	10	10	8	80	23	45	27
Walrus		10											2								3	3		2
Beluga		2										5	9									6	9	9
Narwhal											1	2											1	
Canada geese																								1
Snow geese									6	3														
Ross's geese									1	2												7		
Geese																								
Eider											3	1									9	5		
Guillemot											2	1												
Ptarmigan									30	11		52		5						2				
Other fowl																						5		
Charr		81	170	383			23		49	118	15	130	13	278	246			10			38	56	63	1
Lake trout		454	3		29		1	9	62	130			5		3			6	46	5	1			
Grayling										6														
Percent of hunters reporting		61.1	58.9	26.7	38.9	60.0	26.7	50.0	31.1	37.8	32.2	33.3	44.4	51.1	56.7	70.0	73.3	71.1	25.6	53.3	53.3	73.3	57.8	53.3

[1]See Table 1.
[2]It should be noted that the fieldworker reports for the month of December, 1982 were not received and communication delays resulted in the loss of this material.

Table 12. The reported and estimated harvest for Repulse Bay hunters expressed as numbers of animals. The mean monthly harvest per hunter and standard deviation about the mean are given.

Species	Category[1]	Reported Harvest Oct. 1981 - Sept. 1982 Total	Mean	S.D.	Estimated Harvest Oct. 1981 - Sept. 1982 Total	Mean	S.D.	Reported Harvest Oct. 1982 - Sept. 1983 Total	Mean	S.D.	Estimated Harvest Oct. 1982 - Sept. 1983 Total	Mean	S.D.
Caribou													
Kaminuriak	M							1	1	0	2	2	0
	F	1	1	0	3	3	0						
Beverly	M	4	1	0	5	2	0						
	F	4	2	1	7	3	2						
Wager Bay	M	369	2	2	788	4	5	360	3	3	550	3	3
	F	241	2	1	445	3	3	187	3	2	278	3	2
	C	19	2	1	53	5	3	7	1	1	13	3	1
	U	31	3	3	58	6	6	4	2	1	6	3	1
	Subtotal	660	2	2	1 345	4	4	558	3	3	847	3	2
	Total	669	2	2	1 359	4	4	559	3	3	849	3	2
Polar bear		10	1	0	16	2	0	12	1	0	19	2	0
Grizzly bear		2	2	0	5	5	0						
Black bear								1	1	0	1	1	0
Arctic fox		46	2	2	77	3	3	78	3	4	104	4	4
Red fox		1			1								
Wolf		22	1	1	42	2	2	14	2	1	18	2	1
Wolverine		3	1	0	3	1	0						
Arctic hare		12	2	3	20	4	4	5	2	1	7	2	2
Ringed seal		395	6	12	812	12	21	212	3	3	345	5	4
Bearded seal		11	2	1	21	3	2	9	1	0	15	2	1
Harp seal		1	1	0	3	3	0						
Seal (spp)		407	5	12	836	11	20	221	3	3	360	5	4
Walrus		12	2	1	21	4	1	8	1	1	13	2	1
Beluga		16	2	2	39	5	4	24	2	1	40	4	2
Narwhal		3	1	0	9	3	0	4	1	0	6	2	1
Canada geese								1	1	0	2	2	0
Snow geese		9	3	2	27	9	7						
Ross's geese		3	1	0	9	3	0	7	7	0	9	9	0
Geese		12	2	2	36	6	6	8	4	3	11	6	4
Eider		4	2	1	12	6	3	14	3	1	22	4	2
Guillemot		3	2	1	9	5	2						
Ptarmigan		93	13	11	242	35	24	7	2	2	13	4	4
Other fowl								5	5	0	7	7	0
Charr		982	26	38	1 764	46	58	692	38	53	1 225	64	100
Lake trout		693	26	62	1 395	52	108	61	7	12	69	6	11
Grayling		6	6	0	13	13	0						

[1]See Table 1.

Table 13. The reported harvest by Whale Cove hunters, expressed as number of animals, for the period October, 1981 to March, 1983.

Species	Category[1]	1981			1982												1983		
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March[2]
Caribou																			
Kaminuriak	M	12	14	10	24	31	41	40	34		19	70	92	17	23	18	29	9	6
	F	30	61	75	32	65	55	44	14		4	19	31		29	29	11	25	26
	C							1				9	33		2				
	U						4					18				3	3		8
	Subtotal	42	75	85	56	96	100	85	48		23	116	156	17	54	50	43	34	40
Wager	F	4																	
Polar bear			3	2				1						1	2	1			
Black bear													1						
Arctic fox						1		3							94	43	20	6	12
Red fox																	1		
Wolf							2	2											
Arctic hare		9	1		3											1		2	
Ringed seal			3			4	16	6	15	20	3	22	7	8	2	6	6	9	3
Bearded seal						1		3			2			2					
Harbour seal							2												1
Harp seal													1						1
Seal (spp)			3			5	18	9	15	20	5	22	8	10	2	6	6	9	5
Walrus		1				1		1		2									
Beluga												1	2						
Narwhal												1							
Canada geese									37	29									
Snow geese									57	40									
Ross's geese										2									
Geese (spp)									94	71									
Eider		1							4										
Ptarmigan		9							3				2	13				7	
Charr		42	9	137	92	31	74	44	45	332	630	4 736	40	36	69	7	1	20	
Lake trout		4	28	129	49	9	13	54	27	15	23	86	3	15	26	31	7	45	7
Northern pike								1											
Grayling				2															
Whitefish														18	15	23			
Other freshwater fish							3	6											
Marine fish									3										
Percent of hunters reporting		20.0	86.0	82.0	82.0	74.0	94.0	76.0	52.0	100	100	72.0	92.0	28.0	32.0	54.0	62.0	80.0	40.0

[1] See Table 1.
[2] It should be noted that the fieldworker at Whale Cove resigned in April 1983 and he was not replaced until January 1984.

Table 14. The reported and estimated harvest for Whale Cove hunters expressed as numbers of animals. The mean monthly harvest per hunter and standard deviation about the mean are given.

Species	Category[1]	Reported Harvest Oct. 1981 - Sept. 1982 Total	Mean	S.D.	Estimated Harvest Oct. 1981 - Sept. 1982 Total	Mean	S.D.	Reported Harvest Oct. 1982 - Mar. 1983 Total	Mean	S.D.	Estimated Harvest Oct. 1982 - Mar. 1983 Total	Mean	S.D.
Caribou													
Kaminuriak	M	387	3	3	489	4	4	102	3	2	146	4	4
	F	430	3	3	525	4	3	120	3	3	197	6	5
	C	43	4	3	50	4	3	2			2	2	0
	U	22	7	8	29	10	11	14	3	1	30	6	2
	Subtotal	882	3	3	1 093	4	4	238	3	3	376	5	4
Wager Bay	F	4	4	0	4	4	0						
	Total	886	3	3	1 097	4	4	238	3	3	376	5	4
Polar bear		6	1	0	7	1	0	4	1	0	5	1	0
Black bear		1	1	0	1	1	0						
Arctic fox		4	2	1	5	3	1	175	6	7	243	8	10
Red fox								1			2		
Wolf		4	1	0	5	1	0						
Arctic hare		13	3	1	14	3	1	3			7	3	2
Ringed seal		96	3	3	124	3	3	34	2	1	50	2	1
Bearded seal		6	1	0	7	1	1	2			2	1	0
Harbour seal		2			2			1			2		
Harp seal		1			1			1			2		
Seal (spp)		105	2	3	134	3	3	38	2	1	57	2	1
Walrus		5	1	0	7	1	0						
Beluga		3	1	0	7	1	0						
Narwhal		1			1								
Canada geese		66	5	5	100	8	10						
Snow geese		97	7	7	149	11	9						
Ross's geese		2			2								
Geese (spp)		165	6	6	251	9	9						
Eider		5	2	1	9	3	2						
Ptarmigan		14	3	2	17	3	2	20	10	3	22	11	2
Charr		6 212	100	556	8 183	132	770	133	11	8	145	12	8
Lake trout		440	9	16	561	11	20	131	7	10	183	10	14
Northern pike		1			2								
Grayling		2			2		0						
Whitefish		9			11								
Freshwater fish								56	9	7	75	3	12
Marine fish		3			6								

[1]See Table 1.

Table 15. Monthly theoretical kill factors for seven Keewatin communities.

	1981			1982											1983										
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Mean	S.D.
Baker Lake		[1](3.67)	(5.36)	2.19	1.77	2.02	2.44	1.75	2.52	2.38		1.11		1.06	1.06	1.00	1.19	1.08	1.00	1.01	1.03	1.03	1.04	1.06	1.75	1.07
Chesterfield Inlet				1.47	2.08						(4.17)	1.13	1.28	1.16	1.11	1.61	1.78	(3.57)	1.72	1.14	1.00	1.18	1.00	1.00	1.65	0.90
Coral Harbour					2.01				1.78	1.69	2.76	1.36	(5.53)	(3.62)	(3.75)	3.17	3.08	2.83	5.53						3.09	1.31
Eskimo Point	1.74	1.59	1.64	1.25	1.28	1.51	2.00	1.23	1.18	1.24	1.23	1.14	1.03	1.06	1.02	1.07	1.11	1.00	1.05	1.04	1.08	1.06	1.03	1.05	1.23	0.26
Rankin Inlet		1.08	1.74	1.05	1.50	1.41	2.97	3.16	2.19	1.56	(4.39)	1.03	1.62	1.54	1.00	1.18	1.06	1.17	1.04	2.95	(5.22)	2.92	1.80	1.63	1.97	1.11
Repulse Bay	1.64	1.70	(3.75)	2.57	1.66	(3.75)	1.70	3.21	2.65	3.10	3.00	2.25	1.95	1.70		1.43	1.36	1.40	(3.91)	1.52	1.67	1.36	1.73	1.87	2.14	0.76
Whale Cove	(5.00)	1.16	1.21	1.21	1.35	1.06	1.31	1.92	1.00	1.00	1.39	1.09	(3.57)	(3.13)	1.85	1.61	1.25	2.50							1.79	0.53

[1]Bracketed figures were not used because they were based on insufficient data.

Table 16. Edible weight values in kilograms for harvested species as calculated from various sources.

Species	Estimated Individual Weight (kg)	Reference[1]
Caribou	48.0	Berger 1977
Moose	199.0	Berger 1977
Muskox	110.0	Riewe 1977
Polar bear	158.8	Native Harvesting Research Committee 1975, 1976
Black bear	45.4	Dome et al. 1982
Grizzly bear	45.4	" "
Arctic hare	2.3	Native Harvesting Research Committee 1975, 1976
Ringed seal	14.3	" "
Bearded seal	98.4	" "
Harbour seal	27.7	" "
Harp seal	43.1	" "
Walrus	185.1	" "
Beluga[2]	(M)555.0(F)407.9	Sergeant and Brodie 1969
Narwhal[3]	(M)595.2(F)397.0	Hay (personal communication);[3] Sergeant and Brodie 1969
Canada geese (Hutchinsii)	2.4	Bellrose 1976
Snow geese (Lesser)	1.6	" "
Ross's geese	1.0	" "
Eider (Hudson Bay)	1.5	" "
Old squaw	0.5	" "
Mallard	0.7	" "
Ptarmigan	0.4	Thomas 1982
Sandhill crane	4.1	Stevens 1965
Snowy owl	1.8	Earhart and Johnson 1970
Swan	6.8	Bellrose 1976
Arctic charr	2.5	Carder 1983
Lake trout	2.4	Bond 1975; Keleher 1964
Whitefish	2.8	" "
Northern pike	2.1	MacDonald and Fudge 1979; Keleher 1964
Arctic grayling	0.9	Falk and Gillman 1975; Keleher 1964

[1] These references are listed in detail in the reference section of the report.
[2] "M" means male, "F" means female.
[3] DFO, St. John's, Nfld.

Table 17. Reported and estimated edible weight values (kg) for harvested species by year and month for the period October, 1981 to September, 1982. Some communities are missing monthly data in this period and the monthly values are the average for the months with data.

Community[1] and Species	1981-82 Reported Harvest (kg) Total[2]	Per Month	1981-82 Estimated Harvest (kg) Total	Per Month
Baker Lake				
Caribou	113 434	11 343	178 987	17 899
Muskox	660	66	1 320	132
Ringed seal	0	0	0	0
Ptarmigan	2	0	2	0
Arctic charr	10	1	10	1
Lake trout	27 292	2 729	28 331	2 833
Whitefish				
Total	141 388	14 139	208 649	20 865
Chesterfield Inlet				
Caribou	5 568	1 392	7 243	1 810
Polar bear	318	79	476	119
Ringed seal	529	132	661	165
Bearded seal	197	49	226	57
Walrus	0	0	0	0
Beluga	4 145	(1 036)	4 301	(1 075)
Snow geese	30	8	32	8
Arctic charr	131	33	555	139
Lake trout	490	122	535	134
Total	11 408	2 852	14 030	3 507
Eskimo Point				
Caribou	130 608	10 884	180 461	15 038
Moose	199	17	239	20
Polar bear	1 270	106	2 160	180
Arctic hare	39	3	65	5
Ringed seal	4 433	369	5 877	490
Bearded seal	1 870	156	2 893	241
Harbour seal	55	5	78	6
Harp seal	172	14	198	16
Beluga	33 219	2 768	40 777	3 398
Canada geese	115	10	141	12
Snow geese	931	78	1 143	95
Eider	1	0	3	0
Mallard	1	0	2	0
Old squaw	0	0	0	0
Ptarmigan	72	6	107	9
Snowy owl	2	0	3	0
Arctic charr	5 029	419	6 240	520
Lake trout	3 848	321	6 000	500
Whitefish	686	57	1 111	93
Northern pike	17	1	22	2
Grayling	195	16	290	24
Total	182 764	15 230	247 809	20 651
Rankin Inlet				
Caribou	73 344	6 668	99 638	9 058
Polar bear	953	87	1 493	136
Arctic hare	18	2	21	2
Ringed seal	4 204	382	6 465	588
Bearded seal	886	80	1 259	114
Harbour seal	0	0	0	0
Walrus	185	17	407	37
Beluga	16 460	1 496	17 849	1 623
Canada geese	1 286	117	2 825	257
Snow geese	70	6	83	7
Eider	42	4	47	4

Table 17. (Cont'd)

Community[1] and Species	1981-82 Reported Harvest (kg) Total	1981-82 Reported Harvest (kg) Per Month	1981-82 Estimated Harvest (kg) Total	1981-82 Estimated Harvest (kg) Per Month
Ptarmigan	9	1	19	2
Sandhill crane	12	1	39	3
Arctic charr	18 508	1 682	27 848	2 532
Lake trout	252	23	449	41
Grayling	9	1	10	1
Total	116 240	10 567	158 452	14 405
Repulse Bay				
Caribou	32 112	2 676	65 242	5 437
Polar bear	1 588	132	2 588	216
Grizzly bear	91	8	241	20
Black bear	0	0	0	0
Arctic hare	28	8	47	4
Ringed seal	5 648	471	11 609	967
Bearded seal	1 082	90	2 057	171
Harp seal	43	4	129	11
Walrus	2 221	185	3 850	321
Beluga	7 612	634	18 365	1 530
Narwhal	1 785	149	5 416	451
Canada geese	0	0	0	0
Snow geese	14	1	44	4
Ross's geese	3	0	9	1
Eider	6	0	18	1
Guillemot	1	0	2	0
Ptarmigan	37	3	97	8
Arctic charr	2 471	206	4 437	370
Lake trout	1 681	140	3 384	282
Grayling	6	0	13	1
Total	56 430	4 709	117 548	9 795
Whale Cove				
Caribou	42 528	3 544	52 675	4 390
Polar bear	953	79	1 159	97
Black bear	45	4	50	4
Arctic hare	30	2	32	3
Ringed seal	1 373	114	1 770	147
Bearded seal	590	49	718	60
Harbour seal	55	5	58	5
Harp seal	43	4	47	4
Walrus	925	77	1 388	116
Beluga	1 444	120	1 733	144
Narwhal	595	50	833	69
Canada geese	158	13	240	20
Snow geese	155	13	239	20
Ross's geese	2	0	2	0
Eider	7	1	13	1
Ptarmigan	6	0	7	1
Arctic charr	15 629	1 302	20 587	1 716
Lake trout	1 067	89	1 361	113
Northern pike	2	0	4	0
Grayling	2	0	2	0
Whitefish	25	2	31	3
Total	65 638	5 470	82 952	6 913

[1] Coral Harbour is not included in this table. Rather than separate the data into 5 months for 1981-82 and 7 months for 1982-83 the data was combined into one twelve month period and presented in Table 18.

[2] Please note that rounding has caused small discrepancies in column totals.

Table 18. Reported and estimated edible weight values (kg) for harvested species by year and month for the period October, 1982 to September, 1983. Some communities are missing monthly data in this period and the montly values are the average for the months with data.

Community[1] and Species	1982-83 Reported Harvest (kg)		1982-83 Estimated Harvest (kg)	
	Total[2]	Per Month	Total	Per Month
Baker Lake				
Caribou	226 944	20 631	237 341	21 576
Muskox	1 210	110	1 331	121
Ringed seal	14	1	14	1
Ptarmigan				
Arctic charr				
Lake trout	7 681	698	7 852	714
Whitefish	670	61	671	61
Total	236 519	21 502	247 209	22 473
Chesterfield Inlet				
Caribou	21 600	1 800	29 424	2 452
Polar bear	1 111	93	1 667	139
Ringed seal	1 630	136	1 966	164
Bearded seal				
Walrus	1 481	123	2036	170
Beluga	3 370	281	3370	281
Snow geese	24	2	31	3
Eider	39	3	47	4
Arctic charr	662	55	838	70
Lake trout	638	53	808	67
Total	30 555	2 546	40 188	3 349
Coral Harbour				
Caribou	2 688	224	4 277	356
Polar bear	2 223	185	2350	196
Arctic hare	48	4	61	5
Ringed seal	6 921	577	11 746	979
Bearded seal	2 165	180	3 434	286
Harp seal	2 327	194	4 525	377
Walrus	7 589	632	13 586	1132
Beluga	30 732	2561	62 472	5206
Canada geese	828	69	1 575	131
Snow geese	5 947	496	10 530	877
Ross's geese	148	12	267	22
Eider	288	24	489	41
Guillemot	0		0	
Old squaw	0		1	
Ptarmigan	321	27	420	35
Snowy owl	2	0	2	0
Swan	7	1	12	1
Arctic charr	5 457	455	10 518	876
Lake trout	374	31	1 017	85
Total	68 067	5 672	127 283	10 607
Eskimo Point				
Caribou	107 904	8 992	112 474	9 373
Moose				
Polar bear	2 223	185	2 414	201
Arctic hare	48	4	50	4
Ringed seal	3 318	276	3 495	291
Bearded seal	2 165	180	2 303	192
Harbour seal	83	7	89	7
Harp seal	259	22	271	23
Beluga	24 185	2 015	27 971	2 331
Canada geese	1 219	102	1 308	109
Snow geese	138	11	148	12
Eider	4	0	5	0
Mallard				

Table 18. (Cont'd)

Community[1] and Species	1982-83 Reported Harvest (kg) Total	1982-83 Reported Harvest (kg) Per Month	1982-83 Estimated Harvest (kg) Total	1982-83 Estimated Harvest (kg) Per Month
Old squaw	3	0	4	3
Ptarmigan	44	4	47	4
Snowy owl				
Arctic charr	4 906	409	5 153	429
Lake trout	2 166	180	2 248	187
Whitefish				
Northern pike	177	15	183	15
Grayling	11	1	12	1
Total	148 855	12 405	158 175	13 181
Rankin Inlet				
Caribou	46 176	3 848	71 189	5932
Polar bear	1 429	119	2985	249
Arctic hare	14	1	17	1
Ringed seal	4 176	348	6 416	535
Bearded seal	1 279	107	1 870	156
Harbour seal	28	2	44	4
Walrus	3 517	293	8 718	726
Beluga	8 095	675	14 571	1 214
Canada geese	38	3	48	4
Snow geese	146	12	157	13
Eider	3	0	9	1
Ptarmigan	34	3	91	8
Sandhill crane				
Arctic charr	8 627	719	13 857	1 155
Lake trout	354	29	859	72
Total	73 916	6 160	120 831	10 069
Repulse Bay				
Caribou	26 832	2 439	40 680	3 698
Polar bear	1 906	173	3 033	276
Grizzly bear				
Black bear	45	4	64	6
Arctic hare	11	1	16	1
Ringed seal	3 032	276	4 932	448
Bearded seal	886	80	1 525	139
Harp seal				
Walrus	1 481	135	2 406	219
Beluga	11 419	(1 038)	19 269	(1 752)
Narwhal	2 381	(216)	3 452	(314)
Canada geese	2	0	5	0
Snow geese				
Ross's geese	7	1	9	1
Eider	21	2	33	3
Guillemot				
Ptarmigan	3	0	5	0
Arctic charr	1 741	158	3 082	280
Lake trout	148	13	167	15
Grayling				
Total	49 914	4 538	78 678	7 153
Whale Cove				
Caribou	11 424	1 904	18 038	3 006
Polar bear	635	106	778	130
Black bear				
Arctic hare	7	1	15	2
Ringed seal	486	81	711	118
Bearded seal	197	33	197	33
Harbour seal	28	5	69	11
Harp seal	43	7	108	18
Walrus				
Beluga				
Narwhal				

Table 18. (Cont'd)

Community[1] and Species	1982-83 Reported Harvest (kg)		1982-83 Estimated Harvest (kg)	
	Total	Per Month	Total	Per Month
Canada geese				
Snow geese				
Ross's geese				
Eider				
Ptarmigan	8	1	9	1
Arctic charr	335	56	364	61
Lake trout	318	53	351	58
Northern pike				
Grayling				
Whitefish				
Total	13 480	2 247	20 639	3 440

[1] The data for Coal Harbour covers the period February, 1982 to April, 1983 and was combined to obtain one twelve month period.

[2] Please note that rounding has caused small discrepancies in column totals.

Table 19. Estimated edible weight values for four major groups of animals harvested by Keewatin communities, October, 1981 to September, 1983.

Period	Baker Lake					Chesterfield Inlet				
	Total Edible Weight (kg)	Weight (kg) per category (bracketed figures are % of total)				Total Edible Weight (kg)	Weight (kg) per category (bracketed figures are % of total)			
		Terrestrial	Marine	Fowl	Fish		Terrestrial	Marine	Fowl	Fish
1981										
Nov.	40 363	19 056 (47.2)		2	21 306 (52.8)					
Dec.	17 938	12 768 (71.2)			5 170 (28.8)					
1982										
Jan.	29 731	29 731				3 466	3 169 (91.4)	106 (3.0)		191 (5.5)
Feb.	24 052	23 712 (98.6)			340 (1.4)	1 244	1 109 (89.1)	90 (7.2)		45 (3.6)
Mar.	20 236	19 325 (95.5)			911 (4.3)					
Apr.	15 240	14 280 (93.7)			961 (6.3)					
May	13 757	13 757								
June	485	485								
July	22 229	22 229								
Aug.						4 506	1 536 (34.0)	2 464 (54.6)	21 (0.4)	485 (10.7)
Sept.	24 965	24 965				4 128	1 906 (46.1)	2 223 (53.8)		
Subtotal	208 996	180 308 (86.0)		2	28 688 (14.0)	13 344	7 720 (58.0)	4 883 (37.0)	21	721 (5.0)
Oct.						1 739	984 (56.5)	625 (35.9)	69 (3.9)	61 (3.5)
Nov.	13 402	13 402				1 601	1 507 (94.1)	33 (2.0)		61 (3.8)
Dec.	5 314	5 314				2 466	2 450 (99.3)	16 (0.6)		
1983										
Jan.	13 728	13 728				4 362	4 339 (99.4)	23 (0.5)		
Feb.	17 376	17 376				4 302	4 277 (99.4)	26 (0.5)		
Mar.	16 763	16 763				3 286	2 559 (77.8)	655 (19.9)		72 (2.1)
Apr.	29 922	28 416 (95.0)			1 506 (5.0)	10 507	8 663 (86.6)	1 530 (14.5)		314 (2.9)
May	25 136	23 064 (91.8)	14		2 057 (8.2)	1 573	1 363 (86.6)	111 (7.0)		99 (6.2)
June	19 219	19 219				1 220	672 (55.0)	229 (18.7)	9 (0.7)	310 (25.4)
July	34 114	29 587 (86.7)			4 527 (13.3)	3 378	2 741 (81.1)	511 (15.1)		126 (3.7)
Aug.	24 966	24 514 (98.2)			452 (1.8)	4 121	528 (12.8)	3 456 (83.8)		137 (3.3)
Sept.	47 290	47 290				1 165	1 008 (86.5)	157 (13.4)		
Subtotal	247 230	238 672 (97.0)	14		8 542 (3.0)	39 720	31 091 (78.0)	7 372 (19.0)	78	1 058 (3.0)
Total	456 226	418 980 (91.8)	14	2	37 230 (8.2)	53 064	38 811 (73.1)	12 255 (23.1)	99 (.2)	1 779 (3.4)

Table 19. Cont'd.

Period	Eskimo Point					Rankin Inlet				
	Total Edible Weight (kg)	Weight (kg) per category (bracketed figures are % of total)				Total Edible Weight (kg)	Weight (kg) per category (bracketed figures are % of total)			
		Terrestrial	Marine	Fowl	Fish		Terrestrial	Marine	Fowl	Fish
1981										
Oct.	27 730	21 850 (78.8)	3 621 (13.1)	32 (0.1)	2 226 (8.0)					
Nov.	29 319	27 449 (93.6)	23 (0.1)	5	1 842 (6.3)	8 895	8 895			
Dec.	9 027	7 540 (83.5)	46 (0.5)	4	1 437 (15.9)	17 476	15 600 (89.3)			1 876 (10.7)
1982										
Jan.	9 217	8 911 (96.7)	19 (0.2)	5	282 (3.1)	6 902	6 902			
Feb.	10 465	10 358 (99.0)	56 (0.5)	7	44 (0.4)	8 903	7 848 (88.2)	129 (1.4)	9 (0.1)	917 (10.3)
Mar.	12 755	12 370 (97.0)	190 (1.5)	6	189 (1.5)	9 745	9 313 (95.6)	242 (2.5)	4	186 (1.9)
Apr.	15 518	14 871 (95.8)	143 (0.9)	19 (.1)	485 (3.1)	12 285	11 027 (89.8)	761 (6.2)	20 (0.2)	477 (3.9)
May	5 520	3 564 (64.6)	189 (3.4)	1 196 (21.7)	573 (10.4)	7 246	6 528 (90.1)	317 (4.4)	195 (2.7)	205 (2.8)
June	1 329	461 (34.7)	526 (39.6)	71 (5.3)	271 (20.4)	7 359	317 (4.3)	2 068 (28.1)	2 691 (36.6)	2 283 (31.0)
July	22 118	15 019 (67.9)	4 373 (19.8)	5	2 722 (12.3)	27 570	3 682 (13.4)	5 470 (19.8)	3	18 416 (66.8)
Aug.	66 696	25 416 (38.1)	38 402 (57.6)	14	2 864 (4.3)	22 075	8 832 (40.0)	9 778 (44.3)		3 465 (15.7)
Sept.	37 956	35 078 (92.4)	2 239 (5.9)	33	606 (1.6)	28 827	22 351 (77.5)	6 073 (21.1)	105 (0.4)	298 (1.0)
Subtotal	247 650	182 887 (73.8)	49 825 (20.1)	1 397 (0.6)	13 541 (5.5)	157 283	101 295 (64.4)	24 838 (15.8)	3 027 (1.9)	28 123 (17.9)
Oct.	15 372	13 865 (90.2)	1 350 (8.8)		157 (1.0)	11 151	7 522 (67.5)	1 648 (14.8)	5	1 976 (17.7)
Nov.	8 095	7 878 (97.3)	61 (0.8)	1	156 (1.9)	7 393	4 838 (65.4)	629 (8.5)	1	1 925 (26.0)
Dec.	5 088	4 965 (97.6)	87 (1.7)	5	30 (0.6)	4 804	3 792 (78.9)	114 (2.4)		897 (18.7)
1983										
Jan.	9 232	9 061 (98.1)	46 (0.5)	2	124 (1.3)	6 290	5 536 (88.0)	152 (2.4)	1	602 (9.6)
Feb.	6 572	6 480 (98.6)	63 (0.1)	3	26 (0.4)	5 094	4 816 (94.6)	229 (4.5)		48 (1.0)
Mar.	15 555	15 043 (96.7)			511 (3.3)	7 427	6 849 (92.2)	579 (7.8)		
Apr.	11 660	11 515 (98.8)	29 (0.2)	1	115 (1.0)	4 843	4 301 (88.8)	542 (11.2)		
May	8 407	7 025 (83.6)	325 (3.9)	222 (2.6)	835 (9.9)	26 600	18 941 (71.2)	6 861 (25.8)	103 (0.4)	694 (2.6)
June	5 646	1 464 (25.9)	1 856 (32.9)	1 243 (22.0)	1 083 (19.2)	3 184	816 (25.6)	1 157 (36.3)	162 (5.1)	1 050 (33.0)
July	13 596	6 898 (50.7)	5 291 (38.9)	3	1 404 (10.3)	4 362	979 (22.4)	1 412 (32.4)		1 971 (45.2)
Aug.	37 107	11 410 (30.7)	23 791 (64.1)	5	1 902 (5.1)	29 236	7 430 (25.4)	16 510 (56.5)	4	5 292 (18.1)
Sept.	21 630	19 339 (89.4)	1 230 (5.7)	29	1 032 (4.8)	9 644	8 371 (86.6)	1 081 (11.2)	29 (0.3)	163 (1.7)
Subtotal	157 960	114 943 (72.8)	34 129 (21.6)	1 514 (.9)	7 375 (4.7)	120 028	74 191 (61.8)	30 914 (25.8)	305 (0.2)	14 618 (12.2)
Total	405 610	297 830 (73.4)	83 954 (20.7)	2 911 (0.7)	20 916 (5.2)	277 311	175 486 (63.3)	55 752 (20.1)	3 332 (1.2)	42 741 (15.4)

Table 19. Cont'd.

Period	Repulse Bay					Whale Cove				
	Total Edible Weight (kg)	Weight (kg) per category (bracketed figures are % of total)				Total Edible Weight (kg)	Weight (kg) per category (bracketed figures are % of total)			
		Terrestrial	Marine	Fowl	Fish		Terrestrial	Marine	Fowl	Fish
1981										
Oct.	20 197	8 204 (40.6)	9 874 (48.8)		2 119 (10.4)	2 533	2 229 (88.0)	185 (7.3)	5 (.2)	115 (4.5)
Nov.	7 599	7 326 (96.3)	146 (1.9		128 (1.6)	4 924	4 770 (96.9)	50 (1.0)		104 (2.0)
Dec.	3 729	2 223 (59.6)	549 (14.7)		957 (25.6)	6 092	5 301 (87.0)			791 (13.0)
1982										
Jan.	4 638	4 459 (96.1)			179 (3.8)	3 674	3 253 (88.5)			421 (11.5)
Feb.	5 229	5 229				6 987	6 245 (89.4)	474 (6.8)		134 (1.9)
Mar.	2 776	2 688 (96.8)	29 (1.0)		60 (2.1)	5 617	5 088 (90.6)	300 (5.3)		229 (4.1)
Apr.	5 101	4 651 (91.1)	413 (8 1)		37 (0.7)	6 584	5 534 (84.1)	736 (11.2)		313 (4.8)
May	3 492	2 458 (70.3)	91 (2.6)	72 (2.1)	870 (24.9)	6 234	4 416 (70.8)	1 115 (17.9)	359 (5.8)	344 (5.5)
June	11 468	7 364 (64.2)	2 465 (21.4)	30 (0.2)	1 609 (14.0)	1 286		286 (22.2)	134 (10.4)	866 (67.4)
July	5 380	2 678 (49.7)	2 557 (47.5)	28 (0.5)	116 (2.1)	2 974	1 104 (37.1)	240 (8.1)		1 630 (54.8)
Aug.	29 095	14 976 (51.4)	13 139 (45.1)	5	975 (3.3)	26 294	7 742 (29.4)	1 807 (6.9)		16 745 (63.7)
Sept.	17 499	5 861 (33.4)	11 479 (65.5)	47 (0.2)	112 (0.6)	9 577	8 243 (86.1)	1 217 (12.7)	1	117 (1.2)
Subtotal	116 203	68 117 (58.6)	40 742 (35.1)	182 (0.2)	7 162 (6.2)	82 776	53 925 (65.2)	6 410 (7.7)	499 (.6)	21 809 (26.4)
Oct.	3 527	1 886 (53.4)	282 (7.9)	4 (0.1)	1 355 (38.4)	1 468	975 (66.4)	311 (21.2)	5 (0.4)	176 (12.0)
Nov.	8 269	7 162 (86.6)	49 (0.5)		1 058 (12.7)	1 951	1 646 (84.3)	29 (1.5)		277 (14.2)
Dec.						5 215	4 766 (91.4)	160 (3.1)		289 (5.5)
1983										
Jan.	5 357	5 357				3 479	3 311 (95.2)	137 (3.9)		31 (0.9)
Feb.	3 221	3 103 (96.3)	117 (3.6)			2 424	2 059 (85.0)	163 (6.7)	4 (0.1)	198 (8.2)
Mar.	4 590	4 325 (94.4)	200 (4.3)		55 (1.2)	5 138	4 811 (93.6)	284 (5.5)		42 (0.8)
Apr.	3 342	3 089 (92.4)	143 (4.2)		110 (3.3)					
May	2 583	2 391 (92.5)	173 (6.6)	1	18 (0.6)					
June	6 489	3 451 (53.1)	2 853 (43.9)	22 (0.3)	162 (2.5)					
July	10 695	3 178 (29.7)	7 307 (68.3)	20 (0.1)	190 (1.7)					
Aug.	15 390	4 987 (32.4)	10 130 (65.8)		272 (1.7)					
Sept.	14 856	4 862 (32.7)	9 985 (67.2)	4	5					
Subtotal	78 309	43 791 (55.9)	31 239 (39.9)	51	3 225 (4.1)	19 675	17 568 (89.3)	1 084 (5.5)	9	1 013 (5.1)
Total	194 512	111 908 (57.5)	71 981 (37.0)	233 (0.1)	10 387 (5.3)	102 451	71 493 (69.8)	7 494 (7.3)	508 (.5)	22 822 (22.3)

Table 19. Cont'd.

Period	Total Edible Weight (kg)	Coral Harbour: Weight (kg) per category (bracketed figures are % of total)			
		Terrestrial	Marine	Fowl	Fish
1981					
Nov.					
Dec.					
1982					
Jan.					
Feb.	2 926		2 087 (71.3)	49 (1.7)	790 (27.0)
Mar.					
Apr.					
May					
June	17 795	540 (3.0)	5 803 (32.6)	7 692 (43.2)	3 759 (21.1)
July	16 945	1 382 (8.2)	12 373 (73.1)	985 (5.8)	2 205 (13.0)
Aug.	49 420	1 195 (2.4)	43 825 (88.7)	536 (1.1)	3 864 (7.8)
Sept.	21 575	538 (2.5)	20 749 (96.2)	223 (1.0)	64 (0.3)
Subtotal	108 661	3 655 (3.4)	84 837 (78.1)	9 485 (8.7)	10 682 (9.8)
Oct.	2 219	510 (23.0)	1 624 (73.2)	55 (2.5)	30 (1.4)
Nov.	1 972	1 165 (59.1)	614 (31.1)	60 (3.1)	132 (6.7)
Dec.	2 850	1 295 (45.4)	1 410 (49.5)	124 (4.3)	22 (0.6)
1983					
Jan.	1 578		1 545 (97.9)	33 (2.1)	
Feb.	2 356	48 (2.0)	1 885 (80.0)	28 (1.2)	395 (16.8)
Mar.	2 402	20 (0.8)	1 359 (56.6)	38 (1.6)	985 (41.0)
Apr.	1 875		1 875		
May					
June					
July					
Aug.					
Sept.					
Subtotal	15 252	3 038 (19.9)	10 312 (67.6)	338 (2.2)	1 564 (10.3)
Total	123 913	6 693 (5.4)	95 149 (76.8)	9 823 (7.9)	12 246 (9.9)

Table 20. The kilograms of edible meat[1] available per person per day calculated from the estimated total community harvest.

Communities	1981 - 82 Population[2]	1981 - 82 Estimate kg/day/person	1982 - 83 Estimate kg/day/person
Baker Lake	992	0.69	0.75
Chesterfield Inlet	204	0.55	0.71
Coral Harbour	376	1.93	0.19
Eskimo Point	1005	0.68	0.43
Rankin Inlet[1]	653	0.72	0.50
Repulse Bay	338	0.94	0.69
Whale Cove	201	1.13	0.54

[1] Edible meat is defined here as including the flesh of all species of terrestrial mammals, marine mammals, fowl and fish.
[2] Refer to Table 21.

Table 21. Age distribution of the general population and of hunters for seven communities in the Keewatin region of the Northwest Territories.

Community	Population[1]	Sex	Number per age category for general Population (figures in brackets are %) 0-15	16-30	31-45	46-60	61-75	76+	Number of hunter per age category (figures in brackets are % of population) Hunters[1]	0-15	16-30	31-45	46-60	61-75	76+	age unknown
Baker Lake	992	M	196(19.8)	170(17.1)	85(8.6)	47(4.7)	15(1.5)	3(0.3)	247(24.9)	2(0.2)	92(9.3)	84(8.5)	42(4.2)	17(1.7)	3(0.3)	7(0.7)
		F	172(17.3)	150(15.1)	84(8.5)	48(4.8)	19(1.9)	3(0.3)	40(4.0)	0	12(1.2)	9(0.9)	13(1.3)	6(0.6)	0	0
Chesterfield Inlet	204	M	40(19.6)	37(18.1)	9(4.4)	11(5.4)	2(1.0)	1(0.5)	62(30.4)	0	33(16.2)	14(6.9)	10(4.9)	2(1.0)	0	3(0.1)
		F	37(18.1)	41(20.1)	13(6.4)	9(4.4)	1(0.5)	3(1.5)	19(9.3)	0	7(3.4)	6(2.9)	4(2.0)	2(1.0)	0	0
Coral Harbour	376	M	75(19.9)	58(15.4)	30(8.0)	18(4.8)	10(2.7)	2(0.5)	132(35.1)	0	39(10.4)	35(9.3)	19(5.0)	8(2.1)	1(0.3)	30(8.0)
		F	82(21.8)	57(15.2)	28(7.4)	12(3.2)	3(0.8)	1(0.3)	11(2.9)	0	2(0.5)	2(0.5)	1(0.3)	1(0.3)	0	5(1.3)
Eskimo Point	1005	M	229(22.8)	134(13.3)	69(6.9)	52(5.2)	11(1.1)	2(0.2)	260(25.9)	4(0.4)	116(11.5)	81(8.1)	48(4.8)	10(1.0)	1(0.1)	0
		F	223(22.2)	153(15.2)	65(6.5)	46(4.6)	17(1.7)	4(0.4)	18(1.8)	0	8(0.8)	6(0.6)	4(0.4)	0	0	0
Rankin Inlet	653[2]	M	112(17.2)	134(20.5)	56(8.6)	32(4.9)	14(2.1)	3(0.5)	278(42.6)	1(0.1)	88(13.5)	70(10.7)	28(4.3)	15(2.3)	1(0.1)	75(11.5)
		F	95(14.5)	109(16.7)	58(8.9)	27(4.1)	11(1.7)	2(0.3)	39(6.0)	1(0.1)	5(0.8)	14(2.1)	7(1.1)	2(0.3)	0	10(1.5)
Repulse Bay	338	M	83(24.6)	47(13.9)	17(5.0)	14(4.1)	3(0.9)	3(0.9)	112(33.1)	1(0.3)	33(9.8)	28(8.3)	15(4.4)	4(1.2)	1(0.3)	30(8.9)
		F	82(24.2)	51(15.1)	20(5.9)	13(3.8)	4(1.2)	1(0.3)	18(5.3)	0	9(2.7)	6(1.8)	1(0.3)	0	0	2(0.6)
Whole Cove	201	M	42(20.9)	38(18.9)	12(6.0)	8(4.0)	7(3.5)	1(0.5)	84(41.8)	0	21(10.5)	17(8.5)	11(5.5)	6(3.0)	1(0.5)	28(13.9)
		F	33(16.4)	32(15.9)	17(8.5)	4(2.0)	6(3.0)	1(0.5)	11(5.5)	0	3(1.5)	3(1.5)	2(1.0)	2(1.0)	0	1(0.5)
Total	3769	M	777(20.6)	618(16.4)	278(7.3)	182(4.8)	62(1.6)	15(0.4)	1175(31.2)	8(0.2)	422(11.2)	329(8.7)	173(4.6)	62(1.6)	8(0.2)	173(4.6)
		F	724(19.2)	593(15.7)	285(7.6)	159(4.2)	61(1.6)	15(0.4)	156(4.1)	1(0.3)	46(1.2)	46(1.2)	32(0.8)	13(0.3)	0	18(0.5)

[1] Population figures are from the 1983 community list as provided by the Department of local Government (GNWT) with the exception of Rankin Inlet where the figures are produced by the Hamlet Office. The number of hunters is from Harvest study figures and in some age classes there are discrepancies with the total population figures. The major difference occurs in the age 31-45 age category for males (+51 hunters). The exact reason for this is not known but the harvest study figures have been carefully checked and scrutenized over the period of the study.

[2] The population of Rankin Inlet from the 1983 community list is 1126. This community contains the largest number of non-Inuit and Inuit transient to the community (ie. 42.0%). For this reason the figure of 653 resident Inuit was used for the purpose of the Harvest study. In the other communities there are very few transient Inuit and non-Inuit make up less than 5% of the population.

Table 22. Prices of commodities from three sources in the Northwest Territories.

Item[1]	Rankin Inlet Co-op Store	Rankin Inlet Hudson Bay	Frobisher Bay Country Food Stores
Round Steak	$11.95/kg	$13.44/kg	
Arctic charr	4.50/kg		6.61/kg
Whitefish	10.20/kg		
Muktak	3.63/kg		7.17/kg
Pork chops	9.90/kg	7.86/kg	
Chicken	5.95/kg	5.59/kg	
Veal	16.31/kg		
Ocean Perch		8.99/kg	
Caribou			9.92/kg
Seal			5.51/kg

[1] Prices were taken February, 1984.

Appendix 1. Members of the Steering Committee for the Keewatin Wildlife Federation Harvest Study.

Chairman

Mr. F. McFarland	Northern Affairs Program, Department of Indian Affairs and Northern Development.

Members

Mr. R. Cole	Canadian Wildlife Service, Department of the Environment.
Mr. R. Graf	Department of Renewable Resources, Government of the Northwest Territories.
Mr. R. Peet	Department of Fisheries and Oceans.
Mr. P. Kritterdiluk	President, Keewatin Wildlife Federation (April/82 - March/83).
Mr. D. Milortuk	President, Keewatin Wildlife Federation (current).
Mr. L. Gamble	Project Biologist, Keewatin Harvest Study.
Mr. L. Suluk	Project Manager, Keewatin Harvest Study.

Appendix 2. Calculation of Estimated Harvest.

This appendix lists the steps used to arrive at an estimate of total monthly hunter kill using the interview data from Eskimo Point, September, 1982. The letter designations for each category are defined in the text under the section on data analysis. The bracketed statement is a shortened designation for these definitions for the purposes of this appendix.

I. Interview Data, Eskimo Point, September, 1982.

Category		Number of hunters
A	(successful)	102
B	(unsuccessful)	23
C	(didn't hunt)	85
D	(hunted but not interviewed)	14
E	(out of hunt area)	6
F	(activities not known)	8

II. Calculations

1. the known number of hunters who hunted = A + B = 102 + 23 = 125.

2. the success ratio of the hunters that hunted and were interviewed = $\frac{A}{A + B} = \frac{102}{102 + 23} = 0.816 = G$

3. the estimated success of those out hunting but not interviewed = G x D = 0.816 x 14 = 11.4 = H

4. the total number of hunters whose activities are accounted for = A + B + C + D + E = 102 + 23 + 85 + 14 + 6 = 230 = I

5. the total number of hunters that could have hunted = I + F = 230 + 8 = 238 = J

6. the estimated success ratio of successful hunters interviewed in relation to the total hunters whose activities are accounted for = $\frac{A}{I} = \frac{102}{230} = 0.444 = K$

7. the estimated success of hunters whose activities are unknown = K x F = 0.444 x 8 = 3.6 = L

8. the estimated total success = A + H + L = 102 + 11.4 + 3.6 = 117 = M

9. the theoretical kill factor = $\frac{M}{A} = \frac{117}{102} = 1.14 = N$
These factors are listed in Table 15 for each community by month.

10. the participation ratio = $\frac{A + B + C}{J} \times 100 = \frac{102 + 23 + 85}{238} \times 100 = 88.2\%$
The participation ratios for each community are given in the odd Tables from 1 to 13.

11. the estimation of mean monthly kill by species = N x number harvested for each species from the fieldworker's reports for each hunter in Category A. The results of this calculation are summarized in even Tables 2 through 14.