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# A Review of the Status and Harvests of Fish, Invertebrate, and Marine Mammal Stocks in the Nunavut Settlement Area

D.B. Stewart

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

1994

## Canadian Manuscript Report of Fisheries and Aquatic Sciences 2262

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**A REVIEW OF THE STATUS AND HARVESTS OF  
FISH, INVERTEBRATE, AND MARINE MAMMAL STOCKS  
IN THE NUNAVUT SETTLEMENT AREA**

by

D.B. Stewart<sup>1</sup>



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

This is the 35th Manuscript Report  
from the Central and Arctic Region, Winnipeg

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<sup>1</sup> Arctic Biological Consultants, Box 68, St. Norbert Postal Station, 95 Turnbull Drive, Winnipeg, MB, R3V 1L5.

## PREFACE

This report was prepared under contract for the Department of Fisheries and Oceans, Central and Arctic Region, 501 University Crescent, Winnipeg, Manitoba, R3T 2N6. The Scientific Authority for this contract was Robert W. Moshenko of the Fishery Management Division.

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TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT/RÉSUMÉ . . . . .	iv
INTRODUCTION . . . . .	1
FORMAT . . . . .	1
Fishes, invertebrates, and plants . . . . .	1
Sport fishing lodges . . . . .	3
Fisheries research licences . . . . .	3
Marine mammal stock assessments . . . . .	3
Marine mammal harvests . . . . .	4
ACKNOWLEDGMENTS . . . . .	4
REFERENCES . . . . .	4
PERSONAL COMMUNICATIONS . . . . .	19

<u>Table</u>		<u>Page</u>
7	Summary of marine mammal stock assessments for Nunavut . . . . .	78
8	Beluga, walrus, and narwhal landed by residents of the Kitikmeot Region, 1988-93 . . . . .	92
9	Beluga, narwhal, and walrus landed by residents of the Keewatin Region, 1988-91 and 1993 . . . . .	93
10	Beluga, narwhal, and walrus landed by residents of the Baffin Region, 1988-93 . . . . .	95

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	Map of the Nunavut Settlement Area . . . . .	20

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Harvests of fishes from the Kitikmeot Region of Nunavut by community area . . . . .	21
2	Harvests of fishes and marine invertebrates from the Keewatin Region of Nunavut by community area . . . . .	35
3	Harvests of fishes and marine invertebrates and plants in the Baffin Region of Nunavut by community area . . . . .	50
4	Sport fishing lodges and their outpost camps in Nunavut . . . . .	68
5	Licences to take fish for scientific purposes issued by the Department of Fisheries and Oceans (DFO), Central and Arctic Region, to DFO personnel from 1990-93 . . . . .	70
6	Licences to take fish for scientific purposes issued by the Department of Fisheries and Oceans (DFO), Central and Arctic Region, to non-DFO researchers from 1989-93 . . . . .	74

## ABSTRACT

Stewart, D.B. 1994. A review of the status and harvests of fish, invertebrate, and marine mammal stocks in the Nunavut Settlement Area. Can. Manuscr. Rep. Fish. Aquat. Sci. 2262: iv + 98 p.

This document was prepared to assist the Department of Fisheries and Oceans (DFO) and the Nunavut Wildlife Management Board, which was appointed recently, to co-manage fisheries in the Nunavut Settlement Area (Nunavut). It reviews information on stocks of fishes, invertebrates, and marine mammals that are harvested for subsistence, commerce and sport in Nunavut. The information is current to February 1994. It is summarized in tables that are organized hierarchically by region, community and then species, or by species and stock in the case of the marine mammals. The stock status and harvests of over 350 fish and invertebrate fisheries, and of 10 marine mammals species are reviewed. Recent recommendations by DFO concerning management of the fisheries or stocks are summarized, with a list of pertinent references. Information is also provided on sport fishing lodges operating in Nunavut, and on Scientific Licences issued by DFO since 1989 for research in Nunavut.

Key words: Arctic zone; Northwest Territories; fishery management; subsistence fishing; commercial fishing; sport fishing; catch statistics.

## RÉSUMÉ

Stewart, D.B. 1994. A review of the status and harvests of fish, invertebrate, and marine mammal stocks in the Nunavut Settlement Area. Can. Manuscr. Rep. Fish. Aquat. Sci. 2262: iv + 98 p.

Ce document a été rédigé pour aider le ministère des Pêches et des Océans (MPO) et le conseil de gestion de la faune du Nunavut (Nunavut Wildlife Management Board), récemment constitué, à gérer ensemble la pêche au Nunavut. Il contient un recueil de données, mises à jour en février 1994, sur les quantités de poissons, d'invertébrés et de mammifères marins capturés au Nunavut pour la subsistance, le commerce et le loisir. Au moyen de tableaux, on fait la synthèse de l'information recueillie à l'échelle de la région, de la localité, de

l'espèce et, dans la cas des mammifères marins, de la population. On présente ainsi les stocks et prises de 10 espèces de mammifères marins ainsi que les stocks et prises de poissons et d'invertébrés en plus de 350 lieux de pêche. En outre, on résume les dernières recommandations du MPO concernant la gestion de la pêche ou des stocks, avec références à l'appui. Enfin, on donne des renseignements sur les camps de pêche sportive du Nunavut et sur les permis de pêche délivrés à des fins scientifiques par le MPO, depuis 1989.

Mots clés: Arctique; Territoires du Nord-Ouest; gestion de la pêche; pêche de subsistance; pêche commerciale; pêche sportive; statistiques sur les prises.

## INTRODUCTION

One of the provisions of the Nunavut Land Claims Agreement Act (Bill C-133) which was proclaimed into law in the summer of 1993, was the establishment of the Nunavut Wildlife Management Board (NWM Board). This nine member board, with equal representation of Inuit and Government, plus a chairperson, has since been appointed. It is charged with making all decisions about wildlife management in the Nunavut Settlement Area (Nunavut) (Fig. 1), including those on many matters now controlled by the federal Department of Fisheries and Oceans (DFO), the Canadian Wildlife Service, and the Territorial Department of Renewable Resources.

The purpose of this work is to provide the NWM Board and DFO with a summary of the present status of fish, invertebrate, and marine mammal stocks harvested in Nunavut. These stocks are harvested for subsistence, commerce and sport, mostly by Inuit beneficiaries of the Tungavik Federation of Nunavut (TFN) Land Claim. Previously, their management has been the responsibility of DFO.

The published and unpublished sources of information in this summary were identified by searches of bibliographic databases and published bibliographies (e.g. Stewart 1991), and by discussions with people knowledgeable of fisheries resources in the region. The bibliographic databases searched were the Aquatic Sciences and Fisheries Abstracts (ASFA), Arctic Science and Technology Information System (ASTIS), and the Department of Fisheries and Oceans libraries database, WAVES/VAGUES. DFO files were also searched for unpublished information.

## FORMAT

The summary is presented in tabular form, with the fishery and stock data organized hierarchically first by region (i.e. Kitikmeot, Keewatin, Baffin) and then by community or taxa (Fig. 1). The objective of this is to enable the NWM Board and DFO to quickly review the data on a regional basis, by community or species.

## FISHES, INVERTEBRATES, AND PLANTS (TABLES 1 to 3)

Information on the harvests of freshwater,

anadromous and marine fishes and marine plants and invertebrates in Nunavut is organized by region. There is a separate table for the Kitikmeot Region (Table 1), the Keewatin Region (Table 2), and the Baffin Region (Table 3). Within each of these regional tables, the information is organized alphabetically first by community and then by fishery location. Fisheries for marine species have been placed in stippled boxes at the end of each community section to set them apart from fisheries for freshwater and anadromous species. Inland lakes in the Keewatin, which often are not associated with a particular community, are listed at the end of Table 2.

Fisheries included in this table either have a record of commercial, exploratory or sport harvest or are listed on Schedule V of the Northwest Territories Fishery Regulations--with two exceptions. First, on Victoria Island only those unnamed waterbodies with a record of commercial harvest are listed in the summary tables. Many of the unnamed waterbodies on Victoria Island were placed on Schedule V to facilitate development of the Cambridge Bay commercial fishery in the early 1970's. Few were fished, and the remainder are unlikely to be exploited in the foreseeable future. Second, a number of exploratory marine fisheries are listed in the summary tables without their ever having been fished. They were included in the tables to highlight areas where there is an ongoing interest in the harvest of marine biota.

Each fishing location is identified by its official name (Canada 1980), and a latitude and longitude. In some cases, a local name or geographical feature is also included in brackets. Some unnamed waterbodies also have a number which refers to Schedule V and is intended to facilitate use of earlier data. The map coordinates were taken from Schedule V or from the source of the data.

For each fishery, the table identifies the species harvested and provides the harvest quota(s), the most recent harvest data, a summary of stock status, and a list of pertinent references. Species are treated separately if they have separate quotas, unless they are part of a mixed marine fishery.

The harvest quotas are from various sources, and some more closely reflect the stock status than others. The quotas of active commercial and sport fisheries are reassessed annually by DFO. If information from the

harvesters or from sampling suggests that the fishery is not sustainable then the quota is adjusted downward. If that information suggests under-utilization then it may be adjusted upward. The quotas of inactive fisheries are from Schedule V. They were originally provided as provisional administrative quotas for the purpose of initiating exploratory fisheries. Few of these, if any, have a biological basis and they do not indicate a sustainable harvest level. The exploratory quotas, in square brackets, are interim quotas assigned for the purpose of obtaining samples from a fishery. Abbreviations were used to indicate years when a harvest may have taken place but that no data are available "(NA)", quotas that were open for fishing but not fished "(NF)", and quotas that were not opened for fishing "(NO)".

The harvest statistics listed are for the last five years (1989-93) for active fisheries, or for the most recent harvest for inactive fisheries. If an inactive fishery had widely fluctuating harvests, then several representative harvests are shown. It was not always possible to separate the harvests by species for mixed species fisheries.

The quota and harvest years are the same as the federal government fiscal year (e.g. the 1991 quota extends from 1 April 1991 to 31 March 1992). They are not normal calendar years. Occasionally, a quota or harvest will be followed with the letter "s" for summer or "w" for winter in brackets. These letters indicate seasonal fisheries which often harvest the same stock but at different locations (e.g. coastal marine waters in summer, lakes in winter).

Unless otherwise indicated, the harvest statistics are for commercial fisheries and in kilograms round weight. A round weight is for a whole fish, while a dressed weight is for a fish with the viscera and gills removed. The round weights of Arctic charr harvested by the Cambridge Bay fishery were calculated using a dressed weight to round weight conversion factor of 1.25 which included estimates of the weight of culled fish. Elsewhere, these round weights were calculated using a conversion factor of 1.15, which did not include an estimate of culls.

The general comments column of the tables provides a brief summary of the information available for each fishery. It tells whether a fishery is established or exploratory, active or inactive, or in conflict with other fisheries; when was it last sampled for DFO; what is known of the stock

status; and recent recommendations by DFO concerning management of the fishery. The discussions of stock status, and any management recommendations, are based on assessments of the Arctic Fisheries Science Advisory Committee (Clarke et al. 1989; Cosens et al. 1990, 1993; Bodaly et al. 1992) and discussions with fishery managers. Reference material pertinent to each fishery is listed in brackets and cited in full in the bibliography.

These tables summarize information from studies directed towards the assessment and management of commercial and sport fisheries. They do not summarize other scientific research directed towards a more general understanding of the aquatic environment. Useful in this regard are the:

***aquatic resource surveys of:*** Sekerak and Graves 1975; de March and Eddy 1976; Johnson 1976; McLeod et al. 1976; Hatfield et al. 1977, 1978; Lawrence et al. 1978; Stewart and MacDonald 1978, 1981; Sutherland and Golke 1978; MacDonald and Fudge 1979; Lawrence and Davies 1979; MacDonald and Stewart 1980; Williams et al. 1981; Stewart and Bernier 1982, 1983, 1984, 1988a+b;

***species accounts of:*** Grainger 1953; Hunter 1970; McPhail and Lindsey 1970; Scott and Crossman 1973; Healey 1975; Moore 1975a+b; Moore and Moore 1975; Johnson 1980, 1983, 1989; Martin and Olver 1980; Hunter et al. 1984; Scott and Scott 1988; and

***English, French and Inuktitut fish names of:*** McAllister et al. 1987.

There are few data available on subsistence harvests in Nunavut (Yaremchuck and Wong 1989b). But, where there is a commercial fishery there is nearly always a subsistence fishery--if only by the commercial fishermen who visit the area: More information on the subsistence harvests can be found in the:

***Area Economic Survey Reports*** (e.g. Brack 1962; Brack and McIntosh 1963; Abrahamson 1964; Ander et al. 1967; Anders 1968; Bissett 1968);

***Inuit Land Use and Occupancy Study*** (Freeman [ed.] 1976);

***Baffin Region Inuit Association Harvesting Study*** (Donaldson 1983, 1984; Pattimore 1983a+b,

1985);

*Keewatin Harvesting Study* (Gamble 1984, 1987a+b, 1988); and

*Northern Land Use Information Series maps and reports* (Stewart and MacDonald 1981; Stewart and Bernier 1982, 1983, 1984, 1988a+b)

#### SPORT FISHING LODGES (TABLE 4)

This table summarizes information on the sport fishing lodges in Nunavut. Outfitters operating from communities or with moveable camps are not included in this summary. The information is organized by region, and lodges in each region are organized alphabetically. The latitude and longitude, operating season, guest bed capacity, and species sought are listed for each lodge. Outpost camp locations, recent operating history, and the most recent DFO creel censuses are listed in the comments section, as are any pertinent references.

The main sources of information for this table were the Northwest Territories Explorer's Guides 1988-94 (EDT 1988-1994), and DFO (C. Craig, pers. comm.). Lodges described in the comments as "not listed" in a particular year were not advertised in the Explorers Guide in that year, and presumably were not in operation.

#### FISHERIES RESEARCH LICENCES (TABLES 5 AND 6)

These tables summarize information on the Scientific Licences that DFO has issued to its personnel (Table 5) or to non-DFO researchers (Table 6) since 1989 (J.T. Strong, pers. comm.). These licences permit them to take fish for scientific purposes--fish as defined by DFO include marine mammals and invertebrates. This information is organized by region, and within each region the licence holders, or principal researchers, are listed alphabetically. The area where the research was to take place, its purpose, and the year for which the licence was issued are shown for each licence holder. The years refer to the federal government fiscal year (e.g. the 1991 year extends from 1 April 1991 to 31 March 1992). The outcome of the research is not discussed.

In 1994, DFO will begin to distinguish between studies that take fish for scientific,

educational, and public display purposes (T. Strong, pers. comm.). Separate licences will be issued for each type of study, and studies that do not take fish (e.g. behavioural observations) will no longer require a Scientific Licence. These licences will be issued under Section 52 of the Fishery (General) Regulations.

#### MARINE MAMMAL STOCK ASSESSMENTS (TABLE 7)

The summary of information on the marine mammals harvested in Nunavut is organized by species, not by region--unlike the other tables. For each species, there are general sections on stock definition, population size, harvest restrictions, and species status. The stock definition section describes how stocks of the species relate to Nunavut in terms of their seasonal distribution and movements. The population size section discusses any overall estimates or trends in the species population. The harvest restrictions section discusses existing regulatory restrictions on the harvest of the species in Arctic Canada. The species status section discusses the existing management strategy and the status that has been assigned to the species by CITES and/or COSEWIC. If the population of a species in Nunavut is from a single stock, then the Nunavut harvest levels, other factors that may affect the species, and management concerns may also be discussed in the general section.

If several stocks of a species frequent Nunavut, then the general section is followed by separate discussions of each stock, with the more northerly stocks discussed first. For each stock, there is a stock definition section that describes how this stock relates to other stocks in terms of its seasonal distribution and movements. There is a discussion of stock size, which summarizes recent stock estimates and any historical trends in stock size. The section on harvests and other impacts discusses recent harvest estimates for the stock and other factors that may affect the stock and its management. Recent population trends in the stock, and any management recommendations, are summarized in the stock assessment section.

References upon which each of these sections is based are cited in brackets at the end of the section, rather than scattered throughout the text, to ease reading and reduce repetition. They are cited in full in the bibliography. The lists are meant to direct readers to a recent species review and/or stock assessment, and to recent population

or other useful studies pertinent to the stock.

Several terms used in this table require further explanation. Because a portion of any marine mammal population is hidden from view by water, ice, or snow at any given time an aerial survey does not count all of the animals that inhabit a particular area at a given time. This makes the estimation of population size virtually impossible. Instead, population managers count the number of animals which are *visible* at the surface at any given time and use these counts as *indices* of the population size. By repeating their surveys over time they hope to be able to observe trends in the population abundance. With respect to harvesting, hunters sometimes shoot an animal without managing to recover and utilize it. By relating the number of animals that are *struck* to the number that are actually *landed* and used, managers get a better idea of the efficiency of hunts and how many injured or killed animals are *lost*. The *total annual removal* includes all of the animals that are landed, struck but lost, and live captured in a particular area and year.

COSEWIC, the Committee on the Status of Endangered Wildlife in Canada, determines the national status of wild species, sub-species, and separate populations in Canada (COSEWIC 1993). A species or geographically separate population is listed as *endangered* if it is threatened with imminent extinction or extirpation throughout all or a significant portion of its Canadian range; *threatened* in Canada if the factors affecting its vulnerability are not reversed; or *vulnerable* if it is at particular risk because of low or declining numbers, small range, or for some other reason, but is not yet threatened.

#### MARINE MAMMAL HARVESTS (TABLES 8 TO 10)

These tables summarize DFO's estimates of the harvests of beluga, narwhal, and walrus by communities in the Kitikmeot (Table 8), Keewatin (Table 9), and Baffin (Table 10) regions, since 1988. Strong (1989) summarized the 1947-87 DFO harvest data on these species. The communities in each region are listed alphabetically. Where the harvest estimated was based on past experience and not current year observations, this is noted in the comments section. The data sources referenced in brackets are cited in full in the bibliography.

The best data are available for narwhal,

which are harvested under community quotas. Estimates of the beluga and walrus harvests often have a high degree of uncertainty, as do the estimates of lost animals which were begun in 1993. Some of the earlier harvest estimates available include: BRIA's for the Baffin Region (Donaldson 1983, 1984; Pattimore 1983a+b, 1985), the Keewatin Harvesting Study (Gamble 1984, 1987a+b, 1988), and those by DFO (e.g. Stewart et al. 1986; Strong 1989).

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#### PERSONAL COMMUNICATIONS

BROWN, J. Department of Fisheries and Oceans (DFO), 501 University Crescent, Winnipeg, MB, R3T 2N6.

CARDER, G. DFO, 501 University Crescent, Winnipeg, MB, R3T 2N6.

CLEATOR, H. DFO, 501 University Crescent, Winnipeg, MB, R3T 2N6.

CRAIG, C. DFO, 501 University Crescent, Winnipeg, MB, R3T 2N6.

DAY, C. DFO, 501 University Crescent, Winnipeg, MB, R3T 2N6.

DOW, L. DFO, Box 1008, Hay River, NT, XOE ORO.

GARLICH-MILLER, J. DFO, 501 University Crescent, Winnipeg, MB, R3T 2N6.

HOLLETT, J. Economic Development and Tourism, Government of the Northwest Territories, Rankin Inlet, NT, XOC OGO.

JESS, P. Jessco Operations Inc., 179 Cardiff Dr. N.W., Calgary, AB, T2K 1S1.

KOSHINSKY, G. DFO, 501 University Crescent, Winnipeg, MB, R3T 2N6.

KRISTOFFERSON, A. DFO, 501 University Crescent, Winnipeg, MB, R3T 2N6.

LOW, G. DFO, Box 1008, Hay River, NT, XOE ORO.

MOSHENKO, R. DFO, 501 University Crescent, Winnipeg, MB, R3T 2N6.

PENNY, L. DFO, Box 358, Iqaluit, NT, XOX OHO.

PIKE, D. DFO, Box 358, Iqaluit, NT, XOX OHO.

RICHARD, P. DFO, 501 University Crescent, Winnipeg, MB, R3T 2N6.

SEKERAK, A. Applied Environmental Services, Yellowknife, NT.

SETO, K. DFO, Box 158, Rankin Inlet, NT, COC OGO

STEPHENSON, T. DFO, Box 358, Iqaluit, NT, XOX OHO.

STEWART, R. DFO, 501 University Crescent, Winnipeg, MB, R3T 2N6.

STRONG, J.T. DFO, 501 University Crescent, Winnipeg, MB, R3T 2N6.

WEBER, G. DFO, Box 358, Iqaluit, NT, XOX OHO.



Figure 1. Map of the Nunavut Settlement Area.

Table 1. Harvests of fishes from the Kitikmeot region of Nunavut by community area.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
<b>BATHURST INLET</b>			
Burnside River (Swan Lake) 66°47'N, 108°10'W	Arctic charr (SR) [2,000]	1989--365 kg; 1990--1,151 kg; 1991--1,527 kg; 1992--NF; 1993--680 kg	Exploratory fishery begun in 1984, sampled in October 1990 and 1993. Fishing occurs in Swan Lake which flows into the estuary of the Burnside River (McGowan 1989; DFO 1991, 1992b; McGowan et al. 1993; G. Carder, pers. comm.)
unnamed lake (Fishing Lake) 66°41'N, 107°52'W	Arctic charr (SR) [1,000]	1990--454 kg	Exploratory fishery sampled in October-November 1990. (DFO 1992b; McGowan et al. 1993)
<b>BAY CHIMO (UMINGMAKTOK)</b>			
Hiukitak River 67°08'N, 107°10'W	Arctic charr (SR) [1,500]	1989--1,500 kg	Exploratory fishery sampled in November 1989. (McGowan et al. 1993)
unnamed river (Hope Bay) (Hakvaktuq) 68°04'N, 107°15'W	Arctic charr (SR) [1,500]	1989--1,500 kg	Exploratory fishery sampled in November 1989. (McGowan et al. 1993)
unnamed river (Kapialtok) 68°10'N, 106°30'W	Arctic charr (SR) [1,000]	1990--10 kg	Exploratory fishery. (DFO 1992b)
<b>CAMBRIDGE BAY</b>			
Buffit Lake 69°43'N, 106°55'W	lake trout + lake whitefish 1,200	1970--lake trout 1,143 kg, lake whitefish 567 kg	The only record of commercial harvest from this area was in 1970. (Barlischen and Webber 1973; Yaremchuk et al. 1989)
Casey Lake 69°37'N, 107°50'W	lake trout + lake whitefish 3,400		No record of commercial harvest.
Dease Point 68°22'N, 104°55'W	Arctic charr (SR)--no quota	1976--1,167 kg	This area does not have a commercial quota. It was commercially fished from 1972 to 1976. (Yaremchuk et al. 1989)
Ekalluk Lake 69°45'N, 104°30'W	lake trout + lake whitefish 9,100		No record of commercial harvest.

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Ekalluk River 69°25'N, 106°17'W	Arctic charr (SR) 7,500	1989--13,365 kg; 1990--15,294 kg; 1991--closed; 1992--NF; 1993--NF.	This fishery began in 1960 and has been a mainstay of the Cambridge Bay charr fishery since 1962. The age and size of charr in samples from the commercial catch declined over the period 1986-90. This led DFO to reduce the harvest quota from 14,500 kg to 7,500 kg. In 1991-93, the commercial fishery was closed at the request of the fishermen as a conservation measure. DFO gillnetted and sampled the run in 1991, 1992, and 1993 since samples were not available from the commercial fishery. Continued monitoring has been recommended. Tag returns from earlier studies suggest that the majority of charr taken by the spring fishery at the Paliryuak River may be from the Ekalluk system. Biochemical studies are underway to determine stock identity. (Barlshen and Webber 1973; Kristofferson and Carder 1980; Carder 1981, 1983, 1988, 1991a, 1993; Carder and Low 1985; Carder and Stewart 1989; Yaremchuk et al. 1989; Cosens et al. 1990, 1993; DFO 1991, 1992a+b; Bodaly et al. 1992; A. Kristofferson, pers. comm.; G. Low, pers. comm.)
Ellice River 68°30'N, 104°00'W	Arctic charr (SR) 8,000  lake trout + lake whitefish--no quota	1989--5,969 kg; 1990--6,371 kg; 1991--7,971 kg; 1992--NF; 1993--8,016 kg  <u>By-catches:</u> 1970--lake trout 14 kg 1980--lake whitefish 295 kg	From 1971 to 1977, the mean harvest of charr at the Ellice River was 12,000 kg. This led to a decline in the stock and the annual quota was reduced to 4,500 kg. This measure apparently enabled the stock to recover and, in 1988, the quota was raised to 6,800 kg. In 1991, it was increased to 8,000 kg to offset lost production at the Ekalluk River. DFO last sampled the commercial harvest in August 1993. There was no commercial fishing in 1992 due to low prices for charr and high transportation costs. Biochemical studies are underway to determine stock identity. This area has also had infrequent, small commercial harvests of lake trout and lake whitefish. (Barlshen and Webber 1973; Kristofferson and Carder 1980; Carder 1981, 1983, 1988, 1991a, 1993; Carder and Low 1985; Carder and Stewart 1989; Yaremchuk et al. 1989; Cosens et al. 1990; DFO 1991, 1992a+b, 1993a; Bodaly et al. 1992; A. Kristofferson, pers. comm.; G. Low, pers. comm.)
Elu Inlet 68°30'N, 106°05'W	Arctic charr (SR)--no quota	1978--262 kg	Exploratory harvest in 1977 and 1978. No commercial quota. DFO has sampled a number of lakes in the Elu Inlet/Melville Sound area. (Kristofferson and Carder 1980; Yaremchuk et al. 1989; Gyselman and Broughton 1991; Gyselman and Gould 1992)
Ferguson Lake 69°25'N, 105°30'W	lake trout 11,200 lake whitefish, Arctic charr (SR) + cisco sp.--no quota	1975--lake trout 1,739 kg  <u>By-catches:</u> 1963--cisco spp. 147 kg, 1966--lake whitefish 6,804 kg, 1975--Arctic charr (SR) 435 kg	Commercial fishing of this area began in 1962 and continued until 1975. In 1967, fishermen harvested 40,652 kg of lake trout and whitefish (combined). There are no recent reports of commercial harvest. DFO obtained a small sample of trout from this lake in 1976. The present quota is only for lake trout. The other species harvested are a by-catch of the trout fishery. (Barlshen and Webber 1973; Yaremchuk et al. 1989; Gyselman and Gould 1992)
	Arctic charr (SR) [1,500]	1993--1,478 kg	
Flying Horse Lake 69°47'N, 105°12'W	lake trout + lake whitefish 4,100		No record of commercial harvest.
Foggy Bay 68°10'N, 105°00'W	Arctic charr (SR)--no quota	1972--9,300 kg	This area does not have a commercial quota. It was fished during an exploratory fishery in 1972. (Barlshen and Webber 1973; Yaremchuk et al. 1989)

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Freshwater Creek 69°10'N, 105°00'W	Arctic charr (SR)--no quota	1983--1,000 fish subsistence -- 637 fish sport 1992--1,600-2,300 charr harvested by anglers for subsistence and sport 1993--400 charr in total were harvested by all users.	Freshwater Creek is fished for subsistence and sport. As a result of poor catches in 1987, it was agreed at a public meeting to impose a ban on all gillnetting at Greiner Lake, Freshwater Creek, and tributaries and waters of Cambridge Bay--not including the "Gravel Pit" coastal area. The ban on went into effect in 1988 and remains in effect. Compliance by subsistence fishermen is monitored by the Cambridge Bay Hunters and Trappers Association. Sport fishing limits were reduced, from 4 daily and 7 in possession to 1 daily and 7 in possession, as a result of DFO's 1988 weir count of fish migrating upstream in Freshwater Creek. DFO last used a weir to count the charr migrating upstream in 1991. They surveyed the sport and subsistence fisheries most recently during the downstream (12-24 July) and upstream (23 Aug.-6 Sept.) runs in 1992. In 1992 and 1993, high school students built a saputit as a demonstration project but harvested less than 10 charr. The stock appears to be recovering from past overexploitation, but is not yet fully recovered. Biochemical studies are underway to determine stock identity. DFO has recommended that the gillnetting ban continue through 1994, that a fishing plan be developed with the community of Cambridge Bay, that stock status be reassessed in 1994, and that accurate harvest statistics be collected annually. (Barlisen and Webber 1973; Carder 1991b; McGowan and Low 1992; Cosens et al. 1993; G. Low, pers. comm.)
	lake trout--no quota	1992--524 fish harvested by anglers for subsistence and sport	DFO collected data on the sport and subsistence harvests of lake trout in this system in 1992 as part of their charr studies. (Cosens et al. 1993)
Halovik River (30 Mile River) 69°10'N, 107°04'W	Arctic charr (SR) 6,800	1989--6,857 kg; 1990--6,971 kg; 1991--6,354 kg; 1992--6,872 kg; 1993--5,939 kg	This fishery harvests a mixed stock which includes itinerant charr from the Ekalluk River. Like the Ekalluk, there was a decline in the size of charr taken between 1987 and 1989. DFO has been monitoring the fishery to see if this trend continues, and last sampled the commercial catch in July 1993. Biochemical studies are underway to determine stock identity. (Barlisen and Webber 1973; Kristofferson and Carder 1980; Carder 1981, 1983, 1988, 1991a, 1993; Carder and Low 1985; Carder and Stewart 1989; Yaremchuk et al. 1989; Cosens et al. 1990; DFO 1991, 1992a+b, 1993a+b; Bodaly et al. 1992; G. Carder, pers. comm.; A. Kristofferson, pers. comm.; G. Low, pers. comm.)
Jayco River 69°34'N, 103°21'W	Arctic charr (SR) 15,600	1989--10,293 kg; 1990--12,865 kg; 1991--2,226 kg; 1992--NF; 1993--15,411 kg	In the fall of 1981, DFO counted 139,000 charr migrating into the Jayco River. Despite the large commercial harvest the stock is thought to be lightly exploited. Commercial fishermen have used a weir during some years to harvest charr from the fall upstream run. The quota was raised to 15,600 kg in 1991 to offset lost production at the Ekalluk River. There was no commercial harvest in 1992 due to low prices for charr and high transportation costs. DFO last sampled the commercial catch in late August 1993. The weir was inoperative in 1993. Small commercial harvests of lake trout have also been taken on occasion from this area. (Kristofferson and Carder 1980; Carder 1981, 1983, 1988, 1991a, 1993; Carder and Low 1985; Carder and Stewart 1989; Yaremchuk et al. 1989; DFO 1991, 1992a+b, 1993a+b; Bodaly et al. 1992; A. Kristofferson, pers. comm.; G. Low, pers. comm.)
	lake trout--no quota	<u>By-catch:</u> lake trout--139 kg (1980)	
Jones Lake 69°42'N, 107°15'W			See CAMBRIDGE BAY--unnamed lake (IV#118.1) (Jones Lake)

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Kitiga Lake 69°15'N, 105°40'W	lake trout + lake whitefish 6,400	1983--301 kg	In 1967, commercial fishermen harvested 40,652 kg of fish, presumably a mixture of lake trout and lake whitefish, from this area. Harvests since that time have been small and sporadic. (Barlisen and Webber 1973; Yaremchuk et al. 1989)
Kulgayuk River (Dease Point) 68°16'N, 105°03'W	Arctic charr (SR) 4,000	1991--3,853 kg (the quota may have been reached but due to spoilage only 3,852 kg were delivered to the fish plant in Cambridge Bay); 1992--NF; 1993--3,120 kg	This fishery was opened in 1991 after a hiatus of at least 12 years. DFO sampled the catch in August 1991, and found that biological statistics were similar to those from a sample of the catch at the Ellice River which is being fished. Because the fishermen were setting their nets several kilometres from the river, they may have been taking itinerant fish from the Ellice River stock. The Kulgayuk fishery also had particularly high cullage related to its inaccessibility to aircraft during poor weather. DFO has recommended that fishing be restricted to the river mouth, that there be a tagging study to identify migratory exchange of fish between this system and the Ellice River, and that harvesters use a partial weir to minimize weather-related cullage. The harvest quota should also include cullage, and the next commercial catch should be sampled. There was no commercial harvest in 1992 due to low prices for charr and high transportation costs. (Carder and Stewart 1989; Yaremchuk et al. 1989; Carder 1993; Cosens et al. 1993; DFO 1993a + b; A. Kristofferson, pers. comm.; G. Low, pers. comm.)
Lauchlan River (Byron Bay) 68°56'N, 108°30'W	Arctic charr (SR) 9,100	1989--9,184 kg; 1990--8,938 kg; 1991--8,807 kg; 1992--9,320 kg; 1993--9,306 kg	This fishery takes place in the estuary in mid-July. It harvests a mixed stock consisting of itinerant charr from the Ekalluk River stock and local charr from the Lauchlan River. These fish are considered to be part of the Wellington Bay stock complex, although the small upstream run of charr in the Lauchlan River (11,000 in 1983) may be a discrete stock. DFO sampling of the commercial catch suggests that the Lauchlan River stock is heavily exploited and that the fishery may be in decline. Because of the mixed stock fishery, interpretation of the biological data is difficult. Fishing in the spring (i.e. mid-July) may lessen the impact on the Lauchlan River stock. Biochemical studies are underway to determine whether the stock is discrete. A tagging study is needed to establish the level of exploitation of the stock, and continued monitoring of the stock should continue through the commercial harvest. DFO last sampled the commercial catch in July 1993. (Barlisen and Webber 1973; Kristofferson and Carder 1980; Carder 1981, 1983, 1988, 1991a, 1993; Carder and Low 1985; Carder and Stewart 1989; Yaremchuk et al. 1989; Cosens et al. 1990; DFO 1991, 1992a + b, 1993a + b; A. Kristofferson, pers. comm.)
Merkley Lake 69°45'N, 107°40'W	lake trout + lake whitefish closed  cisco spp. + Arctic charr--no quota	1968--lake whitefish 3,672 kg 1970--lake trout 5,170 kg  <u>By-catch:</u> 1970--cisco spp. 574 kg; 1972--Arctic charr (SR) 3,527 kg	This lake was fished commercially from 1968-72. The harvests reported at the left may not accurately reflect the actual catch composition. The quota was revoked in 1991. High Arctic Lodge operates a sport fishing camp on Merkley Lake. (Yaremchuk et al. 1989)
Norway Bay River area 71°05'N, 104°33'W	Arctic charr (SR) 2,500	1989-93--NF	This area does not have a record of commercial harvest. It was opened in 1990, with a quota of 2,500 kg, but has not been fished due to logistical problems. (Bodaly et al. 1992; Cosens et al. 1993; A. Kristofferson, pers. comm.)

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Paliryuak River (Surrey River) 69°27'N, 106°40'W	Arctic charr (SR) 9,100	1989--9,176 kg; 1990--9,318 kg; 1991--8,953 kg; 1992--8,884 kg; 1993--6,579 kg	To date there is no evidence of a substantial upstream run of charr in this river, and tagging studies indicate that most of the fish caught in this area are from the Ekalluk River system. Because this fishery takes place in July in the estuary it probably is harvesting the largest, earliest migrants from the Ekalluk system. Biochemical analyses of a sample of the catch is underway to test affinity to the Ekalluk River stock. Biological data from the commercial catch at the Paliryuak support DFO's concern that the Ekalluk River stock is in decline. Quota reductions planned for 1991 were not implemented because the Ekalluk River quota was closed instead. In 1970-72, there were large commercial harvests of lake trout and whitefish from this area, presumably from the headwater lakes. DFO last sampled the commercial catch in July 1993. Anglers fly in to this area from Cambridge Bay to sport fish. (Barlshen and Webber 1973; Kristofferson and Carder 1980; Carder 1981, 1983, 1988, 1991a, 1993; Carder and Low 1985; Carder and Stewart 1989; McGowan 1989; Yaremchuk et al. 1989; Cosens et al. 1990; DFO 1991, 1992a+b, 1993a+b; Bodaly et al. 1992; A. Kristofferson, pers. comm.; G. Low, pers. comm.)
Pangtium Lake 69°42'N, 106°22'W	lake trout + lake whitefish 1,100	1989--lake whitefish 1,100 kg; 1990--lake whitefish 804 kg; 1991--lake whitefish 1,072 kg, lake trout 10 kg; 1992--NF	The last commercial harvest reported from this area was in 1991. (Yaremchuk et al. 1989; DFO 1992a+b)
Perry River 67°43'N, 102°10'W	Arctic charr (SR) 6,500  lake whitefish --no quota	1989-90--NF; 1991--601 kg; 1992-93--NF  <u>By-catch:</u> lake whitefish--377 kg (1980)	This area was heavily fished in 1977 and 1978. Declines in the mean age and length of the catch led to a reduction in the commercial quota from 11,300 kg in 1980 to 6,800 kg in 1981. The 1981 harvest was only 2,800 kg, far short of the quota. The next commercial harvest was not until August 1991, and that catch was sampled by DFO. The subsistence harvest of the stock is unknown but, given the past history of the fishery and the long period without commercial fishing, DFO believes that the present quota of 6,500 kg is sustainable. There was no commercial harvest in 1992 due to low prices for charr and high transportation costs. (Kristofferson and Carder 1980; Carder 1981, 1983, 1993; Yaremchuk et al. 1989; Cosens et al. 1990; Bodaly et al. 1992; DFO 1993a; A. Kristofferson, pers. comm.; G. Low, pers. comm.)
Shead Lake 69°40'N, 108°24'W	lake trout + lake whitefish 4,500		No record of commercial harvest.
Starvation Cove 69°09'N, 105°59'W	Arctic charr (SR)--no quota	1977--6,368 kg	The only record of commercial harvest and sampling from this area was in 1977. (Kristofferson and Carder 1980; Yaremchuk et al. 1989)
Surrey Lake 69°40'N, 107°13'W	lake trout + lake whitefish 9,100	1985--lake trout 164 kg, lake whitefish 190 kg	Large harvests of trout and whitefish were taken from this lake in 1970-72. Since then, the only report of commercial harvest from the area was by an exploratory fishery in 1985. (Barlshen and Webber 1973; Yaremchuk et al. 1989)
Tahoe Lake 70°15'N, 108°45'W	lake trout + lake whitefish 9,100		No record of commercial harvest.

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Toassie Lake 69°41'N, 106°39'W	lake whitefish + Arctic cisco 900	1989--lake whitefish 900 kg; 1990--lake whitefish 800 kg, lake trout 77 kg; 1991--lake whitefish 554 kg, lake trout 10 kg; 1992--NF	A large harvest of lake whitefish (16,031 kg), and a smaller one of lake trout (1,347 kg) was taken from this area by commercial fishermen in 1968. (Barlisen and Webber 1973; Yaremchuk et al. 1989; DFO 1991, 1992a + b)
unnamed waterbodies in the Cambridge Bay area	In the past, DFO placed commercial fishing quotas on many unnamed lakes and rivers in the Cambridge Bay area. Most of these quotas are for landlocked Arctic charr, or for lake trout and lake whitefish combined. Those with a record of commercial harvest are discussed below. There are another 75 unnamed waterbodies with quotas that have no record of commercial fishing. Their map coordinates are listed in Schedule V of the NWT Fishery Regulations.		
unnamed river/lake (HTA Lake) 69°15'N, 102°05'W	Arctic charr (SR) [1,500]	1989--1,725 kg; 1990--1,935 kg; 1991--861 kg; 1992--NA; 1993--2,751 kg	Exploratory fishery, sampled in August-September 1989-91. In 1993, the quota was opened under an experimental licence and taken using a traditional stone weir (saputit). (McGowan 1989; Yaremchuk et al. 1989; DFO 1991, 1992a + b, 1993a; McGowan et al. 1993; G. Low, pers. comm.)
unnamed river (east of Ellice River)(IV#40) 67°53'N, 103°07'W	Arctic charr (SR) closed	1975--Arctic charr (SR) 1,450 kg, lake trout 36 kg, lake whitefish 44 kg	The existence of a stock at this location is uncertain, therefore DFO does not recommend a quota. The last record of commercial fishing in this area was in 1975. The commercial quota has been kept closed since 1991. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
unnamed river (Dease Point)(IV#41) 68°16'N, 104°58'W	Arctic charr (SR) [2,500]	1989--3 kg; 1990--NF; 1991-92--NO	Little is known of this stock. It was apparently fished in earnest last in 1976, when fishermen harvested 992 kg of anadromous charr. An exploratory fishery in 1990 did not take place due to logistical problems. This area is near the Kulgayuk River and simultaneous fishing at the two locations would likely target the same stock, so DFO does not recommend that there be a quota here at present. (Bodaly et al. 1992; DFO 1992a + b; Cosens et al. 1993; A. Kristofferson, pers. comm.)
unnamed lake (IV#43) 68°57'N, 104°17'W	Arctic charr (LL), lake trout + lake whitefish 2,700	1991--Arctic charr (LL) 245 kg, lake whitefish 500 kg 1992--Arctic charr (LL) 272 kg, lake trout 23 kg, lake whitefish 113 kg	Winter fishery. (DFO 1993a + b)
unnamed lake (IV 44) 68°57'N, 104°45'W	Arctic charr (LL) 1,000	1979--875 kg	The only record of commercial harvest from this area was in 1979. (Yaremchuk et al. 1989)
unnamed lake (IV#47) 69°01'N, 104°38'W	Arctic charr (LL) 300	1972--464 kg	The only record of commercial harvest from this area was in 1972. (Barlisen and Webber 1973).
unnamed lake (IV#48) 69°02'N, 103°17'W	Arctic charr (LL) 1,100	1972--1,073 kg	The only record of commercial harvest from this area was in 1972. (Barlisen and Webber 1973).
unnamed lake (IV#51) 69°04'N, 103°14'W	Arctic charr (LL) 2,200	1972--1,217 kg	The only record of commercial harvest from this area was in 1972. (Barlisen and Webber 1973).

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
unnamed lake (IV#52) 69°04'N, 103°55'W	Arctic charr (LL) 1,500	1972--1,473 kg	The only record of commercial harvest from this area was in 1972. (Barlিশen and Webber 1973).
unnamed lake (IV#53) 69°04'N, 104°20'W	Arctic charr (LL) 1,400	1972--1,638 kg	The only record of commercial harvest from this area was in 1972. (Barlিশen and Webber 1973).
unnamed lake (IV#54) 69°04'N, 104°47'W	Arctic charr (LL) 400	1971--363 kg	The only record of commercial harvest from this area was in 1971. (Barlিশen and Webber 1973).
unnamed lake (IV#55) 69°05'N, 104°10'W	Arctic charr (LL) 1,800	1972--1,291 kg	The only record of commercial harvest from this area was in 1972. (Barlিশen and Webber 1973).
unnamed lake (IV#56) 69°05'N, 104°40'W	Arctic charr (LL) 2,100 [250] (1992)  lake trout + lake whitefish--no quota	1992--Arctic charr (LL) 41 kg;  <u>By-catch:</u> 1992--lake whitefish 21 kg, lake trout 83 kg	Winter fishery. In 1972, fishermen harvested 1,366 kg of landlocked charr from this lake. (Barlিশen and Webber 1973; DFO 1993b)
unnamed lake (IV#59) 69°06'N, 104°40'W	Arctic charr (LL) 2,100	1971--4,940 kg	The only record of commercial harvest from this area was in 1971. (Barlিশen and Webber 1973).
unnamed lake (IV#60) 69°07'N, 104°50'W	Arctic charr (LL) 300	1971--662 kg	The only record of commercial harvest from this area was in 1971. (Barlিশen and Webber 1973).
unnamed lake (IV#61) 69°09'N, 102°57'W	Arctic charr (LL) 2,600	1972--2,572 kg	The only record of commercial harvest from this area was in 1972. (Barlিশen and Webber 1973).
unnamed lake (IV#62) 69°09'N, 104°10'W	Arctic charr (LL) 400	1972--1,448 kg	The only record of commercial harvest from this area was in 1972. (Barlিশen and Webber 1973).
unnamed lake (IV#63) 69°09'N, 104°42'W	Arctic charr (LL) 500	1971--648 kg	The only record of commercial harvest from this area was in 1971. (Barlিশen and Webber 1973).
unnamed lake (IV#66) 69°11'N, 105°24'W	Arctic charr (LL) 1,400	1971--156 kg	The only record of commercial harvest from this area was in 1971. (Barlিশen and Webber 1973).
unnamed lake (IV#70) 69°14'N, 104°05'W	Arctic charr (LL) 3,200	1972--1,004 kg	The only record of commercial harvest from this area was in 1972. (Barlিশen and Webber 1973).
unnamed lake (IV#71) 69°14'N, 105°18'W	Arctic charr (LL) 1,400	1971--2,415 kg	The only record of commercial harvest from this area was in 1971. (Barlিশen and Webber 1973).
unnamed lake (IV#72) 69°15'N, 104°35'W	Arctic charr (LL) 1,000	1972--150 kg	The only record of commercial harvest from this area was in 1972. (Barlিশen and Webber 1973).

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
unnamed lake (IV#74) 69°15'N, 105°07'W	Arctic charr (LL) 800	1971--548 kg	The only record of commercial harvest from this area was in 1971. (Barlishen and Webber 1973).
unnamed lake (IV#75) 69°17'N, 104°05'W	Arctic charr (LL) 500	1972--857 kg	The only record of commercial harvest from this area was in 1972. (Barlishen and Webber 1973).
unnamed lake (IV#76) 69°16'N, 104°06'W	Arctic charr (LL) 500	1972--484 kg	The only record of commercial harvest from this area was in 1972. (Barlishen and Webber 1973).
unnamed lake (IV#78) 69°17'N, 104°42'W	Arctic charr (LL) 1,100	1971--354 kg	The only record of commercial harvest from this area was in 1971. (Barlishen and Webber 1973).
unnamed lake (IV#88) 69°29'N, 104°02'W	Arctic charr (LL) 1,400	1977--146 kg	The only record of commercial harvest from this area was in 1977. (Yaremchuk et al. 1989)
unnamed lk. (IV#113) 69°40'N, 104°05'W	Arctic charr (LL) 4,800	1977--164 kg	The only record of commercial harvest from this area was in 1977. (Yaremchuk et al. 1989)
unnamed lake (IV#118.1) (Jones Lake) 69°42'N, 106°25'W	lake trout + lake whitefish 9,100	<u>By-catch:</u> 1967--Arctic charr 547 kg	A small catch of charr in 1967 (547 kg) is the only record of commercial harvest from this area. (Yaremchuk et al. 1989)
unnamed lk. (IV#123) 69°45'N, 104°00'W	Arctic charr (LL) 6,100	1977--10,458 kg	The only record of commercial harvest from this area was in 1977. (Yaremchuk et al. 1989)
unnamed lk. (IV#125) 69°48'N, 104°12'W	Arctic charr (LL) 800  lake trout + cisco spp.--no quota	<u>By-catch:</u> 1977--lake trout 4,844 kg, cisco spp. 727 kg	The only record of commercial harvest from this area was in 1977. It consisted of lake trout and cisco spp. which were a by-catch of the otherwise unsuccessful charr fishery. (Yaremchuk et al. 1989)
unnamed lake (Padliak Inlet) 69°06'N, 103°16'W	Arctic charr --no quota	1977--884 kg	The only record of commercial harvest from this area was in 1977. (Yaremchuk et al. 1989)
unnamed r. (IV#143) (Cape Adelaide) 69°16'N, 102°00'W	Arctic charr (SR) 4,500	1989-93--NO	There are no data for this stock and no interest has been expressed in commercially fishing the area. (Bodaly et al. 1992; Cosen et al. 1993)
unnamed r. (IV#144) (Collinson Pen.) 69°56'N, 101°25'W	Arctic charr (SR) 4,500	1979--1,094 kg	This stock was last fished in 1979, at which time it was sampled. There is presently no interest in commercially fishing the area. (Carder 1981; Bodaly et al. 1992; Cosens et al. 1993)

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Washburn Lake 70°05'N, 107°30'W	lake trout + lake whitefish 14,500  cisco spp. + Arctic charr (SR)-no quota	lake trout--4.309 kg (1974)  <u>By-catch:</u> 1974--cisco spp. 136 kg, Arctic charr (SR) 91 kg	The only record of commercial harvest from this area was in 1974. (Yaremchuk et al. 1989)
Wickware Lake 69°48'N, 108°25'W	lake trout + lake whitefish 4,100		No record of commercial harvest.
<b>COPPERMINE</b>			
Belanger Lake 66°08'N, 114°57'W	lake trout + lake whitefish 600		No record of commercial harvest.
Contwoyto Lake 65°36'N, 110°39'W	lake trout [3,000]	1986--164 kg	DFO conducted an experimental fishery of Contwoyto Lake in 1981-82, and sampled an exploratory fishery in 1986. (Stewart and MacDonald 1978; Roberge et al. 1986; McGowan 1989; Yaremchuk et al. 1989)
Coppermine River 67°49'N, 115°04'W	Arctic charr (SR) 600	1989--600 kg; 1990--600 kg; 1991--581 kg; 1992--603 kg; 1993--NA estimated number of charr harvested annually: - subsistence > 17,000 - sport 250-300 - commercial 200	This stock supports a large subsistence fishery and a modest sport fishery. As such, it has only a nominal commercial quota. It was heavily exploited in the past but is not believed to be in trouble now. A door-to-door survey found that residents of the Coppermine netted 16,666 charr and angled 1,281 charr from June to December 1993. DFO sampled the subsistence harvest in 1981. Upstream from Bloody Falls, the sport angling limits are 1 charr daily and 1 in possession. The commercial catch was last sampled in 1993. (Gillman and Kristofferson 1984; Carder 1988, 1993; Carder and Stewart 1989; Yaremchuk et al. 1989; Cosens et al. 1990; DFO 1991, 1992a + b, 1993a + b; Bodaly et al. 1992; A. Kristofferson, pers. comm.; G. Low, pers. comm.)
Cox Lake 67°50'N, 115°05'W	broad whitefish + lake trout--no quota	1984--broad whitefish 33 kg, lake trout 43 kg, burbot 7 kg	Exploratory fishery, 1983-84. (McGowan 1985; Yaremchuk et al. 1989)
Nakyoktok Lk. + River 68°37'N, 110°52'W	Arctic charr (SR) [1,500]	1989--1,501 kg; 1990--1,500 kg; 1992--827 kg	Exploratory fishery sampled in August 1992. (McGowan 1989; Yaremchuk et al. 1989; DFO 1992a + b, 1993b; McGowan et al. 1993)
	lake trout [1,500]	1989--515 kg	
Tree River 67°43'N, 111°55'W	Arctic charr (SR) 700 fish	1978--subsistence 507 fish (2,485 kg); --sport 542 fish (2,656 kg); 1988--sport 175 fish; 1989--sport 104 fish; 1991--sport 567 fish, --subsistence 30 fish.	The Tree River supports a "World Class" trophy fishery for anadromous charr. In 1992, the anglers possession limits were reduced from 2 daily and 2 possession to 1 and 1, as a resource allocation mechanism, not due to stock problems. The main sport fishery is operated by the Tree River Outpost of Plummer's Great Bear Lodge, but other lodges may bring guests for day trips. DFO conducted creel censuses of the sport fishery in 1978 and 1991, and partial creels in 1988 and 1989. The sport harvest figures for 1988 and 1989 are minimum catches, since they are based only on surveys of the fishermen at Plummer's Lodge. In 1991, over 380 lodge

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Tree River--continued			guests and at least 70 itinerant fishermen fished at the Tree River. They caught at least 567 charr, the majority of which were current year spawners. Spawning apparently occurs in the Dogfish River, below waterfalls at the exit to Freshwater Lake which prevent further upstream migration by the charr. The current subsistence harvest is unknown. Nets were not used by subsistence fishermen during the 1991 creel census, but they were used the previous year after the sport fishery closed. (Falk and Dahlke 1979; Moshenko et al. 1984; C. Craig, pers. comm.; L. Dow, pers. comm.; G. Low, pers. comm.)
unnamed lake (Read Island) 69°12'N, 112°55'W	Arctic charr (SR) [1,000]	1989--1,500 kg; 1990--1,000 kg; 1991--347 kg; 1992--618 kg; 1993--NA	Exploratory fishery sampled in September 1990 and August 1991. (McGowan 1985, 1989; Yaremchuk et al. 1989; DFO 1991, 1992a+b, 1993a+b; McGowan et al. 1993)
unnamed lake (Kikiktalik) 68°11'N, 116°20'W	lake trout [1,000]	1988--1,000 kg	Exploratory fishery sampled in 1986 and 1987. (McGowan 1989; McGowan et al. 1993)
unnamed lake (Emagyok) 68°15'N, 116°40'W	Arctic charr (SR) [500]	1988--500 kg	Exploratory fishery. (McGowan et al. 1993)
unnamed river and lake (IV#142) 69°35'N, 112°58'W	Arctic charr (SR) + lake trout 900	1988-93--NO	No record of commercial harvest.
<b>GJOA HAVEN</b>			
Back River 67°15'N, 95°15'W	Arctic charr (SR) 9,100 [2,000] (1991)	1991--370 kg; 1992--NO; 1993--NF	Exploratory fisheries conducted in 1979-80, 1986-87, and 1991--sampled in 1987. This stock is believed to be lightly exploited. The commercial fishery may be competing with the Chantry Inlet Lodge which relies on trophy trout to attract sport anglers. The lodge was closed in 1992 and 1993. (Kristofferson et al. 1982; McGowan 1989; Yaremchuk et al. 1989; DFO 1993a; McGowan et al. 1993; A. Kristofferson, pers. comm.; G. Low, pers. comm.)
	lake trout [2,000]	1991--163 kg	
Elliot Bay 67°46'N, 97°00'W	Arctic charr (SR) [2,948]	1979--288 kg	Exploratory fishery sampled in 1979. (Kristofferson et al. 1982; Yaremchuk et al. 1989)
Gjoa Haven general area	Arctic charr (SR) [1,000]	1985--164 kg	Exploratory fishery sampled in 1985. Small commercial harvests were also taken from this area in 1977-78. (McGowan 1989; Yaremchuk et al. 1989)
Hayes River 67°08'N, 95°17'W	Arctic charr (SR) 4,500	1982--2,470 kg	Exploratory fishery sampled in 1982. Lake trout, Arctic cisco, lake whitefish, and burbot were also harvested during this fishery. The commercial fishery may be competing with the Chantry Inlet Lodge which relies on trophy trout to attract sport anglers. The lodge was closed in 1993. (McGowan 1985; Stewart and Bernier 1983; Yaremchuk et al. 1989; G. Low, pers. comm.)

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Kaleet Lake 67°37'N, 97°45'W	Arctic cisco [1,000]	1988--541 kg	Exploratory fishery. (DFO 1991)
Kaleet River 67°40'N, 97°11'W	Arctic cisco 1,000	1990--150 kg	Exploratory fisheries in 1979, 1986-7, and 1990-91--sampled in 1986 and 1987. (McGowan 1989; Yaremchuk et al. 1989; DFO 1993a; McGowan et al. 1993)
	Arctic charr (SR) [1,000]	1991--450 kg	
Kingark River 68°01'N, 94°50'W	Arctic charr (SR) [2,948]	1980--486 kg	Exploratory fishery sampled in 1979-80. This fishery apparently relied on itinerants from other systems, so no quota was recommended. (Kristofferson et al. 1982; McGowan 1985; Yaremchuk et al. 1989)
Mangles Bay 67°28'N, 95°25'W	Arctic charr (SR) [2,948]	1980--1,369 kg	Exploratory fishery sampled in 1979-80. This fishery apparently relied on itinerants from other systems, so no quota was recommended. (Kristofferson et al. 1982; McGowan 1985; Yaremchuk et al. 1989)
Murchison River 68°35'N, 93°30'W	Arctic charr (SR) 9,100	1988--2,700 kg; 1989-93--NF	This stock is remote and has been fished by residents of Gjoa Haven and Spence Bay on and off since 1973. The quota has been open in recent years but it has not been fished because of the cost of transporting the catch to market. Sampling in 1979-80 suggests that this stock is lightly exploited. (Kristofferson et al. 1982; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993; G. Low, pers. comm.)
Port Parry 69°40'N, 97°20'W	Arctic charr (SR) 1,000	1989--600 kg; 1990--726 kg; 1991--745 kg; 1992--245 kg; 1993--NA	This stock supports an important subsistence fishery and a small commercial fishery that supplies the community. The latter, which had a quota of 2,300 kg, failed in 1987 and was closed in 1988. The subsistence fishery was poor in 1988. Fishermen reported that the run had returned to normal in 1989, and attributed the problems of the previous years to low water having forced the charr to overwinter in another system. DFO has recommended that extent of the subsistence fishery be documented and that the commercial quota remain at 1,000 kg until there is more evidence that the fishery has recovered. DFO obtained samples from the commercial catch in October 1989. (Bodaly et al. 1992; DFO 1992a+b, 1993a+b; Carder 1993; G. Low, pers. comm.)
Simpson River 67°48'N, 100°45'W	Arctic charr (SR) 4,500	1989-93--NF	Little is known of this stock which is 225 km from Gjoa Haven. Fishermen from Gjoa Haven requested that the quota be opened in 1990, but logistical problems apparently prevented any commercial harvest. (Bodaly et al. 1992; G. Low, pers. comm.)
Starvation Lake 68°12'N, 96°36'W	Arctic charr (SR) [1,000]	1992--41 kg	Exploratory fishery. (DFO 1993b)
Tern Lake 67°48'N, 97°02'W	Arctic charr (SR) [1,000]	1991--45 kg	Exploratory fishery sampled in 1979-80. (Kristofferson et al. 1982; McGowan 1985; Yaremchuk et al. 1989; McGowan et al. 1993)
Ogle Point 68°17'N, 95°15'W	Arctic charr (SR) [1,000] Greenland cod [1,200]	1993--NA	Exploratory marine fishery. (J.T. Strong, pers. comm.)

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Peterson Bay 68°38'N, 95°45'W	Arctic charr (SR) 1,000 Greenland cod 1,200	1993--NA	Exploratory marine fishery. (J.T. Strong, pers. comm.)
Thunder Cove 68°22'N, 97°08'W	Arctic charr (SR) 1,000 Greenland cod 1,200	1993--NA	Exploratory marine fishery. (J.T. Strong, pers. comm.)
Richardson Point 68°20'N, 97°28'W	Arctic charr (SR) 1,000 Greenland cod 1,200	1993--NA	Exploratory marine fishery. (J.T. Strong, pers. comm.)
<b>PELLY BAY</b>			
Arrowsmith River 68°23'N, 90°17'W	Arctic charr (SR) 1,000	1989--NF; 1990--363 kg; 1991--998 kg; 1992--198 kg; 1993--NA	This stock was overexploited in the past and since 1984, DFO has recommended a nominal quota of 1,000 kg in order to obtain biological samples. The subsistence harvest is not available but is believed to be light. The commercial catch was last sampled in 1993. The quota is seldom taken by this winter fishery due to the difficulty of locating overwintering areas. (Kristofferson et al. 1982; Carder 1988, 1993; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1991, 1992a+b, 1993a+b; G. Low, pers. comm.)
Becher River 68°45'N, 90°08'W	Arctic charr (SR) 1,000	1989--858 kg; 1990--1,000 kg; 1991--808 kg; 1992--504 kg; 1993--NA	Sampling in 1979-80 suggested that this stock was heavily exploited. The subsistence harvest is unknown, and since 1987 DFO has recommended a commercial quota of 1,000 kg. The commercial catch was last sampled in 1993. (Kristofferson et al. 1982; Carder 1988, 1993; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1991, 1992a+b, 1993a+b; G. Low, pers. comm.)
Keith Bay (Committee Bay) 68°15'N, 88°15'W	Arctic charr (SR) 4,500	1989--1,187 kg; 1990--NF; 1991--449 kg; 1992--301 kg; 1993--NA	Charr are harvested in the fall through the ice at deep areas of the river where they congregate to overwinter. The harvest is low because these "holes" are fished out before the quota is reached. The stock appears to be in good condition. The commercial catch was last sampled in 1993. (Kristofferson et al. 1982; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992a+b, 1993a+b; Carder 1993; G. Low, pers. comm.)
Kellett River 68°21'N, 90°07'W	Arctic charr (SR) 1,000	1989--1,000 kg; 1990--1,000 kg; 1991--682 kg; 1992--686 kg; 1993--NO	This stock was overexploited in the 1970's and has yet to recover. In 1980, the annual harvest quota was reduced from 16,000 kg to 9,100 kg. The fishery was closed in 1982 and 1983, following several very low harvests. In 1984, DFO recommended a nominal quota of 500 kg, to determine whether the stock was recovering. The quota was raised to 1,000 kg in 1985, at which time sampling indicated that the stock had not recovered. This stock supports a perennial subsistence fishery, but reliable harvest estimates are not available. The commercial catch was last sampled in October 1992. In 1993, the Hunters and Trappers Association decided to suspend commercial fishing of this stock to facilitate its recovery. (Kristofferson et al. 1982; Carder 1988, 1993; Cosens et al. 1990; Bodaly et al. 1992; DFO 1992a+b, 1993a+b; G. Low, pers. comm.)

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Pelly Bay general area 68°32'N, 89°49'W	Arctic charr (SR)--no quota	1980--8,858 kg	Regular harvests ranging from 386 to 22,377 kg of anadromous charr were taken in this area between 1967 and 1980. The area does not have a commercial quota. The catch would have been comprised of fish from a number of rivers, including the Arrowsmith, Becher, and Kellet. (Yaremchuk et al. 1989; A. Kristofferson, pers. comm.)
Pelly River (Kugajuk River ?)	Arctic charr (SR)--no quota	1986--2,000 kg	Regular harvests were taken from this area between 1978 and 1986. It does not have a commercial quota. (Yaremchuk et al. 1989)
"Tourist" River 68°40'N, 90°30'W	Arctic charr (SR) [1,000]	1980--356 kg	Exploratory fishery sampled in 1979-80, found evidence of heavy exploitation. (Kristofferson et al. 1982; McGowan 1985; Yaremchuk et al. 1989)
unnamed lake (Tinitpayuk) 68°55'N, 90°34'W	Arctic charr (SR) [1,000]	1989--515 kg; 1990-91--NO; 1992--996 kg; 1993--NA	Exploratory fishery sampled in August 1989, and commercial harvest sampled in 1993. (McGowan et al. 1993; G. Carder, pers. comm.; DFO 1993b; G. Low, pers. comm.)
<b>TALOYOAK (SPENCE BAY)</b>			
Abernathy River 70°53'N, 93°00'W	Arctic charr (SR) [1,000]	1993--471 kg	Exploratory fishery in 1993. This stock is distant from the community and not used for local subsistence. (G. Low, pers. comm.)
Agnew River area (Ilaunnalik Bay) 70°40'N, 92°40'W	Arctic charr (SR) 4,500	1989-93--NF	This area is seldom fished because of its distance from Spence Bay. No harvest data are available and the stock status is unknown. (Bodaly et al. 1992)
Jekyll Lake 69°45'N, 93°40'W	Arctic charr (LL) [500] lake trout [500]	1992--Arctic charr (LL) 400 kg, lake trout 173 kg	Exploratory fishery. (DFO 1993b)
Krusenstern Lake 69°52'N, 93°00'W	Arctic charr (SR) [500]	1991--0 kg	Exploratory fishery. (McGowan et al. 1993)
Lord Lindsay Lake 70°10'N, 92°25'W	Arctic charr (SR) 2,500	1989--1,668 kg; 1990--1,494 kg; 1991--2,920 kg; 1992--2,407 kg; 1993--NA	This stock supports sport and commercial fisheries, and an important subsistence fishery. As a precautionary measure, because the annual subsistence and sport harvests are unknown, DFO reduced the commercial quota from 3,000 kg in 1987 to 2,500 kg in 1988. No problems have been reported from the fishery, but tagging studies suggest a high rate of exploitation for the stock. DFO has recommended that the commercial catch be sampled and the subsistence harvest determined in the near future. The commercial catch was last sampled in 1993. (Yaremchuk et al. 1989; Cosens et al. 1990, 1993; Bodaly et al. 1992; DFO 1992a + b, 1993a + b; G. Carder, pers. comm.; G. Low, pers. comm.)
Murchison River 68°35'N, 93°30'W	Arctic charr (SR) 9,100		See GJOA HAVEN-Murchison River

Table 1. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Netsilik Lake 69°15'N, 93°05'W	lake whitefish [2,000]	1989--500 kg	Exploratory fishery, 1984-88. Sampled in 1984. (McGowan 1985, 1989; Yaremchuk et al. 1989; McGowan et al. 1993)
	lake trout--no quota	1984--718 kg	
	Arctic charr (LL) [2,000]	1978--1,352 kg	
Netsilik River 69°22'N, 93°20'W	Arctic charr (SR) [1,360]	1983--1,399 kg	Exploratory fishery sampled in 1983. (McGowan 1985; Yaremchuk et al. 1989)
Pangnikto Lake 69°31'N, 92°58'W	Arctic charr (LL) [500] lake trout [500]	1992--Arctic charr (LL) 398 kg, lake trout 110 kg	Exploratory fishery. (DFO 1993b)
Taloyuak (Spence Bay) general area	Arctic charr (SR)--no quota	1978--1,709 kg	Commercial harvests were taken from this area in 1977-78. It does not have a commercial quota. (Yaremchuk et al. 1989)
Tukingayuk Lake 70°02'N, 93°07'W	Arctic charr (SR) [500]	1991--0 kg	Exploratory fishery. (McGowan et al. 1993)
unnamed lake (Kekektaktook) 69°15'N, 93°17'W	Arctic charr (LL) [500]  lake trout + lake whitefish--no quota	1988--Arctic charr (LL) 164 kg,  <u>By-catch:</u> 1988--lake trout 164 kg, lake whitefish 2 kg	Exploratory fishery sampled in 1988. (McGowan 1989; DFO 1991)
Taloyuak area (Spence Bay area) 69°32'N, 93°31'W	Greenland cod [1,000 longline] [1,000 jig]	1991--147 kg longline	Exploratory marine fishery. (DFO 1993a)

<sup>1</sup> Old or alternate names for the fisheries are shown in brackets, as are the codings for unnamed waterbodies listed in Schedule V of the Northwest Territories Fishery Regulations, e.g. (IV#143) indicates that the waterbody is in Region IV--the Kitikmeot, and is number 143.

<sup>2</sup> A round weight (kg rd wt) is that for a whole fish, while a dressed weight is that of a fish with the viscera and gills removed. Wherever possible, exploited populations of Arctic charr are identified as being either anadromous (SR) or landlocked (LL). The quotas are from Schedule V of the Northwest Territories Fishery Regulations except where they have been changed recently by variation notice. In this case, the most recent quota is given. Square brackets indicate provisional test quotas.

<sup>3</sup> The quota years are the same as the federal government fiscal year (e.g. the 1991 quota extends from 1 April 1991 to 31 March 1992). Where possible, the harvests from 1989 to 1993 have been listed, otherwise only the most recent harvest is shown. The round weights of the Arctic charr harvested were calculated using a dressed weight to round weight conversion factor of 1.15, which did not include an estimate of culls. "NA" indicates that a harvest may have taken place but that no data are available; "NF" indicates that a quota was open for fishing but was not fished; "NO" indicates that a quota was not open for fishing. Closed quotas that are described as "revoked" have been removed from Schedule V of the Northwest Territories Fishery Regulations.

Table 2. Harvests of fishes and marine invertebrates from the Keewatin Region of Nunavut by community area.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
<b>ARVIAT</b>			
Arviat Area (Eskimo Point Area) 61°07'N, 94°04'W	Arctic charr (SR) 4,500	1989--3,705 kg; 1990--291 kg; 1991--958 kg; 1992--87 kg; 1993--400 kg	The origins of this stock are unknown. It was thought to overwinter in the Maguse River system, but there does not appear to be a significant upstream run in the Maguse. Charr tagged during the Arviat summer fishery have been recovered at the Ferguson River, but the length and age distributions for the Ferguson River and Eskimo Point fisheries are quite different. This suggests that this summer coastal fishery depends upon a mixture of stocks. DFO last sampled the commercial catch in 1990, and recommended that there be continued monitoring of the stock. (Yonge 1988a, 1989; Yaremchuk et al. 1989; Carder 1991a; Bodaly et al. 1992; DFO 1992b; Cosens et al. 1993; A. Kristofferson, pers. comm.)
Copperneedle River 61°52'N, 93°37'W	Arctic charr (SR) 4,500	1989--1,622 kg; 1990--3,441 kg; 1991--781 kg; 1992--295 kg; 1993--28 kg	DFO sampled the commercial catch in 1988 and 1990, and did not find evidence of overexploitation, otherwise little is known of this stock. (Carder and Stewart 1989; Yaremchuk et al. 1989; Carder 1991a; Bodaly et al. 1992; DFO 1992a + b; Cosens et al. 1993; A. Kristofferson, pers. comm.; T. Stephenson and G. Weber, pers. comm.)
Maguse River 61°17'N, 94°03'W	Arctic charr (SR) closed	1989--536 kg; 1990--386 kg; 1991--668 kg; 1992--122 kg; 1993--509 kg	This fishery is adjacent to the Eskimo Point quota area. It too is a mixed stock summer coastal fishery. Assessment studies in 1988 and 1989 did not find evidence of a significant migratory charr stock in the Maguse River, however, charr tagged during the fishery have been recovered by the commercial fishery along the coast between the Maguse and Ferguson rivers. Poor fishing in recent years has prompted Arviat residents to recommend a 5 year moratorium on gillnet fishing in the Maguse River system to begin in 1994. DFO last sampled the commercial catch in 1989. (Carder 1988; Yonge 1989; MacDonnell 1988, 1989; Carder and Stewart 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993; A. Kristofferson pers. comm.)
Northside Lake 61°16'N, 94°30'W	lake trout, lake whitefish [1,361]	1979--lake trout 32 kg, --lake whitefish NA	Exploratory fishery. (Yaremchuk et al. 1989)
Sandy Point 61°44'N, 93°15'W	Arctic charr (SR) 900	1989--679 kg; 1990--960 kg; 1991--638 kg; 1992--599 kg; 1993--NF	This small stock was counted for three successive years in the 1970's. Poor fishing in recent years has prompted Arviat residents to recommend a 5 year moratorium on gillnet fishing in the Maguse River system, including the Sandy Point quota. Commercial harvest sampled in 1974. (Bond 1974; Carder and Peet 1983; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993; A. Kristofferson, pers. comm.; T. Stephenson and G. Weber, pers. comm.)
unnamed river (V#81) 61°33'N, 93°50'W	Arctic charr (SR) 2,300		Stock status unknown. There is no record of commercial harvest. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
unnamed river (V#82) 61°57'N, 93°22'W	Arctic charr (SR) 2,300		Stock status unknown. There is no record of commercial harvest. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
<b>BAKER LAKE</b>			
Baker Lake 64°19'N, 96°03'W	lake trout + lake whitefish 22,700	1989--NF; 1990--500 kg; 1991-92--NF; 1993--NO	Lake trout and lake whitefish are harvested from Baker Lake for local sale. The last large harvest of lake whitefish (10,144 kg) was in 1975. Sampled by DFO in 1959 and 1967. (Moshenko 1980; Yaremchuk et al. 1989; DFO 1992b)

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
	cisco spp. --no quota	<u>By-catch:</u> 1975--1,295 kg	Cisco spp. were harvested in conjunction with a large commercial harvest of lake whitefish in 1975. (Yaremchuk et al. 1989)
Brown Lake river 63°57'N, 94°16'W	Arctic charr (SR) [1,000]	1989--351 kg; 1990--317 kg; 1991--1,000 kg; 1992--NA; 1993--156 kg	Exploratory fishery last sampled in September 1990. The 1993 harvest was calculated from a total catch of 53 fish using the average weight from the 1990 samples. (McGowan 1989; DFO 1993a; McGowan et al. 1993; T. Stephenson and G. Weber, pers. comm.)
	lake trout [1,000]	1989--29 kg	
	lake whitefish [1,000]	1989--70 kg	
Kazan River 64°02'N, 95°30'W	lake trout + lake whitefish --no quota	1966--506 kg	Last reported commercial harvest from this area was in 1966. The area does not have a commercial quota. (Yaremchuk et al. 1989)
Pitz Lake 64°00'N, 96°45'W	lake trout, lake whitefish 2,300	1975--231 kg	The only commercial harvest reported from this area was in 1975. (Yaremchuk et al. 1989)
Schultz Lake 64°45'N, 97°30'W	lake trout, lake whitefish 3,000	1975--816 kg	The only reported harvest from this area was in 1975. The Ekalluk Lodge operates a sport fishery for lake trout, Arctic charr, and Arctic grayling at Shultz Lake. (Yaremchuk et al. 1989)
unnamed lake (Baker Lake area) 64°18'N, 96°30'W	lake trout, lake whitefish + Arctic charr (SR) [500]	1971--lake trout 9,253 kg --lake whitefish 10,778 kg	The commercial harvest of lake trout and lake whitefish from this area averaged over 10,000 kg annually for each species in 1969, 1970, and 1971. The last commercial harvest reported from this area was in 1971. An exploratory licence was issued in 1982 but there is not record of harvest. (Yaremchuk et al. 1989)
unnamed lake (1) (Cross Bay) 68°53'N, 93°32'W	Arctic charr (SR) [1,000]	1989--2 kg; 1990-91--NF	Exploratory fishery. (McGowan et al. 1993)
Whitehills Lake 64°35'N, 96°00'W	lake trout + lake whitefish 1,400		The only reported commercial harvest from this area was of Arctic charr in 1979. (Yaremchuk et al. 1989)
	Arctic charr --no quota	<u>By-catch:</u> 1979--Arctic charr 114 kg	

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
<b>CHESTERFIELD INLET</b>	Severe economic constraints in the commercial charr fishery have prompted a multi-year experimental program to determine the feasibility of a mixed-stock commercial fishery for anadromous Arctic charr. A system of open water commercial fishing zones and subsistence fishing zones have temporarily replaced the regular Schedule V fisheries (i.e. Chesterfield Inlet, East Point, Hanway River, Merles Harbour, Ranger Seal Bay, Steep Bank Bay, and three unnamed rivers [#83, #84, and #85] which until 1992 had separate quotas). Tagging programs are being conducted so that stocks can be identified and exploitation rates calculated. Fishermen will maintain logbooks and record CPUE and economic data. The provisional fishing plan of 1992-93 identified four fishing zones, one of which was the existing Chesterfield Inlet-Fish Bay quota which required no new status. This has led to confusion between the fishermen and DFO, since the fishermen are using "Zones 1 to 4" while DFO has been licencing "Fish Bay and Zones 1 to 3". DFO is acting to sort out the problem. Areas outside these zones have been reserved for subsistence fishing. (Cosens et al. 1993; A. Sekerak, pers. comm.; T. Stephenson and G. Weber, pers. comm.)		
Zone 1: Chesterfield Inlet-- Fish Bay	Arctic charr (SR) 4,500	1989--5,112 kg; 1990--1,973 kg; 1991--4,612 kg; 1992--2,972 kg; 1993--4,079 kg	The quota in this area was raised from 2,300 kg to 4,600 kg in 1987, when the Josephine River quota was divided between this area and Baker Foreland (see RANKIN INLET--Baker Foreland). This fishery is now part of the multi-year experimental zone fishery (see CHESTERFIELD INLET AREA above). At present it is referred to by the fishermen as Zone 1, but licenced by DFO as Fish Bay. This zone is bounded by the shoreline and a line that extends from Black Rocks Point (63°17'N, 90°48'W) to Wag Island (63°18'N, 90°38'W); Wag Island to Promise Island (63°13'N, 90°33'W); Promise Island to Fairway Island (63°13'N, 90°33'W); and Fairway Island to the mainland shore. DFO sampled the commercial catch in 1990, and did not find problems with the stock. Samples taken in 1993 have not yet been analysed. (Carder and Stewart 1989; Carder 1991a; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992b, 1993a; Cosens et al. 1993; D. Pike, pers. comm; T. Stephenson and G. Weber, pers. comm.)
Zone 2: SE Chesterfield Inlet	Arctic charr (SR) 7,500	1992-93--NF	This zone is bounded by the shoreline and a line that extends from Black Rocks Point (63°17'N, 90°48'W) to Wag Island (63°18'N, 90°38'W); Wag Island to 63°30.5'N, 91°00'W; 63°30.5'N, 91°00'W to Black Boulder Point (63°29'N, 90°57'W); and Black Boulder Point to Observation Point (63°27'N, 90°50'W). (D. Pike, pers. comm; T. Stephenson and G. Weber, pers. comm.)
Zone 3: NE Chesterfield Inlet	Arctic charr (SR) 7,500	1992--NF; 1993--243 kg	This zone bounded by the shoreline and a line that extends from Wag Island (63°18'N, 90°38'W) to Pintail Island (63°26'N, 90°36'W); Pintail Island to bay on Hanbury Island (63°32'N, 90°54'W); and bay on Hanbury Island to 63°30.5'N, 91°00'W. (D. Pike, pers. comm; T. Stephenson and G. Weber, pers. comm.)
Zone 4: Ellis Island to E. tip of Big Island	Arctic charr (SR) 5,000	1992--NF; 1993--21 kg	This zone is bounded by the shoreline and a line that extends from a point of land west of Ephemeral Cove (63°27'N, 91°04'W) to western point of Ellice Island (63°28'N, 91°03'W); Black Boulder Point (63°29'N, 90°57'W) to bay on Hanbury Island (63°32'N, 90°54'W); and point on south mainland shore (63°30'N, 91°13'W) to point on north mainland shore (63°37'N, 91°13'W). Samples taken in 1993 have not yet been analysed. (D. Pike, pers. comm; T. Stephenson and G. Weber, pers. comm.)
Brown River (Wager Bay) 65°55'N, 90°55'W	Arctic charr (SR) 6,800	1985--620 kg; 1989-92--NF; 1993--NA	Little is known of this stock. The only commercial harvest reported from this area was in 1985. (Bodaly et al. 1992; Cosens et al. 1993)

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Chesterfield Inlet (Fish Bay) 63°19'N, 90°45'W			see CHESTERFIELD INLET--Zone 1: Chesterfield Inlet--Fish Bay
Daly Bay area 64°17'N, 89°53'W	Arctic charr (SR)--no quota	1965--3,511 kg	Commercial harvests were taken from this area for a nearby fish plant in 1964 and 1965. The area does not have a commercial quota. (Yaremchuk et al. 1989)
East Point 63°44'N, 91°56'W	Arctic charr (SR) 1,000	1989-1992--NO; 1993--closed	Stock status unknown. No commercial harvests have been reported from this area. The quota was closed in 1992 as part of a multi-year experimental zone fishery (see CHESTERFIELD INLET AREA above). (Bodaly et al. 1992; Cosens et al. 1993)
Hanway River 66°32'N, 92°23'W	Arctic charr (SR) 2,300	1983--409 kg; 1989--NO; 1990--NF; 1991-92--NO; 1993--closed	Stock status unknown. This quota was opened for a winter fishery in 1990, but has not been fished since 1983. The quota was closed in 1992 as part of a multi-year experimental zone fishery (see CHESTERFIELD INLET AREA above). (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
Josephine River 63°02'N, 90°41'W	Arctic charr (SR) 4,500	closed since 1987	This quota was closed in 1987, when it was split between the Baker Foreland and Chesterfield Inlet (Fish Bay) quotas which apparently harvest the same stock. DFO recommends that this closure continue, and that the status of this stock and its summer migration patterns be studied in the near future. (See also: RANKIN INLET--Baker Foreland, and CHESTERFIELD INLET--Chesterfield Inlet (Fish Bay) (Bodaly et al. 1992; Cosens et al. 1993)
Kamarvik Creek 64°45'N, 87°29'W	Arctic charr (SR) 2,300	1988-93--NO	Little is known of this stock. There is no record of its having been commercially harvested. (Bodaly et al. 1992; Cosens et al. 1993)
Lorillard River 64°08'N, 90°06'W	Arctic charr (SR) [4,000]	1993--2,491 kg	Exploratory fishery sampled in 1993. (T. Stephenson and G. Weber, pers. comm.)
Merles Harbour 63°42'N, 91°24'W	Arctic charr (SR) 2,300	1989--91 kg; 1990--NF; 1991--771 kg; 1992--NF; 1993--closed	Little is known of this stock. DFO sampled the commercial catch in 1985 and 1986. The quota was closed in 1992 as part of a multi-year experimental zone fishery (see CHESTERFIELD INLET AREA above). (Keewatin Environmental Consultants 1986; McGowan 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992b, 1993b; Cosens et al. 1993)
Ranger Seal Bay 63°45'N, 91°43'W	Arctic charr (SR) 9,100	1989-90--NF; 1991--2,000 kg; 1992--NF; 1993--closed	Little is known of the stock in this area. The quota was closed in 1992 as part of a multi-year experimental zone fishery (see CHESTERFIELD INLET AREA above). (Bodaly et al. 1992; Cosens et al. 1993)
Robinhood Bay 63°45'N, 92°02'W	Arctic charr (SR) 6,800	1989--594 kg; 1990--NF; 1991-2--NF; 1993--267 kg	The mean annual commercial harvest in this area (1986-90) was 1,141 kg. DFO sampled the commercial catch in 1988 and did not find evidence of overexploitation. Little is known of the stock in this area. (Carder and Stewart 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992b; Cosens et al. 1993; A. Kristofferson, pers. comm.)

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Steep Bank Bay 63°36'N, 91°37'W	Arctic charr (SR) 4,500	1989--522 kg; 1990--NF; 1991--1,654 kg; 1992--NF; 1993--closed	Stock status unknown. The low harvest is believed to be due to low fishing effort. DFO sampled the commercial catch in 1985 and 1986. The quota was closed in 1992 as part of a multi-year experimental zone fishery (see CHESTERFIELD INLET AREA above). (Keewatin Environmental Consulting 1986; McGowan 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992b, 1993b; Cosens et al. 1993)
Stoney Point Area 63°51'N, 92°48'W	Arctic charr (SR) 6,800	1989--850 kg; 1990--500 kg; 1991--916 kg; 1992--NF; 1993--220 kg	This may be a mixed stock fishery. The mean annual commercial harvest over 5 years (1986-90) was 1,428 kg. DFO sampled the commercial harvest in 1988 and did not find evidence of overharvesting. (Carder and Peet 1983; Carder and Stewart 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992b; Cosens et al. 1993; A. Kristofferson, pers. comm.)
unnamed bay (Kangiqsurjuk) 63°34'N, 90°41'W	Arctic charr (SR) [1,000]	1991--500 kg	Exploratory fishery (1985-88, 1991) last sampled in 1991. (Keewatin Environmental Consulting 1986; McGowan 1989; Yaremchuk et al. 1989; DFO 1993b; McGowan et al. 1993)
unnamed river (V#88) (Big R., Barbour Bay) 63°32'N, 92°27'W	Arctic charr (SR) 900	1974--2,530 kg; 1989-93--NO	The last commercial harvest reported from this area was in 1979, although 409 kg of anadromous charr were harvested from Barbour Bay proper in 1984. (Carder and Peet 1983; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
unnamed river (V#83) 63°32'N, 92°35'W	Arctic charr (SR) 6,800	1989--NO; 1990--NF; 1991--NF; 1992--NA; 1993--closed	Little is known of this stock. The area was opened (1990-92) for fishing at the request of Rankin Inlet fishermen, but has no reported commercial harvest. The quota was closed in 1992 as part of a multi-year experimental zone fishery (see CHESTERFIELD INLET AREA above). (Bodaly et al. 1992; Cosens et al. 1993)
unnamed river (V#84) 63°32'N, 92°50'W	Arctic charr (SR) 6,800	1989-92--NO; 1993--closed	Little is known of this stock. The area has not been opened recently for commercial fishing. The quota was closed in 1992 as part of a multi-year experimental zone fishery (see CHESTERFIELD INLET AREA above). (Bodaly et al. 1992; Cosens et al. 1993)
unnamed river (Saqvaquac) 63°39'N, 90°33'W	Arctic charr (SR) [1,000]	1986--813 kg	Exploratory fishery sampled in 1985 and 1986. (Keewatin Environmental Consulting 1986; McGowan 1989; Yaremchuk et al. 1989)
unnamed river (Wager Bay) (V#85) 65°15'N, 87°41'W	Arctic charr (SR) 2,300	1989-92-NO	Little is known of this stock. The area has not been opened recently for commercial fishing. The quota was closed in 1992 as part of a multi-year experimental zone fishery (see CHESTERFIELD INLET AREA above). (Bodaly et al. 1992; Cosens et al. 1993)
<b>CORAL HARBOUR</b>			
Cleveland River 65°13'N, 84°48'W	Arctic charr (SR) 9,100 --Split: 6,100 summer; 3,000 winter	1990(w)--500 kg; 1991(s)--572 kg; 1991(w)--200 kg; 1992(s)--1,949 kg; 1993--NA	Coral Harbour residents fish this stock in summer near the river mouth, and in winter at the headwater lakes. The latter are important winter subsistence fisheries. Little is known of the stock. (Stewart and Bernier 1984; McGowan 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Gordon River 64°31'N, 87°49'W	Arctic charr (SR) 1,100	1988-93--NO	Stock status unknown. No reported commercial harvest. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
Teshikalik Lake 64°26'N, 82°16'W	Arctic charr (LL) [454]	1979--29 kg	Exploratory fishery sampled in November 1979. Small, slow-growing stock of landlocked charr. (Kristofferson and McGowan 1981; Stewart and Bernier 1984; Yaremchuk et al. 1989)
Thomsen River (Duke of York Bay) 65°31'N, 85°15'W	Arctic charr (SR) 4,200 annually or 8,400 over 2 years	1989--3,763 kg; 1990-93--NF;	The upstream run was counted at a weir in 1987 (15,500 charr), and the annual harvest quota was set at 4,200 kg. To improve the economics of the fishery the quota was raised to 8,400 kg, provided that it was only fished every second year. The 1989 fishery was conducted in summer using a freezer boat and an upstream weir. (Sopuck 1987; Sopuck and Whittaker 1987; McGowan 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992a; McGowan et al. 1993; Cosens et al. 1993)
Coral Harbour Area 64°08'N, 83°10'W	TURB [5,000] shrimp [1,000] clams [1,000] crabs [1,000]	1991--NF	Exploratory marine fishery, area opened for fishing but not fished. (DFO 1993a)
<b>RANKIN INLET</b>			
Baker Foreland 62°55'N, 90°48'W	Arctic charr (SR) 4,600	1989--4,722 kg; 1990--1,689 kg; 1991--2,648 kg; 1992--1,143 kg; 1993--2,072 kg	The stock that supports this fishery is presumed to overwinter in the Josephine River, mid-way between Rankin Inlet and Chesterfield Inlet, but fish tagged at the Diana River are also taken by the fishery. The previous quota of 2,300 kg was raised to 4,600 kg in 1987, when the two communities agreed to split the Josephine River quota between their traditional fishing areas. Consequently, instead of fishing at the Josephine River, fishermen now harvest the stock at Baker Foreland to the south and Fish Bay to the north. DFO has not identified any problems with this fishery. DFO sampled the commercial catch annually from 1986-90, and in August-September 1992 and 1993. (Carder and Peet 1983; Carder 1988, 1991a, 1993; Carder and Stewart 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; A. Kristofferson, pers. comm.; T. Stephenson and G. Weber, pers. comm.)
Corbett Inlet 62°28'N, 92°20'W	Arctic charr (SR) 4,500	1989--4,439 kg; 1990--1,733 kg; 1991--2,130 kg; 1992--32 kg; 1993--200 kg	This fishery has a relatively long history of commercial harvest. The catch fluctuates widely, probably as a function of the weather and level of fishing effort. DFO sampled the commercial catch annually from 1986-90 and did not find evidence that the stock was overexploited. ((Carder and Peet 1983; Carder 1988, 1991a, 1993; Carder and Stewart 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992b, 1993a; Cosens et al. 1993; A. Kristofferson, pers. comm.)
Diana Lake 62°58'N, 92°45'W	Arctic charr (SR) closed	1982--300 kg; closed since 1991	This lake is an overwintering area for the Diana River charr stock which has been overexploited. DFO has closed the Diana River fishery (Rankin Inlet) until there is evidence of stock recovery, and recommends that there be no commercial fishing of Diana Lake. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Diana River 62°50'N, 92°23'W	Arctic charr (SR)--no quota	1986--2,789 fish subsistence -- 496 fish sport  1991--5,100 kg subsistence -- 370 kg sport	The Diana River stock has been depleted by past overfishing. The Diana River has traditionally been an important subsistence fishery. Sport fishing began there in the late 1950's, and commercial fishing in the 1960's. The commercial fishery was under the Rankin Inlet Area quota (see RANKIN INLET--Rankin Inlet Area) which was closed in 1985. The subsistence catch voluntarily reduced, due to evidence of overfishing. DFO conducted censuses of the subsistence and sport fisheries in June and July of 1984, 1985, and 1986. Commercial fishing is not permitted within 8 km downstream from the river mouth. Sport angling limits have been reduced from 4 charr daily and 7 in possession to 2 and 4, respectively. Sampling of the 1991 commercial harvest in the Rankin Inlet Area (see below) indicated that the stock remained depleted, both in terms of the size and abundance of the charr relative to the early 1980's. The variability of weir count data also suggests that straying among adjacent streams may be significant. DFO has recommended that the Diana River area remain closed to commercial fishing pending evidence of stock recovery, and that there be no commercial fishing at Diana Lake or Peter Lake where the stock overwinters. In 1992, DFO recommended that tagging studies be undertaken to gain a better understanding of the stock dynamics and to accurately estimate the subsistence harvest. (Carder and Peet 1983; McGowan 1987, 1992; Yaremchuk et al. 1989; Bodaly et al. 1992; Carder 1992; Cosens et al. 1993)
Josephine River 63°02'N, 90°41'W	Arctic charr (SR) closed	closed since 1987	This quota was closed in 1987, when it was split between the Baker Foreland and Chesterfield Inlet (Fish Bay) quotas which apparently harvest the same stock. DFO recommends that this closure continue, and that the status of this stock and its summer migration patterns be studied in the near future. DFO sampled the commercial harvest from this area in 1979. (See also: RANKIN INLET--Baker Foreland, and CHESTERFIELD INLET--Chesterfield Inlet (Fish Bay) (Carder and Peet 1983; McGowan 1987; Bodaly et al. 1992; Cosens et al. 1993)
Meliadine River 62°52'N, 92°07'W	Arctic charr (SR)--no quota		This area is an important subsistence and sport fishery for Rankin Inlet. Commercial fishing is not permitted within 8 km downstream of the river mouth. The sport angling limits have been reduced from 4 charr daily and 7 in possession to 2 and 4, respectively. DFO conducted a weir assessment of the fall upstream run in 1990. Species sampled at the weir included anadromous Arctic charr, Arctic grayling, lake cisco, and lake trout. (Carder and Peet 1983; McGowan 1992; T. Stephenson and G. Weber, pers. comm.)
Peter Lake 63°08'N, 92°48'W	lake whitefish + lake trout 7,600  Arctic charr (SR) closed	1979--lake trout 90 kg, --lake whitefish 21 kg 1983--Arctic charr (SR) 136 kg	Anadromous Arctic charr from the Diana River stock overwinter in Peter Lake. DFO sampled the lake in 1968. Until there is evidence of stock recovery at Diana River, DFO recommends that there be no commercial fishing of Peter Lake. (Moshenko 1980; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)												
Rankin Inlet Area 62°45'N, 92°05'W	Arctic charr (SR) 4,000	1991--2,648 kg; 1992--1,457 kg; 1993--1,801 kg  Tag recovery estimates of the combined harvest from the Rankin Inlet and Baker Foreland areas, in terms of numbers of fish were:  <table style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;"><u>1992</u></td> <td style="text-align: center;"><u>1993</u></td> </tr> <tr> <td>comm.</td> <td style="text-align: center;">1070</td> <td style="text-align: center;">1700</td> </tr> <tr> <td>subsist.</td> <td style="text-align: center;">5790</td> <td style="text-align: center;">1700</td> </tr> <tr> <td>sport</td> <td style="text-align: center;">430</td> <td style="text-align: center;">130</td> </tr> </table>		<u>1992</u>	<u>1993</u>	comm.	1070	1700	subsist.	5790	1700	sport	430	130	Fish harvested by this summer coastal fishery are from the Diana River stock. Large commercial harvests were taken annually from this area from 1961 to 1984. Steadily declining catches and complaints from fishermen led to its closure in 1985 (see RANKIN INLET AREA--Diana River). The quota was re-opened in 1991 as a tag recovery mechanism for tagging studies at the Diana River. Commercial fishing is not permitted within 8 km of the mouths of the Diana and Meliadine rivers. In 1992, the commercial quota was reduced to 4,000 kg. DFO last sampled the commercial catch in 1993. The area supports a substantial subsistence fishery and a modest sport fishery. The accuracy of the subsistence and sport harvest estimates is unknown. It is not known whether the apparent decline in the subsistence harvest is real, or if the fishing effort has dropped. (Carder 1983, 1988, 1992, 1993; Carder and Peet 1983; Carder and Low 1985; Carder and Stewart 1989; Cosens et al. 1990, 1993; Bodaly et al. 1992; McGowan 1992; A. Kristofferson, pers. comm.; T. Stephenson and G. Weber, pers. comm.)
	<u>1992</u>	<u>1993</u>													
comm.	1070	1700													
subsist.	5790	1700													
sport	430	130													
unnamed lake 62°44'N, 92°26'W	Arctic charr (SR), lake trout + lake whitefish [1,361]	1979--Arctic charr (SR) 2 kg; --lake trout 15 kg; --lake whitefish 2 kg	Exploratory fishery. (Yaremchuk et al. 1989)												
unnamed river (V#83) 63°32'N, 92°35'W	Arctic charr (SR) 6,800		See CHESTERFIELD INLET--unnamed river (V#83)												
Hudson Bay/Whale Cove area 63°00'-63°30'N, 92°-93°W	amphipods [2,000]	1993--NA	Exploratory sampling under a Scientific Licence using baited pots and bongo trawls. (J.T. Strong, pers. comm.)												
Western Hudson Bay	scallops [2,000]	1993--146 kg (shell stock)	An exploratory marine fishery conducted between Rankin Inlet and Chesterfield Inlet located scallop beds near offshore Chesterfield Inlet and near Marble Island. (J. Hollett, pers. comm.; T. Stephenson and G. Weber, pers. comm.)												
<b>REPULSE BAY</b>															
Alda Lake (Alden Lk. and R.) 65°45'N, 88°56'W	Arctic charr (SR) 900	1989-92--NO	There are no data for this stock, and no interest has been expressed in commercially fishing the area (Bodaly et al. 1992; Cosen et al. 1993)												
Bennett Bay (Wager Bay) 65°55'N, 89°40'W	Arctic charr (SR) 2,300	1989-90--NF; 1991--100 kg; 1992-93--NF	Little is known of this stock. (Bodaly et al. 1992; Cosens et al. 1993)												
Christie Lake 66°49'N, 87°10'W	lake trout, lake whitefish + Arctic charr (LL) 900	1989-93--NO	Little is known of this stock and little interest has been expressed in commercially fishing the area. Bodaly et al. 1992; Cosens et al. 1993)												

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Curtis River (Saputit) (Committee Bay) 67°12'N, 87°28'W	Arctic charr (SR) 4,500	1989--180 kg; 1990--225 kg; 1991--268 kg; 1992--NF; 1993--NA -- subsistence harvest <500 kg annually	Sampling of the commercial harvest in 1986 and 1987 indicated that the stock was lightly exploited. The harvest has been low and sporadic in the past and takes place in winter. The subsistence harvest is reported to be less than 500 kg annually. The upstream run was sampled and assessed using a weir in 1993. A total of 1,950 charr were counted moving upstream between 5 August and 2 September 1993. The stock appears to be small, and may be better left to the subsistence fishery. (McGowan 1989; Cosens et al. 1990, 1993; Bodaly et al. 1992; DFO 1992b, 1993b; Sekerak 1993)
Gibson Cove 66°32'N, 86°45'W	Arctic charr --closed	1983--364 kg; 1989-91--NO	Little is known of this stock. The quota was revoked in 1991. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
Gore Bay 66°19'N, 84°24'W	Arctic charr (SR) 3,600	1989-90--NF; 1991--subsistence 150 kg; 1992-93--NO	Little is known of this stock. The area was opened for winter fishing from 1990-93 but with no reported commercial harvest. An exploratory weir assessment counted a total of 6,556 charr moving upstream an unnamed river (66°25'N, 84°37'W) that flows into Gore Bay between 15 August and 3 September 1992. The subsistence harvest is unknown. (Yaremchuk et al. 1993; Bodaly et al. 1992; Cosens et al. 1993; DFO 1993b; Hollett 1993; A. Kristofferson, pers. comm.; T. Stephenson and G. Weber, pers. comm.)
Haviland Bay 66°31'N, 85°25'W	Arctic charr (SR) 2,300	1989-90--NF; 1991--1,300 kg; 1992--NF; 1993--NA	This area has been opened for winter fishing in recent years, with few reports of commercial harvests. Little is known of the stock. (Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992b; Cosens et al. 1993)
Lyons Inlet 66°32'N, 83°53'W	Arctic charr (SR)--no quota	1979--344 kg	Exploratory fishery. (Yaremchuk et al. 1989)
North Pole Lake 66°37'N, 86°53'N	lake trout + lake whitefish 500		No report of commercial harvest.
North Pole River 66°32'N, 86°45'W	Arctic charr (SR) 2,300	1989--NO; 1990--106 kg; 1991--127 kg; 1992--NF; 1993--NO	Little is known of this stock. There has been a small, sporadic commercial harvest in this area since 1964. The annual harvest does not appear to have exceeded 1,300 kg. (Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992b; Cosens et al. 1993)
Piksimanik River, Douglas Harbour 65°38'N, 88°24'W	Arctic charr (SR) 2,300	1989--300 kg; 1990--NF; 1991--subsistence 150 kg; 1992--NF; 1993--NA	Little is known of this stock which is far from Repulse Bay. (Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992a+b; Cosens et al. 1993; T. Stephenson and G. Weber, pers. comm.)
Ross Inlet (Nissiligaarjuk) 67°09'N, 87°16'W	Arctic charr (SR) [2,500]	1989--735 kg; 1990--448 kg; 1991--523 kg; 1992--595 kg; 1993--100 fish sampled and significant subsistence harvest	Exploratory fishery started in 1986, and sampled in 1986 and 1987. A weir assessment of the upstream run in 1993, found the stock to be small and recommended further study before establishing a commercial fishery. A total of 4,118 charr were counted moving upstream in the system between 8 August and 2 September 1993--2,982 of these fish were tagged and 100 sampled. (McGowan 1989; Yaremchuk et al. 1989; McGowan et al. 1993; Sekerak 1993; DFO 1993b)

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Snowbank River 65°53'N, 86°22'W	Arctic charr (SR) 2,300	1989-90--NF; 1991--75 kg; 1992--NF; 1993--NO	Little is known of this stock. The only commercial harvest reported was in 1991. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
unnamed lake (V#86) 66°43'N, 87°03'W	lake trout + lake whitefish 1,400		No reported commercial harvest. (Yaremchuk et al. 1989)
unnamed lake (V#87) 66°51'N, 87°17'W	lake trout + lake whitefish 1,100		No reported commercial harvest. (Yaremchuk et al. 1989)
unnamed river (Ross Bay) (Tasirjuaq) 67°04'N, 84°52'W	Arctic charr (SR) [2,500]	1989--1,579 kg; 1990--1,558 kg; 1991--1,854 kg; 1992--148 kg	Exploratory fishery begun in 1986, and sampled in 1986 and 1987. An exploratory weir assessment counted a total of 6,550 charr moving upstream in this system between 13 August and 3 September 1992--493 fish were tagged and 102 sampled. The stock supports a "moderate" subsistence fishery, but the harvest is unknown. (McGowan 1989; Yaremchuk et al. 1989; McGowan et al. 1993; DFO 1993b; Hollett 1993)
unnamed river (Ross Bay) (Ammaglugtuq) 66°50'N, 85°02'W	Arctic charr (SR)--no quota		Exploratory fishery sampled in 1986. An exploratory weir assessment in 1993 found a very small upstream run and recommended that it be left for the subsistence fishery. A total of 238 charr were counted moving upstream in this system between 6 and 26 August 1993--136 fish were tagged and 102 sampled. (Sekerak 1993)
<b>WHALE COVE</b>			
Ferguson River 62°03'N, 93°20'W	Arctic charr (SR) 13,600	1989--11,412 kg; 1990--8,696 kg; 1991--4,589 kg; 1992--1,014 kg; 1993--621 kg;	While the upstream run of anadromous charr into the Ferguson River system has not been counted, a large stock of charr is believed to overwinter there. Tag returns suggest that this stock also supports at least two other fisheries (Arviat Area and Maguse River). The area is fished commercially by residents of Arviat, Rankin Inlet, and Whale Cove. It has been commercially fished regularly since 1962. The mean annual commercial harvest over 20 years is 8,200 kg. DFO sampled the commercial catch in 1990 and did not find evidence of overexploitation. Because the stock is harvested at several locations, DFO has recommended careful monitoring of the commercial catches and further studies to identify the stock's migration patterns. DFO last sampled the commercial catch in 1993. Ferguson Lake Lodge operates a sport fishing lodge on the lake. (Carder and Peet 1983; Roberge et al. 1984; Carder and Low 1985; Yonge 1988b; Carder and Stewart 1989; Yaremchuk et al. 1989; Carder 1991a, 1993; Bodaly et al. 1992; DFO 1992b; Cosens et al. 1993; A. Kristofferson, pers. comm.; T. Stephenson and G. Weber pers. comm.)
Mistake Bay 62°10'W, 92°57'W	Arctic charr (SR) 2,300	1989--NF; 1990--75; 1991--544 kg; 1992--80 kg; 1993--121 kg	Little is known of this stock. Small commercial harvests have been taken from this area irregularly since 1973. DFO has not identified any problems with this fishery, which is distant from Whale Cove. (Yonge 1988b; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992b; Cosens et al. 1993; A. Kristofferson, pers. comm.)

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Pistol Bay 62°28'N, 92°44'W	Arctic charr (SR) 2,300	1989--3,010 kg; 1990--1,344 kg; 1991--841 kg; 1992--177 kg; 1993--493 kg	This summer coastal fishery likely harvests charr from several stocks, just which stocks remains unknown. DFO sampling of the commercial catch in 1989 did not provide evidence of overexploitation. Last sampled in 1992. (Carder 1988, 1991a; Yonge 1988b; Carder and Stewart 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992a+b; Cosens et al. 1993; A. Kristofferson, pers. comm.)
unnamed river (V#82) 61°57'N, 93°22'W	Arctic charr (SR) 2,300		Little is known of this stock. It has been opened for fishing recently, but has no record of commercial harvest. (Bodaly et al. 1992; Cosens et al. 1993)
Wallace River 61°37'N, 93°41'W	Arctic charr (SR) 2,300	1989--NF; 1990--206 kg; 1991--NF; 1992--601 kg; 1993--NF	There have been small commercial harvests in this area since 1972. DFO is not aware of any problems with the stock and assumes that the low harvests are related to fishing effort. Sampled in 1974. (Carder and Peet 1983; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993; T. Stephenson and G. Weber, pers. comm.)
Whale Cove Area 62°09'N, 92°35'W	Arctic charr (SR) closed	1985--3,149 kg	This fishery and the Wilson Bay fishery may harvest the same stock so DFO combined the two quotas under Wilson Bay, and revoked the Whale Cove Area quota in 1991 (see below). Commercial harvests were taken from the area annually from 1960 to 1985. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
Wilson Bay 62°18'N, 92°53'W	Arctic charr (SR) 10,000 --split: 8,000 summer; 2,000 winter.	1989--7,179 kg; 1990--7,759 kg; 1991(s)--2,491 kg; 1992(s)--1,121 kg; 1993--335 kg	DFO has sampled the catch of this commercial fishery almost annually since 1986, most recently in August-September 1992. Most harvesting takes place along the coast in the summer. Recent data do not suggest overexploitation. (See also Whale Cove area) (Sprules 1952; Carder 1988, 1991a, 1993; Yonge 1988b; Carder and Stewart 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993; A. Kristofferson, pers. comm.)
<b>INLAND LAKES</b>			
Angikuni Lake 62°13'N, 99°50'W	lake trout + lake whitefish--closed		No reported commercial harvest. Sampled by DFO in 1959 and 1968. The quota was revoked in 1991. (Moshenko 1980; Yaremchuk et al. 1989)
Banks Lake 63°10'N, 94°25'W	lake trout + lake whitefish 1,400		No reported commercial harvest.
Baralzon Lake 60°00'N, 98°00'W	lake trout + lake whitefish 2,700		No reported commercial harvest.
Beechey Lake 65°25'N, 106°50'N	lake trout + lake whitefish--no quota		Exploratory fishery sampled by DFO in 1959. (Moshenko 1980)
Beverly Lake 64°36'N, 100°30'W	lake trout, lake whitefish, Arctic grayling + cisco sp.--no quota		Exploratory fishery sampled by DFO in 1959. (Moshenko 1980)
Blakely Lake 63°18'N, 94°55'W	lake trout + lake whitefish 400		No reported commercial harvest.

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Boland Lake 61°41'N, 99°38'W	lake trout + lake whitefish 4,000		No reported commercial harvest.
Bray Lake 61°29'N, 98°04'W	lake trout + lake whitefish 700		No reported commercial harvest.
Carr Lake 62°05'N, 95°45'W	lake trout + lake whitefish 1,000	1992--NF	No reported commercial harvest. Opened but not fished in 1992. (DFO 1993a)
Charlie Lake 60°00'N, 100°35'W	lake trout + lake whitefish 1,700	1964--lake trout 747 kg, lake whitefish 2,213 kg	The only commercial harvest reported from this area was in 1964. (Yaremchuk et al. 1989)
Charr Lake #1 62°52'N, 92°10'W	lake trout + lake whitefish 1,361	1979--lake trout 20 kg, lake whitefish 1 kg	Exploratory fishery. (Yaremchuk et al. 1989)
Charr Lake #2 62°52'N, 93°13'W	lake trout + lake whitefish 1,361	1979--lake trout 9 kg, lake whitefish 13 kg	Exploratory fishery. (Yaremchuk et al. 1989)
Cullaton Lake 61°20'N, 98°26'W	lake trout + lake whitefish 800		No reported commercial harvest.
de Bartok Lake 60°14'N, 99°00'W	lake trout + lake whitefish 8,000	1965--lake trout 8,937 kg, lake whitefish 18,377 kg	The only commercial harvest reported from this area was in 1964. (Yaremchuk et al. 1989)
Dismal Lake 67°26'N, 117°07'W	lake trout, lake whitefish + cisco sp.--no quota		Exploratory fishery sampled by DFO in 1959. (Moshenko 1980).
Dubawnt Lake 63°08'N, 101°30'W	lake trout + lake whitefish 214,000	1980 sport harvest: --lake trout 14,741 kg; --Arctic grayling 33 fish	No reported commercial harvest. Surveyed by DFO in 1959. A sport fishing lodge was established on Dubawnt lake in 1977. A creel census and test netting program was conducted by DFO in 1980. (Moshenko 1980; Roberge 1984; Roberge et al. 1984)
Eklund Lake 62°28'N, 102°59'W	lake trout + lake whitefish 20,100		No reported commercial harvest.
Ellice Lake 65°43'N, 106°00'W	lake trout --no quota		Exploratory fishery sampled by DFO in 1959. (Moshenko 1980)
Elliot Lake 61°05'N, 99°27'W	lake trout + lake whitefish 9,300		No reported commercial harvest.
Garry Lake 66°00'N, 100°00'W	lake trout + lake whitefish 7,600	1976--15,705 kg (combined)	Large commercial harvests were taken from this area in 1975 and 1976. There are no other reports of commercial harvest. (Yaremchuk et al. 1989; DFO 1992a+b, 1993a+b)
Grant Lake 63°38'N, 100°30'W	lake trout + lake whitefish 2,600		No report of commercial harvest.

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Hyde Lake 60°35'N, 95°15'W	lake whitefish + northern pike --no quota		Exploratory fishery sampled by DFO in 1959. (Moshenko 1980)
Kaminak Lake 62°10'N, 95°00'W	lake trout + lake whitefish 22,700	1975--lake trout 9,575 kg, lake whitefish 4,975 kg	This area has a joint quota for lake trout and lake whitefish. It was fished commercially from 1967 to 1975. (Yaremchuk et al. 1989)
Kaminuriak Lake 62°55', 95°30'W	lake trout + lake whitefish 45,500	1974--lake trout 1,059 kg, lake whitefish 265 kg; 1989--lake trout 300 kg; 1990-92--NF; 1993--NO	This area has a joint quota for lake trout and lake whitefish. It was fished commercially from 1972 to 1974, and sampled in 1972-73. Fishermen took over 50,000 kg of trout and whitefish from the lake in 1972. Ferguson Lake Lodge operates an outpost camp for sport fishermen on Kaminuriak Lake. (Bond 1975; Roberge et al. 1984; Yaremchuk et al. 1989; DFO 1992a + b, 1993b)
Kasba Lake 60°18'N, 102°07'W	lake trout + lake whitefish 75,900	1968--lake trout 19,257 kg, lake whitefish 10,414 kg; 1969--lake whitefish 1,505 Kg	Large commercial harvests were taken from this lake in 1963 and 1968, with smaller harvests in 1967 and 1969. DFO sampled fish from the lake in 1963 and 1967. Commercial fishing was discontinued due to a high infestation rate of <i>Tripanophorous crassus</i> in the lake whitefish, and high transportation costs. A sport fishery was established on the lake in 1971. In 1979, anglers harvested an estimated 1,846 fish (3,692 kg). (Moshenko 1980; Falk et al. 1982; Roberge et al. 1984; Yaremchuk et al. 1989)
Kathawachaga Lake 66°14'N, 98°57'W	lake trout, lake whitefish, round whitefish + cisco sp.--no quota		Exploratory fishery sampled by DFO in 1959. (Moshenko 1980)
MacDougall Lake 65°58'N, 98°37'W	lake trout, lake whitefish, Arctic grayling + round whitefish--no quota		Exploratory fishery sampled by DFO in 1959. (Moshenko 1980)
Machum Lake 63°15'N, 92°35'W	lake trout + lake whitefish 800		No report of commercial harvest.
MacQuoid Lake 63°25'N, 94°40'W	lake trout + lake whitefish 1,000		No report of commercial harvest.
Maguse Lake 61°40'N, 95°10'W	lake trout, lake whitefish, Arctic charr + round whitefish--no quota		Exploratory fishery sampled by DFO in 1959. (Moshenko 1980)
Mallery Lake 63°55'N, 98°25'W	lake trout + lake whitefish 16,200		No report of commercial harvest.

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
Maze Lake 62°23'N, 93°30'W	lake trout, Arctic charr, round whitefish + cisco sp.--no quota		Exploratory fishery sampled by DFO in 1959. (Moshenko 1980)
McAleese Lake 60°19'N, 98°38'W	lake trout + lake whitefish 3,800	1966--lake trout 3,034 kg, lake whitefish 6,849 kg	The only reported commercial harvest from this area was in 1966. (Yaremchuk et al. 1989)
Meliadine Lake 63°05'N, 92°25'W	lake trout --no quota		Exploratory fishery sampled by DFO in 1959. (Moshenko 1980)
North Henik Lake 61°45'N, 97°40'W	lake trout + lake whitefish 14,000	1970--lake trout 2,343 kg, lake whitefish 206 kg; 1980--sport harvest: --lake trout 1,711 kg	The only record of commercial harvest from this area was in 1970. DFO sampled fish from the lake in 1967 and 1968. There is a sport lodge on the lake. DFO conducted a creel census of the sport fishery and sampled the lake in 1980. The area was opened but not fished in 1992. (Falk 1979; Moshenko 1980; Roberge et al. 1984; Yaremchuk et al. 1989; DFO 1993b)
Nueltn Lake 60°30'N, 99°30'W	lake trout + lake whitefish 75,800	1969--lake trout +lake whitefish 30,041 kg; 1981--sport harvest: --579 lake trout (1,448 kg), --7 Arctic grayling	Sampled in 1947 and 1962, Nueltn Lake was first fished commercially in 1949. In 1963 and 1964, over 110,000 kg of trout and whitefish (combined) was commercially harvested from Nueltn Lake. In 1964, there were also small harvest of northern pike (26 kg) and walleye (4 kg). Large harvests continued until 1969. There is a sport fishing lodge on the lake. DFO conducted a creel census and sampling program in 1980. (Fowler 1948; Harper 1948; Kennedy 1949; Moshenko 1980; Roberge et al. 1984; Yaremchuk et al. 1989)
O'Neil Lake 62°27'N, 95°17'W	lake trout + lake whitefish 500		There are no records of commercial harvest from this area. (Yaremchuk et al. 1989)
Parker Lake A 63°30'N, 95°15'W	lake trout + lake whitefish 1,900	1974--lake trout 1,932 kg, lake whitefish 195 kg, <u>By-catch:</u> cisco spp. 131 kg	The only reported commercial harvest from this area was in 1974. (Yaremchuk et al. 1989)
Parker Lake B 63°17'N, 95°15'W	lake trout + lake whitefish 1,500	1974--lake trout 1,932 kg, lake whitefish 195 kg. <u>By-catch:</u> cisco spp. 131 kg	The only reported commercial harvest from this area was in 1974. (Yaremchuk et al. 1989)
Princess Mary Lake 64°00'N, 97°35'W	lake trout + lake whitefish 3,800		No record of commercial harvest.
Quartzite Lake 62°25'N, 94°35'W	lake trout + lake whitefish 900		No record of commercial harvest.
Savage Lake 62°24'N, 95°20'W	lake trout + lake whitefish 300	1973--lake trout 166 kg, lake whitefish 4 kg	The only reported commercial harvest from this area was in 1974. (Yaremchuk et al. 1989)
Seal Hole Lake 60°57'N, 98°40'W	lake trout + lake whitefish--no quota	1965--lake trout 2,128 kg, lake whitefish 18,104 kg	The only reported commercial harvest from this lake was in 1965--presumably by an exploratory fishery. (Yaremchuk et al. 1989)

Table 2. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rd wt) <sup>2</sup>	HARVEST (kg rd wt) <sup>3</sup>	STOCK STATUS (references)
South Henik Lake 61°30'N, 97°30'W	lake trout + lake whitefish 28,800	1970--lake trout 4,430 kg, lake whitefish 728 kg; 1980--sport harvest: --lake trout 689 kg	The only reported commercial harvest from this lake was in 1970. DFO conducted a creel census of the sport lodge harvest and sampled the lake in 1980. The area was opened but not fished in 1992. (Roberge et al. 1984; Yaremchuk et al. 1989; DFO 1993b)
Tebesjuak Lake 63°40'N, 99°00'W	lake trout + lake whitefish 37,900		No record of commercial harvest.
Tehek Lake 64°55'N, 95°38'W	lake trout + lake whitefish 3,800		No record of commercial harvest.
Vaillant Lake 66°13'N, 114°30'W	lake trout + lake whitefish--no quota		Exploratory fishery sampled by DFO in 1959. (Moshenko 1980)
Windy Lake 60°20'N, 100°02'W	lake trout + lake whitefish 18,300	1966--lake trout 227 kg, lake whitefish 440 kg	This area was commercially fished from 1963 to 1966. In 1965, fishermen took 11,734 kg of lake trout and 13,434 kg of lake whitefish from the lake. (Yaremchuk et al. 1989)
Yathkyed Lake 62°41'N, 98°00'W	lake trout + lake whitefish--no quota		Exploratory fishery sampled by DFO in 1968. Ferguson Lake Lodge operates a sport fishing outpost camp at Yathkyed Lake. (Moshenko 1980; Roberge et al. 1984)

<sup>1</sup> Old or alternate names for the fisheries are shown in round brackets, as are the codings for unnamed waterbodies listed in Schedule V of the Northwest Territories Fishery Regulations, e.g. (V#83) indicates that the waterbody is in Region V--the Keewatin, and is number 83.

<sup>2</sup> A round weight (kg rd wt) is that for a whole fish, while a dressed weight is that of a fish with the viscera and gills removed. Wherever possible Arctic charr populations have been identified as either anadromous (SR) or landlocked (LL). The quotas are from Schedule V of the Northwest Territories Fishery Regulations except where they have been changed recently by variation notice. In this case, the most recent quota is given. Square brackets indicate provisional test quotas.

<sup>3</sup> The harvest years are the same as the federal government fiscal year (e.g. the 1991 quota extends from 1 April 1991 to 31 March 1992). Where possible, the harvests from 1989 to 1993 have been listed, otherwise only the most recent harvest is shown. The round weights of the Arctic charr harvested by the Cambridge Bay fishery were calculated using a dressed weight to round weight conversion factor of 1.25 which included estimates of the weight of culled fish. Elsewhere, these round weights were calculated using a conversion factor of 1.15, which did not include an estimate of culls. "NA" indicates that a harvest may have taken place but that no data are available; "NF" indicates that a quota was open for fishing but was not fished; "NO" indicates that a quota was not open for fishing. Closed quotas that are described as "revoked" have been removed from Schedule V of the Northwest Territories Fishery Regulations.

Table 3. Harvests of fishes and marine invertebrates and plants in the Baffin Region of Nunavut by community area.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
<b>ALERT</b>			
Lake Hazen 81°50'N, 70°25'W	Arctic charr --no quota	sporadic sport fishing	Visitors to the Ellesmere Island National Park Reserve from Alert and elsewhere occasionally angle for charr at Lake Hazen. Exploratory fisheries sampled charr from the lake in 1958 and 1981. (Johnson 1980; Kristofferson 1989; Stewart 1991)
<b>ARCTIC BAY</b>			
Bell Bay 71°13'N, 84°39'W	Arctic charr (SR)--no quota	12 Arctic charr (SR)	DFO exploratory fishery conducted in 1985, all fish sampled. (McGowan 1989)
Bell Bay (Narrows) 71°06'N, 84°50'W	Arctic charr (SR)--no quota	11 Arctic charr (SR)	DFO exploratory fishery conducted in 1985, all fish sampled. (McGowan 1989)
Berlinguet Inlet 71°06'N, 86°07'W	Arctic charr (SR)--no quota	7 Arctic charr (SR)	DFO exploratory fishery conducted in 1985, all fish sampled. (McGowan 1989)
Easter Sound 71°15'N, 84°45'W	Arctic charr (SR)--no quota	72 Arctic charr (SR)	DFO exploratory fishery conducted in 1985, all fish sampled. (McGowan 1989)
Ikikeesarjuk Lake 71°12'N, 87°22'W	Arctic charr (SR) 2,000	1989--1,126 kg; 1990--1,051 kg; 1991--1,697 kg; 1992--186 kg; 1993--NA	Last sampled in 1988. (Kristofferson and McGowan 1981; McGowan 1985, 1989; DFO 1991, 1992a; McGowan et al. 1993)
Ishuktok Lake 71°20'N, 88°20'W	Arctic charr (SR) [1,361]	1979--15 kg	Exploratory fishery. (Kristofferson and McGowan 1981; Yaremchuk et al. 1989)
Ivisarak Lake 70°34'N, 86°20'W	Arctic charr (SR) [2,000]	1989--1,849 kg; 1990--1,202 kg; 1991--614 kg; 1992--1,134 kg	Exploratory fishery last sampled in December 1992. (Kristofferson and McGowan 1981; DFO 1992a; McGowan et al. 1993)
Jungerson River 71°23'N, 84°37'W	Arctic charr (SR) [1,000]	1987--1,104 kg; 1988--656 kg	Exploratory fishery in 1984, 1987-88. Last sampled in 1988. (McGowan 1985, 1989; DFO 1991; Yaremchuk et al. 1989)
Magda River 71°39'N, 84°37'W	Arctic charr (SR) 3,000	1989--1,964 kg; 1990--2,245 kg; 1991--3,090 kg; 1992--287 kg; 1993--NA	Exploratory fisheries in 1988-90, last sampled in 1988. (Kristofferson and McGowan 1981; McGowan 1985, 1988; DFO 1991, 1992a; McGowan et al. 1993; Cosens et al. 1993)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
Saputing River and Lake 70°48'N, 84°59'W	Arctic charr (SR) 9,100	1989--9,000 kg; 1990--6,195 kg; 1991--5,189 kg; 1992--8,013 kg; 1993--NA	No problems have been identified with this area which is an important traditional fishery. Recent commercial harvests have been conducted by residents of Arctic Bay, but the area is also fished by residents of Igloolik. (Stewart and MacDonald 1981; DFO 1991, 1992a; Bodaly et al. 1992; Cosens et al. 1993)
unnamed river (Moffet Inlet) 72°07'N, 84°22'W	Arctic charr (SR)--no quota		Subsistence fishery, sampled in November 1976. (Kristofferson and McGowan 1981)
Admiralty Inlet --south of a line between Cape Crauford (73°44'N, 84°50'W) and Cape Charles York (73°43'N, 82°50'W)	Turbot [10,000]	1992-3--nil	Fishery unsuccessful--perhaps too late in the season. (DFO 1993b)
	marine clams [5,000]	1989--170 kg; 1990--50 kg; 1991--NF	Exploratory dredge fishery. (DFO 1992a+b, 1993b)
<b>BROUGHTON ISLAND</b>			
Circle Lake 66°32'N, 64°10'W	Arctic charr (LL) closed	1989--450 kg; 1990--NF; 1991--1,540 kg; 1992--786 kg; 1993--NA	Little is known of this stock. The fishery has been closed temporarily and 4 lakes on the Padle River have been opened under an exploratory permit instead. Stock identification is planned. (DFO 1991, 1992a+b, 1993a+b; Yaremchuk et al. 1989; A. Kristofferson, pers. comm.)
Nedlukseak Fjord Area 67°50'N, 66°30'W	Arctic charr (SR) closed	1990-108 kg	This fishery is within the boundaries of Auyuittuq National Park. Overharvesting has occurred in the past. In 1980 the HTA closed the commercial fishery and imposed a voluntary 45 kg/family subsistence harvest rule. The annual subsistence harvest from the system is estimated at 900-1,400 kg. Test netting in January 1990, showed evidence of some stock recovery, but lack of comparative data precludes definite conclusions. The commercial fishery was closed in 1991. (Yaremchuk et al. 1989; DFO 1992b; Bodaly et al. 1992)
Nudlung Fjord Area 68°21'N, 67°27'W	Arctic charr (SR) 4,500	1989--599 kg; 1990--142 kg; 1991-92--fished by Clyde River	This stock has a low commercial harvest, as there is little local market for commercially caught fish. It is a winter fishery. The annual subsistence harvest from this area is an estimated 2,000 kg. It was opened at the request of Clyde Inlet residents in 1991 and 1992. (see CLYDE RIVER AREA--Nudlung Fjord) (Bodaly et al. 1992; DFO 1993a+b; Cosens et al. 1993)
Padle River, Kingnait Fjord 66°21'N, 64°22'W	Arctic charr (SR) closed	1988--900 kg; 1989--closed; 1990--NF Subsistence harvest estimated at 1400 to 1800 kg per year.	The last reported commercial harvest was in 1988. This fishery may harvest charr from the Kingnait Fjord stock. In 1989, the Kingnait Fjord fishery (see PANGNIRTUNG AREA) exceeded its quota, so the Padle River fishery was closed for the year before fishing began. The quota was revoked in 1991. (Yaremchuk et al. 1989; Cosens et al. 1990, 1993; Bodaly et al. 1992; A. Kristofferson, pers. comm.)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
Padle Fjord Area 66°55'N, 63°25'W	Arctic charr (SR) closed	1989--2,464 kg; 1990--NA; 1991--3,916 kg; 1992--6,471 kg; 1993--2,465 kg	This area is fished in winter. It also supports an annual subsistence harvest estimated at 2,000 kg. Broughton Island fishermen plan to fish four specific locations in this area under an exploratory permit. It is hoped that this will provide information on the stock status in the area. (See above--Circle Lake) (Yaremchuk et al. 1989; Cosens et al. 1990, 1993; Bodaly et al. 1992; A. Kristofferson, pers. comm.)
Padloping Island Area 67°03'N, 62°45'W	Arctic charr (SR) 900	1984--900 kg; 1989-93--NO	Stock status unknown. The last reported commercial harvest was in 1984. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
unnamed lake (Subilik) 68°10'N, 68°00'W	Arctic charr (LL) [1,000]	1991--363 kg; 1992--523 kg	Exploratory fishery sampled in 1991 and 1992. (DFO 1993a+b; McGowan et al. 1993; T. Stephenson and G. Weber, pers. comm.)
unnamed lake (Fox Charlie) 68°43'N, 68°42'W	Arctic charr (SR) [500]	1987--410 kg	Exploratory fishery sampled in 1987. (McGowan 1989; Yaremchuk et al. 1989)
unnamed lake (Sarvalik Cove) 68°53'N, 68°57'W	Arctic charr (SR) [1,000]	1991--877 kg	Exploratory fishery. (McGowan et al. 1993)
Broughton Island Area--coastal area of Baffin Island between Kangeok Point (67°58'N) and Cape Hooper (66°45'W)	Turbot [10,000](1989) [1,000](1992) [2,000](1993)	1989--5 kg; 1992--NF; 1993--38 fish	A provisional quota has been allocated to enable training of fishermen in the use of ice-platform techniques for harvesting turbot. (Bodaly et al. 1992; DFO 1992a; T. Stephenson, pers. comm.; J.T. Strong, pers. comm.)
	shrimp [1,000](1992)	1992--NF	Area opened for fishing in 1992, but not fished. (DFO 1993)
	marine kelp --no quota	subsistence harvest	Broughton Islanders harvest kelp for subsistence year-round at the head of Quajon Fjord and at a bay west of Kekerturhak Island (67°52'N, 65°07'W). It is also harvested from June through September at a bay on the north side of Maktak Fjord. (Stewart and Bernier 1988b)
tidal waters of Eastern Baffin Island --within 200 nautical miles from the shoreline along the east coast of Baffin Island from a point at Cape Mercy (64°53'N, 63°32'W) to a point at Clyde River (70°26'N, 68°23'W)	Turbot [150,000] Atlantic cod [60,000] Iceland scallop [40,000] shrimp ( <i>Pandalus</i> sp.) [190,000] snow crab ( <i>Chionoecetes opilio</i> ) [15,000]	1991-92--NF; 1993--turbot 1,937 kg	In 1993, DFO granted marine exploratory licences for an EDA exploratory fishery of the tidal waters of the east coast of Baffin Island. The exploratory quotas shown in column 2 were divided between three firms. Licences were also granted in 1991 and 1992, but the area was not fished. The 1993 fishery for scallops, cod, and crabs was unsuccessful but had moderate catches of turbot 160 km southeast of Broughton Island. Severe ice conditions and sharks caused significant gear loss. (DFO 1993a+b; Hathaway 1993; J.T. Strong, pers. comm.)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
<b>CAPE DORSET</b>			
Approach Lake 64°40'N, 73°55'W	Arctic charr (SR) closed		Quota revoked in 1991. See CAPE DORSET--Tinitonito Lake.
Camp Lake 64°40'N, 73°57'W	Arctic charr (SR) closed	1990--118 kg	This area was fished commercially between 1972 and 1985. Harvests were small and sporadic, ranging from 182 to 490 kg. The quota was revoked in 1991. (DFO 1992a; Yaremchuk et al. 1989)
Kangisuaquq Lake 64°40'N, 73°21'W	Arctic charr (SR) 2,700	1991--NO, 500 kg; 1992--49 kg; 1993--NA subsistence harvest estimated at 1,600 to 2,400 kg per year	Little is known of this stock which supports an important subsistence fishery. It was sampled in 1980. The 1991 fishery was unlicensed. (McGowan 1985; Stewart and Bernier 1988a; Yaremchuk et al. 1989; DFO 1993a; Cosens et al. 1993)
Tinitonito Lake 64°40'N, 73°58'W	Arctic charr (LL) 5,500	1990--NF 1991--1,100 kg; 1992--289 kg; 1993--NA	This area was fished commercially between 1972 and 1985 under the Approach Lake quota (see above). Harvests were small and sporadic, ranging from 93 to 1,361 kg. In 1991 the Approach Lake quota was revoked. Fishing continues under the Tinitonito Lake quota. (Yaremchuk et al. 1989; DFO 1993a + b; Cosens et al. 1993; T. Stephenson and G. Weber, pers. comm.)
unnamed lake (Keltie Inlet) 64°40'N, 73°20'W	Arctic charr (SR)--no quota	1977--372 kg	Exploratory fishery sampled in May 1977. (Kristofferson and McGowan 1981)
unnamed lake (Sapujjuat) 64°35'N, 75°54'W	Arctic charr (SR) [1,500]	1990--9 kg	Exploratory fishery (DFO 1992b; McGowan et al. 1993)
Cape Dorset Area	Turbot [10,000]	1993--NA	A provisional quota has been allocated to enable training of fishermen in the use of ice-platform techniques for harvesting turbot. (Bodaly et al. 1992)
	brown shrimp [1,000]	1991--NF	Exploratory fishery licenced but not fished. (DFO 1993a)
	snow crab [1,000]	1991--NF	
<b>CLYDE RIVER</b>			
Ayr Lake 70°24'N, 70°15'W	Arctic charr (LL) 6,800	1979--227 kg	There is a summer, subsistence fishery at the mouth of the Kogalu River. An exploratory fishery in 1979 is the only record of commercial harvest. It is not known whether anadromous charr overwinter in Ayr Lake, although winter fishing at the lake is said to be unproductive. There is interest in examining charr enhancement opportunities at the Kogalu River. (Bodaly et al. 1992; Cosens et al. 1993)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
Cape Adair Lake and River 71°30'N, 72°55'W	Arctic charr (SR) 2,300	1982--1,000 kg; 1992--NF; 1993--NA Subsistence harvest estimated at 200 kg per year.	Little is known of this winter fishery. The last reported commercial harvest from this area was in 1982. (Yaremchuk et al. 1989; Cosens et al. 1990, 1993; DFO 1991, 1992a+b; Bodaly et al. 1992)
Clyde Inlet 69°50'N, 70°30'W	Arctic charr (SR) 2,300	1989-90--NO; 1991--700 kg; 1992--NF	The status of this stock is unknown. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
Inugsuin Fiord 70°37'N, 70°01'W	Arctic charr --no quota		GNWT has sponsored a study to examine charr enhancement opportunities in the lower Inugsuin River, in the hope that an anadromous population will develop if blockages to the upstream movement of charr into Kudloo Lake can be removed. (Sekerak and Qillaq 1992)
Kuutannak River 69°55'N, 67°13'W	Arctic charr (SR) 1,400	1986--100 kg; 1989--NF; 1990--NA; 1991-93--NO	Small commercial harvests were taken in the mid-1980's. The area has not been fished commercially in recent years. (Yaremchuk et al. 1989; Bodaly et al. 1992)
Nudlung Fiord 68°21'N, 67°27'W	Arctic charr (SR) 4,500	1991--150 kg; 1992--3,160 kg; 1993--NA	Stock status unknown. This area was opened at the request of Broughton Island until 1991 (see BROUGHTON ISLAND AREA--Nudlung Fiord). The annual subsistence harvest from this area is an estimated 2,000 kg. (Yaremchuk et al. 1989; DFO 1993a+b)
Sam Ford Fjord Area 70°25'N, 71°40'W	Arctic charr (SR) 3,600	1989--227 kg; 1990--228 kg; 1991--400 kg; 1992--3,600 kg; 1993--1,152 kg	DFO has not identified any problems with this fishery. The annual commercial harvest has been variable, ranging from 472 to 4,025 kg. The subsistence harvest has been estimated at 900 kg per year. The 1991 fishery was unlicensed. (Yaremchuk et al. 1989; DFO 1991, 1992b; Bodaly et al. 1992; Cosens et al. 1993; A. Kristofferson, pers. comm.)
unnamed lake and river, Dexterity Fjord 71°06'N, 72°45'W	Arctic charr (SR) closed	1989--NF; 1990--610 kg	This lake is on the same system as the quota that follows, and was closed to commercial fishing in 1991. (DFO 1991, 1992a; Bodaly et al. 1992)
unnamed lake and river, Dexterity Fjord, (Naqsaarluk Lake) 71°12'N, 72°40'W	Arctic charr (SR) 2,300	1989--230 kg; 1990--500 kg; 1991--1,900 kg; 1992--1,773 kg; 1993--1,453 kg	This lake (Naqsaarluk) and the previous lake are on the same system, but only this lake is fished. In 1991 the quotas were combined and only this lake was opened for fishing, on condition that an exploratory program be carried out. DFO sampled the commercial catch in 1991. (Bodaly et al. 1992; DFO 1992a; Carder 1993; Cosens et al. 1993; A. Kristofferson, pers. comm.)
Clyde River Area 70°27'N, 68°36'W	Turbot [10,000]	1991--NF; 1992--136 kg	A provisional quota has been allocated to enable training of fishermen in the use of ice-platform techniques for harvesting turbot. (Bodaly et al. 1992; DFO 1993a+b)
	Atlantic cod [10,000]	1992--NF	Area opened for fishing but not fished. (DFO 1993b)
<b>GRISE FIORD</b>			

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
unnamed lake, Devon Island 75°35'N, 85°15'W	Arctic charr (SR)--no quota	1977--NA	This system is fished for subsistence by residents of Grise Fiord. It was sampled in September 1977 by an exploratory fishery, and did not appear to be heavily exploited. (Kristofferson and McGowan 1981; Stewart and MacDonald 1981)
<b>HALL BEACH</b>			
Hall Lake 68°41'N, 82°17'W	Arctic charr (SR) 11,400	1989--8,000 kg; 1990--5,000 kg; 1991--6,670 kg; 1992--2,268 kg; 1993--NA	This stock also supports a subsistence harvest estimated at 2-4,000 kg, and a sport harvest of unknown quantity. The commercial harvest may be under-reported, since an unknown amount of fish is exported via the North Warning Site. It was last sampled in 1986. (Kristofferson and McGowan 1981; Carder 1988; Yaremchuk et al. 1989; Cosens et al. 1990, 1993; DFO 1991, 1992; Bodaly et al. 1992)
<b>IGLOOLIK</b>			
Ajaqutalik Lake 68°23'N, 82°33'W	Arctic charr (SR) [1,000]	1986--603 kg	Exploratory fishery sampled in 1984 and 1986. (McGowan 1985, 1989; Yaremchuk et al. 1989)
Cockburn River 70°26'N, 78°41'W	Arctic charr (SR) 5,000	1986--780 kg; 1989-90--NO; 1991-93--NF	The commercial harvest in this area has generally been low due to logistical problems with the summer fishery. An exploratory fishery sampled the fall run in 1985 and 1986. The quota was subsequently increased from 1,100 kg to 5,000 kg per year. The last reported commercial harvest was in 1986. (McGowan 1985, 1989; Kroeker 1987; Clarke et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
Ege Bay Area 69°40'N, 76°25'W	Arctic charr (SR) 900	1989--NO; 1990--NA; 1991-93--NO	Stock status unknown. No harvest data are available for this winter fishery. (Bodaly et al. 1992; Cosens et al. 1993)
Erichsen Lake 70°40'N, 80°41'W	Arctic charr (LL) 9,100	1986--1,257 kg	Stock status unknown. Anadromous charr enter the Ravn River, but probably do not enter Erichsen Lake. There is a winter fishery downstream, on the Ravn River. The last reported commercial harvest was in 1986. (Stewart and Bernier 1981; Bodaly et al. 1992)
Gifford River 70°19'N, 83°03'W	Arctic charr (SR) 5,000	1989--3,632 kg; 1990--5,045 kg; 1991--NF; 1992--7,321 kg; 1993--6,899 kg	This productive winter fishery also supports a subsistence harvest estimated at 3,000 kg per year. DFO sampling in 1990 did not find evidence of overexploitation. The fishery appears to sustain an annual harvest of at least 6,000 kg. DFO last sampled the commercial catch in December and January 1992-93, and recommends the collection of accurate data on the subsistence harvest. (Yaremchuk et al. 1989; Carder 1991a, 1993; DFO 1991, 1992a; Bodaly et al. 1992)
Harder River 70°30'N, 79°23'W	Arctic charr (SR) [1,000]	1985--677 kg; 1986--109 kg	Exploratory fishery sampled in 1985 and 1986. The fall upstream run was very small and DFO has recommended against further commercial fishing in this area. (Kroeker 1987; Clarke et al. 1989; McGowan 1989; Yaremchuk et al. 1989)
Igloodik general area	Arctic charr (SR)--no quota	1984--5,868 kg	This area has no commercial quota. It was harvested sporadically from 1961 to 1984. It is not known which stock(s) was harvested. (Yaremchuk et al. 1989)
Ikpik R. and L. Gillian 69°30'N, 75°30'W	Arctic charr (SR) 3,200	1989-93--NO	Stock status unknown. The area has no record of commercial harvest. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
Ikpikiturjuaq Lake 70°21'N, 78°24'W	Arctic charr (SR) 1,100	1986--1,385 kg; 1989--NO; 1990--NA; 1991-93--NO	The annual subsistence harvest of this stock is estimated at 250 kg. DFO considers it to be lightly exploited based on the harvest levels. The upstream run was sampled in the summers of 1985 and 1986. The last reported harvest was by an exploratory fishery in 1986. (Kroeker 1987; Clarke et al. 1989; McGowan 1989; Yaremchuk et al. 1989; Bodaly et al. 1992)
Isortoq River and Lake 70°00'N, 76°59'W	Arctic charr (SR) 5,000	1986--1,457 kg; 1989-90--NF; 1991-93--NO	The annual subsistence harvest from this area is an estimated 2,500 kg, taken mostly by residents of the nearby outpost camp. The commercial fishery is conducted in winter. The last reported harvest was in 1986 by an exploratory fishery. The fall upstream run was sampled in 1985 and 1986 (weir), and the quota was subsequently increased. (Kroeker 1987; Clarke et al. 1989; McGowan 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
Kukaluk River 70°13'N, 81°57'W	Arctic charr (SR) 3,600	1989--3,600 kg; 1990--3600 kg; 1991--NF; 1992--2,496 kg; 1993--NA	While no commercial harvest data were reported in 1988 and 1989, the production of this winter fishery was apparently good and the quota taken. There is also an annual subsistence harvest of about 200 kg in this area. Last sampled in 1990. (Yaremchuk et al. 1989; Carder 1991a; DFO 1991; Bodaly et al. 1992; Cosens et al. 1993)
Navarana Lake 70°29'N, 87°09'W	Arctic charr (SR) [910]	1981--910 kg	Exploratory fishery. (Yaremchuk et al. 1989)
Neergard Lake 70°18'N, 79°40'W	Arctic charr (LL) 4,500	1985--1,104 kg	The last reported harvest of this stock of landlocked charr was by an exploratory fishery in 1985. (Yaremchuk et al. 1989)
Neergard River 70°24'N, 79°35'W	Arctic charr (LL)--no quota		This river was sampled during an exploratory fishery in the summers of 1985 and 1986. It does not appear to have anadromous charr, and DFO recommends against further commercial fishing. (Kroeker 1987; Clarke et al. 1989; McGowan 1989)
Piling Lake and River 69°00'N, 75°00'W	Arctic charr (SR) 1,800	1982--400 kg; 1989-93--NO or NF	Stock status unknown. Last reported commercial harvest was in 1982. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
Qulurnilik River 70°07'N, 77°40'W	Arctic charr (LL)--no quota		Tagging studies indicate that charr cannot pass upstream of the falls near the river mouth, so the river does not support an anadromous stock. Fish sampled at the river mouth during an exploratory fishery in the summers of 1985 and 1986 were likely from another stock. DFO has recommended against further commercial fishing in this area. (Kroeker 1987; Clarke et al. 1989)
Ravn River 70°28'N, 79°30'W	Arctic charr (SR) 9,100	1989--8,500 kg; 1990--462 kg; 1991--NF; 1992--9,215 kg; 1993--NA	DFO sampling of the commercial harvest in 1990, and did not find evidence of overfishing. This area is fished in winter and is sometimes difficult to access. The subsistence harvest is low, estimated at 200 kg annually. (Kroeker 1987; Clarke et al. 1989; McGowan 1989; Yaremchuk et al. 1989; Carder 1991a; DFO 1991; Bodaly et al. 1992; Cosens et al. 1993)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
Rowley River 70°15'N, 77°47'W	Arctic charr (SR) 5,000	1987--1,047 kg; 1989--NO; 1990-92--NF	No problems have been identified with this fishery. This area is fished in winter and is sometimes difficult to access. It was sampled by an exploratory fishery in the summers of 1985 and 1986. The last reported commercial harvest was in 1987. The subsistence harvest is low, estimated at 500 kg annually. (Kroeker 1987; Clarke et al. 1989; McGowan et al. 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
Sapugaarjuk River 70°11'N, 80°40'W	Arctic charr (LL) 4,500	1986--235 kg	Sampled by summer exploratory fisheries in 1985 and 1986, this run may not be large enough to support a commercial fishery. DFO recommends that there be further study before a commercial fishery is established in this area. (Kroeker 1987; Clarke et al. 1989; McGowan et al. 1989; Yaremchuk et al. 1989)
Saputing R. and Lake 70°48'N, 84°59'W			See ARCTIC BAY--Saputing Lake.
Tarsiujaq Arm R. and Lake 70°35'N, 79°03'W	Arctic charr (SR) 2,500	1987--583 kg; 1989-93--NO	Sampled by summer exploratory fisheries in 1985 and 1986, the Arm may be an overwintering area for charr since no upstream migration of charr was found in any of its tributary streams. The last reported commercial harvest was in 1987. (Kroeker 1987; Clarke et al. 1989; McGowan 1989; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
Whyte Lake and River 70°08'N, 84°47'W	Arctic charr (SR) 900	1989--500 kg; 1990--NA; 1991-93--NF	This area is commercially fished in winter by a nearby outpost camp. The harvest has been low and sporadic. The annual subsistence harvest is about 250 kg. No problems have been reported with this fishery. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)
Windless River 70°06'N, 77°38'W	Arctic charr (SR) [1,000]	1985--808 kg; 1986--1,232 kg	Sampled by summer exploratory fisheries in 1985 and 1986. (Kroeker 1987; Clarke et al. 1989; McGowan 1989; Yaremchuk et al. 1989)
Fury and Hecla Strait 69°55'N, 85°15'W	Turbot [2,000]	1993--NA	Exploratory marine fishery using longlines. (J.T. Strong, pers. comm.)
<b>IQUALUIT</b>			
Amadjuak Lake 65°00'N, 71°00'W	Arctic charr 9,100	1982--1,500 kg	Anadromous Arctic charr enter the lower Amadjuak River but have not been reported from Amadjuak Lake. It is not known whether they ascend the river to the lake. Small commercial harvests were taken from the area in the late 1970's and early 1980's. The area was last sampled in 1980, and the last reported commercial harvest was in 1982. The area is occasionally visited in summer by sport fishermen who harvest large (>5 kg), heavily parasitized fish which are likely landlocked. (Stewart and Bernier 1988b; McGowan 1989; Bodaly et al. 1992; Cosens et al. 1993)
Kipisa Lake 65°12'N, 66°57'W	Arctic charr (SR) closed		There is confusion in the harvest records between this quota, which is near Kipisa and referred to by residents of Iqaluit as Kipisa Lake, and another fishery which is also called Kipisa Lake but is located in the Clearwater Fiord area (see PANGNIRTUNG--Kipisa Lake). The coordinates for this quota may also have been incorrect, and the reported harvests may actually have come from Ikaluit Lake (see IQUALUIT--Ikaluit Lake). This quota was revoked in 1991. (G. Weber, pers. comm.)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
Newton Fjord Area 63°07'N, 66°07'W	Arctic charr (SR) 2,300	1989-91--NO; 1992--NF; 1993--NA	Stock status unknown. No reported commercial harvest. This area is an important subsistence fishery. (Stewart and Bernier 1988a; Yaremchuk et al. 1989; Bodaly et al. 1992)
Nettilling Lake 66°30'N, 70°55'W	Arctic charr (SR) 22,000	1989--0 kg; 1990--5,172 kg; 1991--300 kg; 1992--3,450 kg; 1993--NA	Fishermen harvested 22,000 kg of charr annually from this stock in 1974 through 1977. Fishing in the lake harvested heavily parasitized non-anadromous charr of low commercial value. Anadromous charr of excellent quality were harvested during the upstream migration in the Koukdjuak River, near Nikku Island. The next significant commercial harvest was by an exploratory summer fishery in 1990. A trapnet was deployed at Nikku Island and caught many small charr which were released alive. Most fish were harvested using gillnets. In 1990, the area was open for winter fishing by the Pangirtung HTA (see PANGNIRTUNG--Nettilling Lake). The winter quota (17,500 kg) was for the unharvested portion of the annual quota. (Kristofferson et al. 1991; Bodaly et al. 1992; McGowan et al. 1993; Cosen et al. 1993)
Okalik Bay 64°01'N, 65°11'W	Arctic charr (SR) 1,400	1988--1,310 kg; 1989--219 kg; 1990--NF; 1992--NF; 1993--NA	DFO has not identified any problems with this fishery. The area was fished in 1991 by residents of Pangnirtung (see PANGNIRTUNG AREA--Okalik Bay). (DFO 1991, 1992a+b; Bodaly et al. 1992; Cosens et al. 1993)
Qamanirjuaq Lake 63°15'N, 64°33'W	Arctic charr (SR) [1,000]	1981--150 kg	Sampled by an exploratory fishery in 1981. (McGowan 1985)
Qualluatik Lake 63°45'N, 65°07'W	Arctic charr (SR) 700	1989--955 kg; 1990-91--NO; 1992--NF; 1993--NA	DFO has not identified any problems with this winter fishery. Commercial harvests averaged 820 kg over the 3 year period 1987-89. The harvest was last sampled in November 1976 (Kristofferson and McGowan 1981; Yaremchuk et al. 1989; DFO 1991, 1992b; Bodaly et al. 1992; Cosens et al. 1993)
Sylvia Grinnell River 63°44'N, 68°34'W	Arctic charr (SR)--closed	1991--3,600 kg subsistence; -- 400 kg sport	This area was one of the most productive Eastern Arctic commercial fisheries, with commercial harvests of anadromous charr averaging over 5,000 kg from 1958-1966. The annual subsistence harvest during this same period was estimated at 12,000 kg. The commercial fishery collapsed in 1967 and has not recovered. The subsistence harvest continues, with annual catches ranging from 2,000 kg (1986) to 3,600 kg (1991). Fishermen are targeting smaller fish because they now use 88 mm mesh nets. The sport harvest also continues, with a 1991 harvest of about 400 kg. The sport angling limits have been reduced from 4 charr daily and 7 in possession to 1 and 7, respectively. There is no commercial fishery at present and the stock remains depleted. There is concern that the Iqaluit dump may be a pollution threat to the stock. (Hunter 1976; Kristofferson and Sopuck 1983; Bodaly et al. 1992; Cosen et al. 1993)
unnamed lake (Iqalualuit) 63°29'N, 65°05'W	Arctic charr (SR) [1,400]	1987--225 kg; 1988--1,056 kg; 1989--833 kg	Exploratory fishery sampled in 1987 and 1988. (McGowan 1989; DFO 1991; McGowan et al. 1993)
unnamed lake, Loks Land 62°27'N, 64°42'W	Arctic charr (SR) [1,500]	1990--1 kg	Exploratory fishery. (McGowan et al. 1993)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
unnamed lake, Meta Incognita Peninsula 62°11'N, 66°00'W	Arctic charr (SR) [680]	1978--22 kg	Little information is available on this fishery which apparently exploited the area at the tip of Meta Incognita Peninsula, taking an average of 5,500 kg of fish annually from 1959 through 1966. The area has no commercial quota and has not been harvested commercially since a small exploratory fishery in 1978. (Kristofferson and McGowan 1981; Yaremchuk et al. 1989)
unnamed lake (Wiswell Inlet) 63°04'N, 65°45'W	Arctic charr (LL)--no quota	1991--243 kg	Surveyed by DFO in September 1991. (McGowan et al. 1993)
Frobisher Bay	Turbot [5,000]	1989--NF; 1990--5 kg	Exploratory marine fishery. A provisional quota has been allocated to enable training of fishermen in the use of ice-platform techniques for harvesting turbot. (DFO 1992a-b; Bodaly et al. 1992)
	Atlantic cod [5,000]	1989--NF; 1990--NF	
	shrimp [5,000]	1989--NF; 1990--2 kg	
	scallop [5,000]	1989--NF; 1990--600 kg	
<b>LAKE HARBOUR</b>			
Blandford Bay River 63°35'N, 71°11'W	Arctic charr (SR) 900	1986--115 kg	The status of this stock is unknown. The area has not been opened for commercial fishing in recent years, and the last reported commercial harvest was in 1986. (Bodaly et al. 1992; Cosens et al. 1993)
unnamed lake (west of Ava Inlet) 63°52'N, 72°07'W	Arctic charr (SR) [1,500]	1992--249 kg	Exploratory fishery sampled in March 1993. (McGowan et al. 1993)
unnamed lake, Wight Inlet 62°21'N, 68°21'W	Arctic charr (SR) [1,000]	1984--1,000 kg	Exploratory fishery sampled in 1984. (McGowan 1985; Yaremchuk et al. 1989)
unnamed river, (VI#51) east of Island of God's Mercy 63°26'N, 71°32'W	Arctic charr (SR) 900	1989-92--NO	Stock status unknown. No commercial harvest in recent years. (Bodaly et al. 1992; Cosens et al. 1993)
Soper Lake 62°58'N, 69°59'W	Greenland cod [1,500]	1991--29 kg	Exploratory longline fishery for Greenland cod. DFO obtained a small sample from this lake in 1984. Soper lake is also a recreational cod fishery for the community of Lake Harbour. (Stewart and Bernier 1988a; DFO 1993a; McGowan et al. 1993)
<b>PANGNIRTUNG</b>			

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
Clearwater Fiord 66°35'N, 67°30'W	Arctic charr (SR) closed	1968--1,905 kg; 1970--8,842 kg	While this area was harvested commercially in 1968 and 1970, it has not had a commercial quota. In recent years, it has supported a sport fishing lodge. There is an important winter subsistence fishery at a lake north of Clearwater Fiord. (Stewart and Bernier 1988b; Yaremchuk et al. 1989)
Ijaruvung Lake 66°43'N, 67°46'W	Arctic charr (SR) 2,000	1989--995 kg; 1990--1,502 kg; 1991--1,432 kg; 1992--1,791 kg; 1993--279 kg	Exploratory fisheries undertaken in 1989-91, last sampled in 1981. (McGowan 1985; Yaremchuk et al. 1989; DFO 1992a + b; McGowan et al. 1993; Cosens et al. 1993)
Ikalukjuak L. and R. 66°25'N, 66°29'W	Arctic charr (SR) closed	1983--1,364 kg; 1989-93--NO	This area was closed to commercial fishing in 1991 at the request of Pangnirtung residents. The last reported commercial harvest was in 1983. (Yaremchuk et al. 1989; Bodaly et al. 1992)
Ikaluwapti Lake 65°43'N, 65°18'W	Arctic charr (SR)--no quota	1973--343 kg	No commercial quota. Only reported harvest in 1973. (Yaremchuk et al. 1989)
Irvine Inlet, McKeand River Area 65°30'N, 68°00'W	Arctic charr (SR) 4,500	1989--2,861 kg; 1990--4,492 kg; 1991--NO; 1992--1,024 kg; 1993--NA	The annual commercial harvest from this area averaged 3,170 kg over the 5 year period from 1986-90. This stock also supports an unknown but likely significant subsistence harvest. Recently, the area has been fished in the winter. (Bodaly et al. 1992; Cosens et al. 1993)
Ikaluit Lake (Robert Peel Inlet) 65°02'N, 67°07'W	Arctic charr (SR) 1,400	1989--NO; 1990--1,182 kg; 1991--1,400 kg; 1992--1,816 kg; 1993--998 kg	This area is an important subsistence fishery. Exploratory fisheries were undertaken here in the late 1970's and early 1980's, and the area was surveyed by DFO in April 1990. In the past, there may have been some confusion of harvest statistics between the area which is known in Iqaluit as "Kipisa Lake", and the former Kipisa Lake quota which was shown at a different location in Schedule V of the Northwest Territories Fishery Regulations (see IQALUIT--Kipisa Lake) (Kristofferson and McGowan 1981; McGowan 1985; Yaremchuk et al. 1989; DFO 1993a; McGowan et al. 1993; G. Weber, pers. comm.)
Iqalujjuaq Fiord 65°43'N, 64°51'W	Arctic charr (SR) 1,400	1989--847 kg; 1990--1,100 kg; 1991--NO; 1992--364 kg; 1993--1,384 kg	No problems have been reported with this fishery. It was last sampled in 1983. (McGowan 1985; Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993; DFO 1993b)
Kingnait Fiord 66°15'N, 64°22'W	Arctic charr (SR) 4,500	1989--7,603 kg; 1990--1,000 kg; 1991--4,545 kg; 1992--4,955 kg; 1993--5,337 kg	Fished commercially in the winter, this stock also supports a summer sports fishing camp and an unknown, but probably significant, subsistence harvest. DFO sampling of the commercial catch in 1986 did not find evidence of overharvesting, although fishermen report that larger fish are now less common in the catch. DFO last sampled the commercial catch in March 1991. A tagging study was conducted in August 1993. (Yaremchuk et al. 1989; DFO 1991, 1992b; Bodaly et al. 1992; Carder 1993; Cosens et al. 1993; T. Stephenson and G. Weber, pers. comm.)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
Kipisa Lake 66°33'N, 67°57'W	Arctic charr (SR) [2,400]	1989--2,080 kg; 1990--1,182 kg; 1991--1,333 kg; 1992--4,165 kg	This exploratory fishery has been active since 1975. The quota for this area was taken once in summer and again in winter in 1988. Exploratory fisheries were conducted there the next 3 years. A DFO test in April 1990 did not find evidence of overexploitation. The stock also supports an unknown, but probably small subsistence harvest. (Kristofferson and McGowan 1981; McGowan 1989; Yaremchuk et al. 1989; DFO 1991, 1992a, 1993b; McGowan et al. 1993; G. Weber, pers. comm.)
Nettilling Lake 66°30'N, 70°55'W	Arctic charr (SR) 17,500 (winter 1990 only)	1990--NF	This quota is normally fished from Iqaluit, but it was opened for winter fishing by Pangnirtung in 1990 (see IQALUIT AREA--Nettilling Lake). (Bodaly et al. 1992; DFO 1992b)
Nettilling Fiord 65°45'N, 68°15'W	Arctic charr (SR) [1,000]	1992--1,273 kg	Exploratory fishery sampled in April 1990. (McGowan et al. 1993; DFO 1993b)
Okalik Bay 64°01'N, 65°11'W	Arctic charr (SR) 1,400	1991--609 kg; 1992--NF; 1993--NA	Small regular harvests have been taken from this area since 1978. It was last sampled in 1983. The area has also been fished by Iqaluit fishermen (see IQALUIT AREA--Okalik Bay). (McGowan 1985; Yaremchuk et al. 1989; DFO 1991, 1992a+b, 1993a+b; A. Kristofferson, pers. comm.)
Opingivik Lake 65°14'N, 67°22'W	Arctic charr (SR) 1,000	1989--900 kg; 1990--90 kg 1991--1,114 kg; 1992--1,013 kg; 1993--NA	Exploratory fisheries were undertaken here from 1978-81, and in 1989 and 1991. The catch was last sampled in 1989. (Kristofferson and McGowan 1981; McGowan 1985; Yaremchuk et al. 1989; McGowan et al. 1993; DFO 1993b)
Tarrionituk Lake 66°20'N, 68°00'W	Arctic charr 4,500	1989--3,405 kg; 1990-91--NO; 1992--NF; 1993--NA	Commercial harvests at this area averaged 3,885 kg over the five year period 1986-90. The Pangnirtung HTA believes that this fishery harvests fish from the Kipisa Lake stock. In 1990, they decided to stop fishing this lake to conserve the stock. DFO does not have scientific data on the origins of the stock. It is not known if charr overwinter in the lake, which likely has a saline bottom layer. (Yaremchuk et al. 1989; Bodaly et al. 1992)
Tasialojuak Lake 66°40'N, 68°46'W	Arctic charr (LL) 4,500	1977--2,560 kg; 1990--NF; 1991--closed; 1992--NF; 1993--NA	The only reported commercial harvest from this lake was in 1977. (Yaremchuk et al. 1989; DFO 1992b, 1993a+b)
Tundra Lake 66°36'N, 64°08'W	Arctic charr (LL) 2,300	1992--2,273 kg	There are no other reports of commercial harvest from this winter fishery. (DFO 1993b)
unnamed river (VI#53), NE of Kekertelung Island 66°25'N, 66°30'W	Arctic charr (SR) closed	1981--2,300 kg; 1989-92--NO; 1993--closed	Stock status unknown. No commercial harvest in recent years. (Bodaly et al. 1992; Cosens et al. 1993; A. Kristofferson, pers. comm.)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
unnamed lake (Anaktuayuit) 65°17'N, 64°05'W	Arctic charr (SR) [1,000]	1989--1,050 kg; 1990--758 kg; 1991--2,633 kg; 1992--1,119 kg	Exploratory fishery last sampled in January 1992. (McGowan 1985, 1989; Yaremchuk et al. 1989; McGowan et al. 1993; DFO 1993b)
unnamed lake (Avataktoo) 66°18'N, 66°10'W	Arctic charr (SR)--no quota	1979--680 kg	This area is an important subsistence fishery. Samples were taken from an exploratory fishery in December 1977. (Kristofferson and McGowan 1981; T. Stephenson and G. Weber, pers. comm.)
unnamed lake (Anguyatutit) 65°05'N, 63°42'W	Arctic charr (SR) [1,000] (1989) [1,500] (1990-91)	1989--350 kg; 1990--3,652 kg; 1991--0 kg	Exploratory fishery sampled in 1985. (McGowan 1985; Yaremchuk et al. 1989; McGowan et al. 1993)
unnamed lake (Chidliak Bay) 64°54'N, 66°53'W	Arctic charr (SR) [1,000]	1991--10 kg	Exploratory fishery. (McGowan et al. 1993)
unnamed lake (Ikpit) 65°26'N, 67°38'W	Arctic charr (SR) [1,000]	1989--850 kg; 1990--600 kg; 1991--1,000 kg; 1992--884 kg	Exploratory fishery last sampled in August 1989. (McGowan 1985, 1989; Yaremchuk et al. 1989; DFO 1992a, 1993b; McGowan et al. 1993)
unnamed lake, Exaluin Fiord 64°54'N, 66°57'W	Arctic charr (SR) [2,000]	1992--500 kg	Exploratory fishery. (DFO 1993b)
unnamed lake (Kangijavala) 66°13'N, 68°50'W	Arctic charr (SR) [1,500]	1990--3 kg	Exploratory fishery. (DFO 1992b; McGowan et al. 1993)
unnamed lake, Kekertelung Island 66°19'N, 66°41'W	Arctic charr (SR)--no quota	1982--2,300 kg	This area has not had a commercial quota. It was last commercially harvested in 1982. The Kikertaluk Sport Fishing Camp operated there in 1985. (Stewart and Bernier 1988b; Yaremchuk et al. 1989)
unnamed lake (Nauliniavik) 65°13'N, 63°50'W	Arctic charr (SR) [1,000]	1989--2,551 kg; 1990--1,470 kg; 1991--991 kg; 1992--2,130 kg	Exploratory fishery sampled in April 1989 and 1992 and December 1992. (DFO 1991, 1992a + b, 1993a + b; McGowan et al. 1993)
unnamed lake (Quanayutuk) 65°21'N, 67°32'W	Arctic charr (SR) [1,000]	1988--121 kg; 1989--850 kg; 1990--900 kg; 1991--NF 1992--1,200 kg	Exploratory fishery last sampled in August 1989. (McGowan 1989; DFO 1991, 1993b; McGowan et al. 1993)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
unnamed lake (Qasigiat) (Ptarmigan Fiord) 64°37'N, 66°19'W	Arctic charr (SR) [1,000]	1989--1,014 kg; 1990--680 kg; 1991--426 kg; 1992--322 kg	This area is an important subsistence fishery. An exploratory fishery was conducted there in 1982-83, and again in 1989-92. The area was last sampled in 1983. (McGowan 1985; DFO 1992a, 1993b; McGowan et al. 1993)
Cumberland Sound --the area lying west of a line from a point at Cape Mercy (64°53'N, 63°37'W) to a point at Cape St. David (63°58'N, 64°37'W)	turbot ( <i>Reinhardtius hippoglossoides</i> ) [200,000] (1989) [300,000] (1990) [530,000] (1991) [625,000] (1992) [500,000] (1993)	1989--255,000 kg; 1990--139,288 kg; 1991--430,099 kg; 1992--425,183 kg; 1993--NA	This deepwater, 600-1125 m, marine fishery began in 1986. The fish are harvested through the ice in spring using longlines. The quota for this stock is allocated from the 3,000 tonne Canadian quota for NAFO AREA O. It is not known whether this fishery harvests a discrete stock or a migratory portion of the Davis Strait stock. Likewise, virtually nothing is known of the size of the stock that seasonally inhabits Cumberland Sound. DFO has recommended continued monitoring of the Pangnirtung commercial fishery, including the collection of catch per unit effort and biological data, and research to clarify the stock status of turbot vulnerable to fisheries in the inshore waters of Baffin Island. A conservative management approach is recommended, whereby the stock is treated as distinct until proven otherwise, and quotas are only increased after 2-3 year intervals. The catches of Greenland shark ( <i>Somniosus microcephalus</i> ) and thorny skate ( <i>Raja radiata</i> ) by this fishery are significant but unutilized (McKay 1987; Canadian Fisheries Consultants Ltd. 1988; McGowan 1989; DFO 1991, 1992a + b, 1993a + b; Bodaly et al. 1992; Crawford 1992; Pike 1993; Stewart et al. 1993b; Topolniski 1993)
Cumberland Sound --Zone 1: area lying north of the southern tip of Kekerten Island (65°40'N) and east of 66°09'W; --Zone 2: areas within Cumberland Sound that lie outside of Zone 1.	Iceland scallop ( <i>Chlamys islandica</i> ) [100,000] (1988- 90) Zone 1: [30,000] (1993); Zone 2: [40,000] (1993)	1988--17,200 kg; 1989--8,000 kg; 1990--8,000 kg; 1991-92--NF; 1993--30,194 kg	Beds of Iceland scallop have been located in Cumberland Sound. Sampling data suggest that there may be discrete stocks near the Kikastan Islands and in Pangnirtung Fiord, with estimated population biomass of 110 tonnes and 340 tonnes, respectively. These scallops are slow growing relative to more southerly scallop species. Their recruitment is uneven, their distribution patchy, and the fishing season is very short. DFO has recommended a provisional quota of 40 tonnes for the Kikastan Islands-Pangnirtung Fiord area combined, and 60 tonnes for the remainder of Cumberland Sound. Further, that the scallop fishery should be managed on a sustained yield basis, and that there be research to identify the extent of the beds, to monitor the commercial harvest, and to study the scallop's life history. The 1993 catch could not be exported from the NWT because the Pangnirtung fish plant where they were processed was not registered. (Cosens et al. 1990; DFO 1991, 1992a + b; Bodaly et al. 1992; Crawford 1993; Topolniski 1993; G. Weber, pers. comm.)
	shrimp [5,000] (1989)	1989--5 kg	Exploratory trap fishery. (DFO 1992a)
	Atlantic cod [1,500] (1989)	1989--200 kg	Exploratory fishery. (DFO 1992a)
<b>POND INLET</b>			
Adams Island L. + R. 71°24'N, 73°13'W	Arctic charr (SR) 700	1989-93--NO	Little is known of this stock. The area has no record of commercial harvest. (Bodaly et al. 1992; Cosens et al. 1993)
Coutts Inlet Area 71°43'N, 76°02'W	Arctic charr (SR) 900	1979--907 kg; 1989-93--NA or NF	The status of this stock is unknown. The last reported commercial harvest was in 1979. (Yaremchuk et al. 1989; Bodaly et al. 1992; Cosens et al. 1993)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
Duart Lake and River, Dexterity Fiord 71°20'N, 72°47'W	Arctic charr (SR) 700	1989--NO 1990--610 kg; 1991--NO; 1992--NF; 1993--NA	Stock status unknown. No recent reports of commercial harvest. (Bodaly et al. 1992; Cosens et al. 1993; T. Stephenson and G. Weber, pers. comm.)
Feacham Bay L. and R. 71°53'N, 74°20'W	Arctic charr (SR) 900	1988-93--NO	Stock status unknown. No reports of commercial harvest. (Bodaly et al. 1992; Cosens et al. 1993)
Ikaluit River, Tay Sound 71°58'N, 79°15'W	Arctic charr (SR) 2,300 [1,400] (1993)	1989--2,599 kg; 1990--2,300 kg; 1991--2,390 kg; 1992--2,300 kg; 1993--2,551 kg	Pond Inlet residents have expressed concern that this stock is declining. Indeed, fishing mortality appears to have reduced the number of large, fecund fish in this stock. In 1989, the upstream run was large (282,500 fish), but the mean size of the fish was small. Most of the commercial and subsistence fishing occurs in Ikaluit Lake, whereas most sport fishing occurs in the Ikaluit River. The annual subsistence harvest has been roughly estimated at 6,800 to 9,000 kg, and the annual sport harvest at about 100 kg. Management of the stock is hampered by the lack of an accurate estimate of the total harvest. DFO is monitoring the stock. (Yaremchuk et al. 1989; DFO 1991, 1992b, 1993b; Cosens et al. 1993; A.C. Day, pers. comm.; A. Kristofferson, pers. comm.)
Keel River 71°12'N, 75°07'W	Arctic charr (SR)--no quota	1992--141 kg	Exploratory fishery last sampled in April-May 1992. (Kristofferson and McGowan 1981; McGowan 1985; Yaremchuk et al. 1989; McGowan et al. 1993)
Leaf Bay 71°30'N, 74°10'W	Arctic charr (SR)--no quota	1961--3,468 kg	The only reported commercial harvest of this area was in 1961. (Yaremchuk et al. 1989)
Lethbridge L. and R. 71°02'N, 73°55'W	Arctic charr (SR) 1,400	1989-92--NO; 1993--NA	Stock status unknown, no report of commercial harvest. (Bodaly et al. 1992; Cosens et al. 1993)
Mala River 72°57'N, 80°56'W	Arctic charr (SR)--no quota	1973--544 kg	This area was harvested commercially from 1969-73. It does not have a commercial quota. (Yaremchuk et al. 1989)
Paquet Bay R. and L. 71°38'N, 77°20'W	Arctic charr (SR) 1,000	1989--NF; 1990--409 kg; 1991--NO; 1992--NF; 1993--NA	This winter fishery was not fished in 1988 or 1989 due to logistical problems. The quota was reduced from 2,300 to 1,000 kg in 1985, due to concern over the small size of fish in the commercial harvest. (Yaremchuk et al. 1989; Cosens et al. 1990, 1993; Bodaly et al. 1992; DFO 1992b)
Phillips Creek 71°53'N, 80°58'W	Arctic charr (SR) closed	1989-93--closed	This area has not been fished commercially for many years. It was closed at the request of Pond Inlet residents. (Bodaly et al. 1992; Cosens et al. 1993; A. Kristofferson, pers. comm.)
Pond Inlet general area	Arctic charr (SR)--no quota	1978--2,570 kg	This area was fished from 1969-73, and in 1978. It is no longer fished commercially. (Yaremchuk et al. 1989)

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
Robertson River (North Lake) 72°10'N, 81°25'W	Arctic charr (SR)--no quota	1974--1,150 kg;  1979--sport 762 Arctic charr (SR) (2,820 kg)	The last reported commercial harvest from this area was in 1974. The area does not have a commercial quota. It is an important sport fishery. Guests of the Koluktoo Bay Sportfishing Camp angle at or near the river mouth. The subsistence fishery was sampled in 1976 and DFO conducted a creel census of the sport fishery in 1979. (Kristofferson and McGowan 1981; Moshenko 1981; Yaremchuk et al. 1989)
Salmon River 72°40'N, 78°04'W	Arctic charr (SR)--no quota	subsistence harvest estimated at 2,300-3,200 kg annually	This is an important subsistence fishery. A rapid stock decline in the early 1970's, prompted the community to encourage fishermen to conserve the stock by reducing their harvests from the area. DFO sampled the stock and the subsistence harvest in 1980 and in 1986-87. Subsistence fishing increased in 1988-89 and there were reports of improved catches relative to the past 15 to 20 years. (Read and Roberge 1991)
Tugaat River and Lake 72°04'N, 80°21'W	Arctic charr (SR) closed	1989--nil; 1990--329 kg; 1991-92--NF; 1993--NO	Tagging studies in the early 1980's showed this stock to be heavily exploited. As a result the quota was reduced to 1,000 kg in 1985. The annual subsistence harvest has been estimated at over 1,000 kg. Only 3,400 charr of commercial size (>400 mm) were counted at a weir during the upstream run in the fall of 1992. DFO has recommended that the commercial quota be closed. (Yaremchuk et al. 1989; Bodaly et al. 1992; DFO 1992b; Cosens et al. 1993; A. Kristofferson, pers. comm.)
unnamed lake 71°57'N, 80°27'W	Arctic charr (LL) [500]	1983--3 kg	Exploratory fishery. (Yaremchuk et al. 1989)
unnamed lake, Tay Sound 71°47'N, 78°42'W	Arctic charr (SR) [454]	1981--156 kg	Exploratory fishery sampled in 1981. (McGowan 1985; Yaremchuk et al. 1989)
unnamed lakes (Beta River 72°17'N, 81°27'W	Arctic charr (SR) [454]	1982--51 kg	Exploratory fishery sampled in 1982. (McGowan 1985; Yaremchuk et al. 1989)
unnamed river and lake (VI#60), (Kentra Bay) 71°19'N, 74°19'W	Arctic charr (SR) 500	1989-92--NO	Stock status unknown. No record of commercial harvests. (Bodaly et al. 1992)
unnamed lake and river (VI#61) S. of Styrmann Island 71°21'N, 73°50'W	Arctic charr (SR) 900	1989-92--NO	Stock status unknown. No record of commercial harvests. (Bodaly et al. 1992)
Pond Inlet Area 72°42'N, 77°59'W	Turbot [10,000]	1991--NF; 1992--909 kg	Catch kept for personal use. (DFO 1993a+b)
	shrimp [1,000]	1991-92--NF	Area opened for fishing but not fished. (DFO 1993a+b)
<b>RESOLUTE</b>			

Table 3. Continued.

LOCATION <sup>1</sup>	QUOTA (kg rnd.) <sup>2</sup>	HARVEST (kg rnd.) <sup>3</sup>	STOCK STATUS (references)
Crooked Lake, Prince of Wales Island 72°40'N, 98°50'W	Arctic charr (SR) [454] Least cisco [454]	1982--Arctic charr (SR) 22 kg --least cisco 31 kg	Exploratory fishery. (Stewart and Bernier 1982; McGowan 1985; Yaremchuk et al. 1989)
Resolute Bay general area	Arctic charr (SR)--no quota	1984--2,900 kg	The only reported commercial harvest from this area was in 1984. The area does not have a commercial quota. (Yaremchuk et al. 1989)
Stanwell-Fletcher Lake 72°39'N, 94°41'W	Arctic charr (SR) 6,800	1989--4,000 kg; 1990--2,663 kg; 1991--2,144 kg; 1992--NA; 1993--NA Subsistence harvest estimated at about 1,000 kg per year	This area is fished by residents of the Cresswell Bay outpost camp. Studies in 1975 and 1976 suggested that the stock was overexploited, but this was not evidenced by samples taken in 1988. The subsistence harvest is unknown but probably considerable, and sport fishermen occasionally fly in from Resolute to fish the stock. DFO has recommended that effort be spent to collect accurate harvest statistics for this stock. (de March et al. 1978; McGowan 1989; Cosens et al. 1990, 1993; DFO 1991, 1992b; Bodaly et al. 1992)
Resolute Bay general area	Turbot [10,000] (1992)	1992--nil	A longline fishery was attempted from March-May 1993. Ice conditions precluded fishing in deep water and the fishery was unsuccessful. (DFO 1993b; T. Stephanson and G. Weber, pers. comm.)
	--isopods [10] --coral [10] --basket star [5] --spiny lumpsucker [10] --mysid shrimps [200] --Arctic cod [60] --brittle stars [100] --polychaete worms [800]	1993--NA	Exploratory commercial fishery to collect live fish and invertebrates for use in acute toxicology studies and for animal husbandry. The following species were to be collected: the isopod <u>Arcturus baffini</u> , the coral <u>Gersemia rubiformes</u> , the basket star <u>Gorgonocephalus arcticus</u> , the spiny lumpsucker <u>Eumicrotremus arcticus</u> , mysid shrimps <u>Mysis</u> spp., the Arctic cod <u>Boreogadus saida</u> , brittle stars <u>Ophiura</u> spp., and the polychaete worm <u>Polidora quadrilobata</u> . (J.T. Strong, pers. comm.)
<b>SANIKILUAQ</b>			
Belcher Islands area 56°15'N, 78°45'W	Arctic charr (SR) closed	1989-92--NO	This area has no record of commercial harvest. DFO will recommend a quota if interest is expressed in the fishery, and suggests that it be given exploratory status to obtain a biological sample. (Bodaly et al. 1992; Cosens et al. 1993)
Belcher Islands area 56°15'N, 78°45'W	blue mussel [500] (1991)  green sea urchin, six-rayed starfish, + brown sea cucumber--no quota	Small commercial harvests were made by divers in 1984-86, and using drag and pole nets in 1988. 1991--NF	Inuit from the Belcher Islands harvest blue mussel ( <u>Mytilus edulis</u> ), green sea urchin ( <u>Strongylocentrotus droebachiensis</u> ), brown sea cucumber ( <u>Cucumaria frondosa</u> ), and six-rayed starfish ( <u>Leptasterias polaris</u> ) for food and there has been interest in commercially harvesting these species. Small-scale summer exploratory fisheries conducted in 1984-86 and 1988, found the urchins and mussels to be significantly smaller than those harvested by competing southern fisheries. None of these species is sufficiently abundant to support more than a small fishery to supply the local market in Sanikiluaq and the coastal villages of eastern Hudson Bay. (Jamieson 1986; Topolniski et al. 1987; Crawford 1989; Giroux 1989; DFO 1993a; Stewart et al. 1993b)

<sup>1</sup> Old or alternate names for the fisheries are shown in brackets, as are the codings for unnamed waterbodies listed in Schedule V of the Northwest Territories Fishery Regulations,

Table 3. Continued.

e.g. (VI#61) indicates that the waterbody is in Region VI--the Baffin, and is number 61.

<sup>2</sup> A round weight is that for a whole fish, while a dressed weight is that of a fish with the viscera and gills removed. Wherever possible Arctic charr populations have been identified as being either anadromous (SR) or landlocked (LL). The quotas are from Schedule V or the Northwest Territories Fishery Regulations except where they have been changed recently by variation notice. In this case, the most recent quota is given. Square brackets indicate provisional test quotas.

<sup>3</sup> The quota years are the same as the federal government fiscal year (e.g. the 1991 quota extends from 1 April 1991 to 31 March 1992). Wherever possible, the harvests from 1989 to 1993 have been listed, otherwise only the most recent harvest is shown. The round weights of the Arctic charr harvested were calculated using a dressed weight to round weight conversion factor of 1.15, which did not include an estimate of culls. For turbot, 28% of the round weight is gut and head. NA indicates that a harvest may have taken place but no data are available; NF = indicates that a quota was open for fishing that year but was not fished; NO = indicates that a quota was not opened for fishing that year. Closed quotas that are described as "revoked" have been removed from Schedule V of the Northwest Territories Fishery Regulations.

Table 4. Sport fishing lodges and their outpost camps in Nunavut<sup>1</sup>.

LODGE - OUTPOST	COORDINATES	OPERATING SEASON	GUEST BED CAPACITY	SPECIES SOUGHT <sup>2</sup>	COMMENTS (references) <sup>3</sup>
<b>KITIKMEOT REGION</b>					
Bathurst Inlet Lodge	66°50'N, 108°02'W	mid-June to mid-August	20	lake trout, Arctic grayling, Arctic charr	Naturalist lodge with outposts on the Burnside River and at Pellat Lake. Does not emphasize fishing.
Chantry Inlet Lodge	66°57'N, 95°46'W	early July to mid-August	15	lake trout, Arctic grayling, Arctic charr	This sport fishery relies on trophy lake trout. The lodge did not operate in 1992 and 1993, and is not licenced for 1994. (G. Low, pers. comm.)
High Arctic Lodge (Merkley Lake)	69°49'N, 107°52'W	mid-July to late August	12	lake trout, Arctic charr	Outpost on Nanook River, near Hadley Bay (71°02'N, 108°05'W).
Plummer's Tree River Outpost	67°42'N, 111°58'W	July and August		Arctic charr (SR)	Outpost of Plummer's Great Bear Lake Lodge. DFO conducted creel censuses of the Tree River sport fishery in 1978 and 1991, and partial creels in 1988 and 1989. (Falk and Dahlke 1979; Moshenko et al. 1984; C. Craig, pers. comm.; L. Dow, pers. comm.)
<b>KEEWATIN REGION</b>					
Dubawnt Lake Lodge	63°27'N, 101°26'W	July and August	6	lake trout, Arctic grayling, Arctic charr, lake whitefish	This lodge was established in 1977. DFO conducted a creel census of this sport fishery in 1980. The lodge was not listed in 1993 or 1994. (Roberge 1984; Roberge et al. 1984)
Ekaluk Lodge (Schultz Lake)	64°45'N, 97°52'W	late July to end of August	12	lake trout, Arctic grayling, Arctic charr	
Ferguson Lake Lodge	62°52.5'N, 96°50'W	mid-June to end of September	20	lake trout, Arctic grayling, northern pike	Outposts on Yathkyed Lake (62°58'N, 97°35'W) and Kaminuriak Lake (62°52'N, 96°09'W). (Roberge et al. 1984)
Henik Lake Lodge	61°39'N, 97°11'W	early July to early September	12	lake trout, Arctic grayling, lake whitefish	Not listed in 1993 or 1994. DFO conducted a creel census of this sport fishery in 1980. (Roberge et al. 1984)
Kasba Lake Lodge	60°16'N, 102°30'W	mid-June to early September	46	lake trout, Arctic grayling, northern pike	Kasba Lake extends into Nunavut but the lodge lies just west of Nunavut. The lodge was established in 1971 and has an outpost on Snowbird Lake (60°29'N, 103°03'W). A DFO creel census of this fishery in 1979, estimated the lake trout harvest at 1,846 fish (3,692 kg). (Falk et al. 1979; Roberge et al. 1984)
Kazan Camp	63°43'N, 95°52'W	late July to late August	18	lake trout, Arctic grayling	Not listed in 1993 or 1994.

Table 4. Continued.

LODGE - OUTPOST	COORDINATES	OPERATING SEASON	GUEST BED CAPACITY	SPECIES SOUGHT <sup>2</sup>	COMMENTS (references) <sup>3</sup>
Nueltin Fly-in Lodges (Nueltin Narrows, and Windy River)		mid-June to mid-September	24	lake trout, Arctic grayling, northern pike	The Treeline Lodge in northern Manitoba has fly-in outposts at Nueltin Narrows (60°11'N, 99°44'W) and Windy River (60°36'N, 99°54'W). In the past there was also an outpost at Sealhole Lake (60°48'N, 98°50'W). DFO conducted a creel census of this sport fishery in 1981. (Roberge et al. 1984)
Sila Lodge (Wager Bay)	65°52'N, 89°62'W	July and August	30	lake trout, Arctic charr	
Tundra Adventure Inc. (Ennadaí Lake)	61°06.5'N, 100°48'W	?	6		Status unknown.
<b>BAFFIN REGION</b>					
Clearwater Fiord Camp	66°37.5'N, 67°51.5'W	July and August	12	Arctic charr (SR)	Not listed in 1993 or 1994.
Jessco Operations Inc./Arctic Watch	74°03'N, 93°44'W-- approximate	June, July, and August	20	Arctic charr (SR)	Established in 1992, this lodge caters to eco-tourists but does take guests on day trips to Creswell Bay for charr fishing. (P. Jess, pers. comm.)
Kikertaluk Camp	66°20'N, 66°47'W	July and August	16	Arctic charr (SR)	Located on Kekertelung Island. Not listed in 1993 or 1994.
Koluctoo Bay Sportfishing Camp	72°06'N, 80°58'W	early August to mid-September	16	Arctic charr (SR)	Located at the mouth of the Robertson River. DFO conducted a creel census of this fishery in 1980. (Moshenko 1981)
Tongait Arctic Sports Fishing	66°03'N, 65°15.5'W	July and August	12	Arctic charr (SR)	Located at Kingnait Harbour on Kingnait Fiord.

<sup>1</sup> The main sources of information for this table were the GNWT Explorers Guides 1988-94, and DFO (C. Craig, pers. comm.). Other sources of information are referenced with the lodge to which they refer. Outfitters operating from communities or with moveable camps are not listed.

<sup>2</sup> Wherever possible, Arctic charr are identified as being either anadromous (SR) or landlocked (LL).

<sup>3</sup> Lodges "not listed" in a particular year were not advertised in the Explorers Guide in that year, and presumably were not in operation.

Table 5. Licences to take fish for scientific purposes issued by the Department of Fisheries and Oceans (DFO), Central and Arctic Region, to DFO personnel from 1990-93. Note: DFO did not begin issuing licences for their own fisheries programs until 1990.

LICENCE HOLDER	AREA	PURPOSE	PERIOD
<b>KITIKMEOT REGION</b>			
J. Babaluk DFO, Winnipeg, MB	Bathurst Inlet area	Site assessment survey of four locations to look for an unexploited Arctic charr population for use in Arctic Fish Ecological Modelling.	1990
S. Harbicht DFO, Winnipeg, MB	Contwoyto Lake, Concession Lake, Burnside River	Evaluation of heavy metals accumulation by lake trout.	1990
A.H. Kristofferson DFO, Winnipeg, MB	Cambridge Bay	Stock identification of charr; genetic and morphological analysis.	1991
		Biological sampling of Arctic charr from the commercial fishery.	1992
		Sampling of Arctic charr and marine fish species.	1993
G. Low DFO, Hay River, NT	Kitikmeot	Collection of harvest and biological data from the commercial Arctic charr fisheries in the Kitikmeot.	1990
		Ongoing program to collect samples for fish health diagnosis.	1990
D.K. McGowan DFO, Winnipeg, MB	Cambridge Bay	Study to determine the size and structure of the anadromous and resident charr populations in Freshwater Creek.	1991
<b>KEEWATIN REGION</b>			
G. Carder DFO, Winnipeg, MB	Keewatin coast of Hudson Bay	Collection of biological data from the commercial harvest of anadromous Arctic charr along the west coast of Hudson Bay.	1990, 1991
S. Innes	see Baffin Region		
G. Low, DFO, Hay River, NT	Cambridge Bay	Assessment of Freshwater Creek charr.	1991
D.K. McGowan DFO, Winnipeg, MB	Meliadine River, Rankin Inlet	Enumeration of anadromous Arctic charr in the Meliadine River and collection of biological samples for stock identification.	1990
	Diana River	Study to determine the size, structure, and movements of the anadromous charr population in the Diana River.	1991, 1992, 1993

Table 5. Continued.

LICENCE HOLDER	AREA	PURPOSE	PERIOD
D. Pike DFO, Iqaluit, NT	Keewatin	Monitoring of domestic marine mammals harvests and of exploratory and commercial fisheries in the Keewatin Region.	1990
P. Richard DFO, Winnipeg, MB	northern Hudson Bay	Aerial photographic survey to determine the distribution and abundance of walrus in northern Hudson Bay.	1990
	Foxe Basin	Monitoring of subsistence walrus harvest.	1991
T. Stephenson DFO, Iqaluit, NT	Rankin Inlet	Assessment of the impacts of mine tailings from the abandoned nickel mine, and of potential environmental contamination from petroleum spills and municipal sewage and garbage disposals, on the nearshore environment of Rankin Inlet.	1990
	Diana River	Sampling of Arctic charr.	1993
	Josephine River	Tagging and biological sampling of Arctic charr.	1993
R. Stewart DFO, Winnipeg, MB	Coats Island	Attempted to mark/tag walrus.	1990
	s. Keewatin coast	Collected biological samples from 72 ringed seals.	1990
<b>BAFFIN REGION</b>			
B. Billeck DFO, Winnipeg, MB	Axel Heiberg Island	Research to determine the history and current rate of supply of atmospheric contaminants in lake sediments and fish.	1991
C. Churchward DFO, Winnipeg, MB	Frobisher Bay	Monitoring of bacterial contaminants in shellfish.	1993
R.J. Conover DFO, Dartmouth, NS	Resolute Passage, Barrow Strait	An investigation of the distribution and nutrition of zooplankton under fast ice.	1991
S. Cosens DFO, Winnipeg, MB	Lancaster Sound	A study of the masking effects of ship noise on beluga vocalizations	1991
		Behavioural responses of beluga to underwater vessel noise.	1991
R. Crawford DFO, Winnipeg, MB	Resolute Passage and Barrow Strait	Tested methods for sampling Arctic cod and zooplankton, collected biological samples from Arctic cod and conducted studies using dual beam hydroacoustics.	1990
B. Dunn DFO, Winnipeg, MB	Pond Inlet and Arctic Bay	Monitoring of the subsistence harvest of narwhal by residents of Arctic Bay and Pond Inlet. Collection of tissue samples for M. Ramsey of the University of Saskatchewan.	1990, 1991, 1992

Table 5. Continued.

LICENCE HOLDER	AREA	PURPOSE	PERIOD
S. Guildford DFO, Winnipeg, MB	Barrow Strait	Measurement of phytoplankton nutrient status and photosynthesis.	1991
S. Innes DFO, Winnipeg, MB	Foxe Basin and northern Hudson Bay	Aerial photogrammetry and radiative temperature assessment of walrus to assist in the validation of aerial assessments of walrus abundance.	1990
	Resolute Passage, Admiralty Inlet	Determination of indices of density for ringed seal.	1991
	Strathcona Sound	Biology of ringed seal.	1992
	Admiralty Inlet	Tagging studies of ringed seal.	1993
	Slidre Fiord and Eureka Sound	Sampling of ringed seal and Arctic charr.	1993
M. Kingsley DFO, Mont-Joli, PQ	Tremblay Sound, Milne Inlet, western Eclipse Sound	Placed radio transmitters on narwhal and flew aerial surveys to study narwhal movements, diving behaviour, and habitat use in the northern Baffin Island area.	1990, 1991, 1993
D. Pike DFO, Iqaluit, NT	Eastern Arctic	Monitoring of domestic marine mammals harvests and of exploratory and commercial fisheries in the Baffin Region.	1990, 1991
		Opportunistic sampling of the subsistence marine mammal harvest.	1991
		Biological sampling of commercial turbot fishery.	1992
	Igloolik/Hall Beach	Biological sampling of the subsistence walrus harvest.	1991
	Iqaluit	Population assessment of the Sylvia Grinnell River charr.	1991
	Pangnirtung, Iqaluit, Lake Harbour, Cape Dorset.	Stock delineation of southeast Baffin beluga.	1991
	Lake Harbour, Iqaluit, Pangnirtung	Biological sampling of beluga taken in the subsistence harvest.	1992
C.J. Read DFO, Winnipeg, MB	Ikaluit River, Tay Sound, Baffin Island	Sampling of the run of anadromous Arctic charr to determine the number of spawners and to retrieve tags placed in fish during previous years.	1990
	Pond Inlet	Status of Arctic charr population.	1992

Table 5. Continued.

LICENCE HOLDER	AREA	PURPOSE	PERIOD
J. Reist DFO, Winnipeg, MB	Lake Hazen, Ellesmere Island	Collection of baseline data from Arctic charr.	1992
P. Richard DFO, Winnipeg, MB	Iqaluit and Pangnirtung areas	Aerial photographic survey to determine the distribution and abundance of beluga in the waters of southeastern Baffin Island.	1990
T.G. Smith DFO, Nanaimo, BC	Cunningham Inlet Elwin Bay, Somerset Island	Tagging of belugas (and narwhals in 1993) for satellite tracking studies of their dives, activity, and location.	1990, 1991, 1992, 1993
T. Stephenson DFO, Iqaluit, NT	Iqaluit area	Assessment of the potential contamination of the nearshore marine environment from municipal sewage and garbage disposal.	1990
		Monitoring of levels of bacterial and chemical contaminants in shellfish.	1991
	Kingnait Fiord	Sampling of Arctic charr.	1993
	Cumberland Sound	Sampling of turbot.	1993
R. Stewart DFO, Winnipeg, MB	Bathurst Island, Devon Island	Tagging of walrus.	1992
	Pangnirtung, Igloodik, Hall Beach	Biological sampling of ringed seal and walrus taken in the subsistence harvest.	1992
H.E. Welch DFO, Winnipeg, MB	Parry Channel, Resolute Bay area	Quantification of Arctic marine food webs. Collected samples of water, phytoplankton, zooplankton, fish, and hunter-killed marine mammals for analysis.	1990, 1991, 1992, 1993

Table 6. Licences to take fish for scientific purposes issued by the Department of Fisheries and Oceans (DFO), Central and Arctic Region, to non-DFO researchers from 1989-93.

LICENCE HOLDER	AREA	PURPOSE	PERIOD
<b>KITIKMEOT REGION</b>			
G. Ash R.L. + L. Environ. Serv. Ltd., Edmonton, AB	Contwoyto Lake	Documentation of fin fish species present.	1992
	Coppermine area	Tagging and biological sampling of fish in the Izok-Itchen lakes area (65°40'N, 113°00'W), the Napaaktokok River mouth area (67°45'N, 114°45'W), and at potential stream crossings between the two sites.	1993
T. Clayton R.L. + L. Environ. Serv. Ltd., Edmonton, AB	Contwoyto Lake	Collection of fish as part of a contaminant monitoring study related to the Lupin Mine Project.	1993
R. Couture Rescan Environmental Services Ltd., Vancouver, BC	unnamed lakes and streams near 67°38'W, 106°50'W	Studies of the aquatic environments in B.H.P. Minerals Canada Ltd's Boston Project area.	1993
R. Garrel Illhavik School, Cambridge Bay, NT	Cambridge Bay	Collection of Arctic charr for educational purposes.	1991
P. Hebert	see Baffin Region		
Princess Patricia's Canadian Light Infantry, Winnipeg, MB	Coppermine area	Collection of Arctic charr during survival training.	1991
K. Reimer Royal Roads Military College, Victoria, BC	Cambridge Bay area	Examination of the migration and impact of inorganic and organic contaminants into the marine ecosystem in the vicinity of Cambridge Bay	1991, 1992
J. Stevenson, Renewable Res., GNWT, Coppermine, NT	Kitikmeot Region	Opportunistic sampling of marine fishes and invertebrates within 100 km of Holman, Coppermine, Cambridge Bay, Umingmaktok, Gjoa Haven, and Taloyuak to determine species and quantities available for possible commercial exploitation.	1993
G. Weber Renewable Res., GNWT, Coppermine, NT	Kitikmeot Region	Documentation of species present in various areas and catch per unit effort data.	1992
J. Werring Redscan Environ. Serv. Ltd., Vancouver, BC	Hood River area	Investigation of fisheries resources present to establish baseline data.	1991
<b>KEEWATIN REGION</b>			
K. Baldwin St. Boniface Diocesan High School, Winnipeg, MB	Chesterfield Inlet	Biological sampling of ringed seal and Arctic charr	1989

Table 6. Continued.

LICENCE HOLDER	AREA	PURPOSE	PERIOD
S. Davies North/South Consultants, Winnipeg, MB	Maguse River area	Biological sampling and tagging of Arctic charr	1989
S. de Guise University of Montreal, St. Hyacinthe, PQ	Arviat	Pathologic and histopathologic investigation of beluga at Arviat and Churchill.	1990
J. Hollet EDT, GNWT, Rankin Inlet, NT	Repulse Bay	Determination of fish species present and catch per unit effort data.	1992
F. Mallory Laurentian University, Sudbury, ON	Arviat area	An investigation of heavy metal and organic toxicant loading and residues in seals taken at Arviat and Churchill.	1989, 1990
P. McKee Beak Consultants Ltd., Brampton, ON	Judge Sissons Lake (64°17'N, 97°36'W)	Determination of species present in waters of the study area.	1991
S. Parker Environment Canada, Yellowknife, NT	Cambridge Bay area	Collection of marine macrophytes, invertebrates, benthic fishes, Arctic charr and other species for contaminant analysis.	1993
M. Penny EDT, GNWT, Rankin Inlet, NT	western Hudson Bay and Southampton I.	Determination of fin fish species present and catch per unit effort data.	1992
		Investigation of species present and catch per unit effort.	1992
		Exploratory fishery for scallops and amphipods.	1993
	Wilson Bay	Determination of amphipod species present and their abundance.	1992
A. Sekerak Applied Environmental Services, Yellowknife, NT	Whale Cove area	Experimental rearing of Arctic charr in pens.	1993
	Chesterfield Inlet area	Tagging and biological sampling of Arctic charr at waters in Merles Harbour (63°40'N, 91°22'W), Akunak Bay (63°45'N, 92°36'N), Stony Point (63°53'N, 92°44'W), and Robin Hood Bay (63°47'N, 92°05'W) as part of the experimental program to determine the feasibility of a mixed-stock commercial fishery for anadromous Arctic charr.	1993
	Repulse Bay area	Tagging and biological sampling of Arctic charr at the Curtis River (67°11'N, 87°33'W), an unnamed river in Ross Bay (66°50'N, 85°02'W), and an unnamed river in Ross Inlet (67°06'N, 87°15'W).	1993
J. Soublieve Can. Mus. of Civilization, Ottawa, ON	Coral Harbour	Collection of beluga skins for museum display.	1989
I. Stirling Canadian Wildlife Service, Edmonton, AB	Arviat-Churchill area	To monitor condition and reproductive parameters of ringed seal as part of an investigation of declining weights of polar bear.	1991, 1992

Table 6. Continued.

LICENCE HOLDER	AREA	PURPOSE	PERIOD
<b>BAFFIN REGION</b>			
A. Aitken University of Toronto, Scarborough, ON	Canon Fiord, Ellesmere Island	Collection of marine invertebrates for a study of the ecology of the macrobenthos inhabiting shallow coastal waters and fiords along Canada's eastern seaboard.	1992, 1993
D.G. Allen BBC Natural History, Bristol, England	Pond Inlet	Photography of narwhal.	1989
E. Asper, Sea World Enterprises Inc., Orlando, Florida	Pond Inlet and Arctic Bay	Biological sampling of harvested narwhal.	1989
J.S. Ballentyne University of Guelph, Guelph, ON	Igloodik	Investigation of metabolic adaptation of fish to cold marine and fresh water.	1992
D. Barber Electro Magnetic Sensing Inc., Wpg., MB	Cumberland Sound	Photographic aerial survey of seals.	1989
C. Brubacher Les Productions de la Chasse Gallorie Inc., Jonquiere, PQ	Pond Inlet	Narwhal photography.	1989
P. Bruecker Vancouver Public Aquarium, Vancouver, BC	Resolute area	Collection of marine fish and invertebrates for aquarium display.	1989, 1990
K. Conlan Canadian Museum of Nature, Ottawa, ON	Barrow Strait	Collection of benthic invertebrates and algae for studies of the effects of ice scour on benthic communities.	1993
G.F. Cota U. of Tennessee, Knoxville, Tenn., USA	Resolute Passage	Investigation of biogenic bromine production in Arctic waters, ice algal physiology, and sea ice optics.	1991
M.A. Curtis McGill University, Montreal, PQ	Igloodik Lake area	Parasitological studies on Arctic charr and lake trout.	1989
	Igloodik Island, Melville Peninsula	To investigate the resting and exercise metabolism of polar cod, and to collect cestode parasites from Arctic charr.	1992
K.J. Finley Sidney, BC	Isabella Bay, Baffin Island	Radio tagging bowhead whales and collecting zooplankton.	1992, 1993
H. Glémet University of Guelph, Guelph, ON	Igloodik area	Comparative investigation of the fatty acid compositions of plasma/haemolymph from various fish and invertebrate species taken in the Igloodik area.	1990
M. Graham Vancouver Public Aquarium, Vancouver, BC	Burton Bay, Baffin Island	Collection of marine fishes as part of the Environmental Technology Program at Arctic College.	1993

Table 6. Continued.

LICENCE HOLDER	AREA	PURPOSE	PERIOD
J. Green Memorial University, St. John's, Nfld.	Resolute Bay	Collection of benthic marine fishes to obtain life history information.	1993
P. Hebert University of Windsor, Windsor, ON	Eastern Arctic	An investigation of genetic diversity in Arctic charr and lake trout populations on Melville Peninsula, and near Coral Harbour, Spence Bay, Pelly Bay, and Gjoa Haven.	1989, 1990
B. Kelly University of Alaska, Fairbanks, Alaska	Barrow Strait	Investigation of social behaviour, diving patterns, and navigational abilities of ringed seals under the ice in Barrow Strait. DNA analysis of ringed seal blood.	1990, 1991, 1992
T. Lewis Arctic College, Iqaluit, NT	Cormack Bay, Baffin Island	Renewable Resources training in fish capture methods.	1989
C.D. Metcalf Trent University, Peterborough, ON	Sanikiluaq	Investigation of the variation of organochlorine contaminants in Arctic ringed seal.	1991
T. Nakayama Tokyo Sealife Park, Tokyo 134, Japan	Resolute	Collection of finfish and invertebrates for research on breeding behaviour and life history. Public display of specimens.	1991, 1992
H.H. Parker Cheltenham, England	Borup Fiord, Ellesmere I.	Investigation of the apparent biological stability of High Arctic freshwater lakes as reflected in the population dynamics of the Arctic charr populations.	1991
Princess Patricia's Canadian Light Infantry, Victoria, BC	Hall Lake area	Collection of Arctic charr during survival training area.	1991
Royal Canadian Dragoons Petawawa, ON	Pond Inlet area	Collection of Arctic charr during survival training.	1991
A. Sekerak Applied Environ. Serv., Yellowknife, NT	Clyde River	Documentation of the upstream migration of Arctic charr prior to stream habitat enhancement.	1991, 1992
I. Stirling Canadian Wildlife Service, Edmonton, AB	Penny Strait and Queens Channel	Walrus tagging.	1989
I.M. Weis University of Windsor, Windsor, ON	Belcher Islands	An assessment of heavy metal and organic contaminants in the diet of Inuit of the Belcher Islands, NWT.	1990
		Investigation of bioaccumulation of contaminants in ringed seal.	1992
C.C. Wilson University of Guelph, Guelph, ON	Melville Peninsula	An examination of genetic diversity and hybridization between lake trout and Arctic charr.	1991, 1992

Table 7. Summary of marine mammal stock assessments for Nunavut.

<b>BELUGA GENERAL</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVESTING RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
<p>There are summering populations of beluga in the Beaufort Sea, High Arctic (Lancaster Sound, Baffin Bay, Foxe Basin), eastern Arctic (Cumberland Sound; southeast Baffin: eastern, western, and northern Hudson Bay; James Bay, and Ungava Bay), and St. Lawrence estuary. The degree of stock separation is not well understood, especially since recent studies have tracked belugas moving into Viscount Melville Sound from the Beaufort Sea. However, the St. Lawrence belugas are thought to be isolated from the other populations.</p>	<p>The number of belugas that live in Canadian waters is unknown. Indices of the population size, based on counts of the number of animals visible at the surface, are used to facilitate stock management.</p>	<p>The harvest of a beluga calf or an adult accompanied by a calf is prohibited in Canadian waters under the Marine Mammal Regulations of the Fisheries Act. There are quotas on the subsistence harvest of beluga in the areas of Pangnirtung, Iqaluit, and Lake Harbour. There are also harvest quotas at the Nastapoca River and in Ungava Bay which may affect stocks exploited by residents of Nunavut. These quotas are opened by annual variation notices which specify the number of whales that can be harvested that year and the open season. There are no quotas or closed seasons in other areas of Nunavut.</p>	<p>The beluga is listed on CITES Appendix II, which allows regulated international trade under permit. National trade in muktuk is limited by law to sale between Indians, Inuit, or beneficiaries of land claims settlements in the Yukon, NWT, Quebec, and Newfoundland.</p> <p>(Stewart and Stewart 1989; Breton and Smith 1990; Doidge 1990; Marine Mammal Regulations 1993; P. Richard, pers. comm.).</p>
<b>HIGH ARCTIC BELUGA</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVEST AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
<p>In summer, belugas in the eastern Canadian High Arctic occur in Barrow Strait, Prince Regent Inlet, Peel Sound, and Jones Sound. Lancaster Sound is a migration route for these whales. Large concentrations are found at a number of estuaries, particularly those of Somerset Island, from mid-July to mid-August. Belugas are also widely distributed in Foxe Basin during August and September, although their distribution there is poorly known. The relationship of these animals with those in the High Arctic and northern Hudson Bay is not known, but area residents report that they migrate into and out of Foxe Basin during the open water season from the Arctic via Fury and Hecla Strait, and from the south. The High Arctic belugas are isolated geographically from those in the western Arctic and from the nearest summer concentrations in Cumberland Sound. They appear to winter in</p>	<p>There is no overall estimate of population size for this stock. A stratified visual aerial survey conducted in July and August 1981 estimated there to be 8,300 whales (95% C.I. = 4,200 to 16,500) in Lancaster Sound, Barrow Strait, and Prince Regent Inlet. The addition of about 2,100 whales seen in estuarine aggregations results in an estimated range of 6,300 to 18,600 belugas, and mean population size of 10,400 whales. This estimate is conservative. It has not been corrected for submerged animals or whales that were in Peel Sound, Admiralty Inlet, Navy Board Inlet, or any of the Channels north of Lancaster Sound. Admiralty Inlet does not appear to be an important summering area for belugas.</p> <p>Population indices from winter aerial surveys off west Greenland suggest that there has been a significant decline</p>	<p>Hunters from Gjoa Haven, Pelly Bay, Taloyuak, Arctic Bay, Creswell Bay, Grise Fiord, Hall Beach, Igloolik, Pond Inlet, and Resolute together landed and estimated average of 76 belugas per year over the 6 year period 1988-93 (Tables 8 and 10). The best estimates of total landed harvest in Canada and Greenland average about 700 whales per year. The loss rates and total annual removal are unknown. The catch record in Greenland is also punctuated by occasional, large harvests of ice-entrapped belugas on the wintering grounds. The highest of these catches is estimated at 1,326 animals. Other factors with the potential to adversely affect this stock are ice-entanglement, habitat disturbances by vessel traffic, and chemical pollutants. The belugas are particularly vulnerable to disturbance and overharvesting when they congregate in the estuaries. Predation by killer whales and polar bears is not thought to be high.</p>	<p>There is concern that this stock is declining. Current harvests are viewed as exceeding safe levels, but the available data are not sufficient to permit accurate prediction of the sustainable harvest. Resource managers need a better understanding of the stock identity and size, kill and loss rates, and vital rates. While the species is not rare or endangered, the Canada/Greenland Joint Commission for the Conservation and Management of Beluga and Narwhal (CGJC) believes that the population's trend warrants close attention. COSEWIC considers this population to be vulnerable.</p> <p>(Vibe 1950; Freeman 1968; Hay and McLung 1976; Read and Stephansson 1976; Finley and Renaud 1980; Fallis et al. 1983; Smith et al. 1985; Reeves and Mitchell 1987; Cosens and Dueck 1990, 1991; Muir 1990; Roberge and Dunn 1990; Bodaly et al. 1992; CGJC 1993; Doidge and Finley 1993; Richard et al. 1994; P.</p>

Table 7. Continued.

<b>HIGH ARCTIC BELUGA--continued</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVEST AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
<p>the "Northwater" off the east coast of Devon Island and at the mouths of Jones Sound and Smith Sound, off the west coast of Greenland, and south of Disko Island in Davis Strait. The relationship between the animals that winter in these separate areas is unknown. These wintering grounds are geographically separated from those of the Southeastern Baffin and Hudson Bay belugas. Wintering areas for the Foxe Basin narwhal are unknown. The relationship between these whales and those that summer off west Greenland is unknown.</p>	<p>in relative abundance of belugas off west Greenland since 1981.</p> <p>No population estimate is available for Foxe Basin.</p>		Richard, pers. comm.)
<b>SOUTHEAST BAFFIN BELUGA</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVEST AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
<p>This small stock concentrates in Cumberland Sound from late July to October and may include animals which summer in Frobisher Bay and near Lake Harbour. Recent genetic analyses suggest that this stock has a complicated structure with considerable between-year variation.</p>	<p>Aerial survey work by DFO in the summer of 1990, estimated that there were 477 belugas (90% C.I. = 309 to 692) in Clearwater Fiord and along the south coast of Baffin Island. This estimate was based on surface counts and was not corrected for submerged animals. The highest daily count was 465 animals. A similar estimate of about 500 animals was obtained from surveys in 1985 and 1986.</p>	<p>Over the 6 year period 1988-93, hunters from Pangnirtung, Iqaluit, and Lake Harbour together landed an estimated 81 animals each year on average (Table 10). The loss rate and total annual removal are unknown. It is not known what portion of the Lake Harbour and Iqaluit harvest is from this stock.</p>	<p>COSEWIC considers this population to be endangered. DFO estimates that 2.5% of the belugas in this stock can be removed annually without causing the stock to decline. Estimates of the landed harvest (uncorrected for losses) and stock size (uncorrected for submerged animals) suggest that the annual removal may be much greater. Indeed, sightings of beluga have decreased at a rate of 3.3% per year since 1983. This surprisingly slow rate of decline in the population suggests either underestimation of the stock size or the rate of decline, or that there is immigration to the population. The Planning Committee for the Co-management of Beluga Whales in SE Baffin was created in November 1992 to develop a co-management structure and propose a long-term plan for the research and management of the SE Baffin belugas. Its recommendations are expected in May of 1994.</p> <p>(Brodie 1971; Brodie et al. 1981; Reeves</p>

Table 7. Continued.

SOUTHEAST BAFFIN BELUGA--continued			
STOCK DEFINITION	STOCK SIZE	HARVEST AND OTHER IMPACTS	STOCK ASSESSMENT (references)
			and Mitchell 1981; Richard and Orr 1986; Cosens et al. 1990, 1993; Richard 1991a; Richard et al. 1990; Richard and Pike 1993; J. Brown, pers. comm.; G. Koshinsky, pers. comm.)
EASTERN HUDSON BAY BELUGA			
STOCK DEFINITION	STOCK SIZE	HARVEST AND OTHER IMPACTS	STOCK ASSESSMENT (references)
The summering range of this stock extends from James Bay north to the Nastapoca River and westward to at least the Belcher Islands. The relationship between these whales and those that summer in James Bay is unknown, but for management purposes they are treated as separate stocks. The main summering areas for this stock are the Nastapoca and Little Whale (Petite rivière de la Baleine) river estuaries. Most of the whales are thought to overwinter in Hudson Strait with belugas from the western Hudson Bay stock. Historical and local observations suggest a southward migration of belugas from Hudson Strait along the Quebec coast into the area in May and June, and a return movement northward in September and October. But, there are reports of belugas overwintering near the Belcher Islands, near Long Island, and in recurring leads and tide cracks in James Bay. The extent of east-west movements by this stock is unknown.	A systematic survey in the summer of 1985, estimated the stock size at 1,442 animals (95% C.I. = 1,124 to 1,904). This estimate is likely conservative since it was not corrected for submerged animals. The highest herd counts in the Nastapoca estuary in the summers of 1983 and 1984 were 245 and 260 whales. The regional population is still depleted from pre-commercial harvesting levels. Indeed, the present stock may be 28 to 59 percent of its initial size. The Grande Baleine estuary which once attracted thousands of whales now attracts few.	Over the 5 year period 1988-92, communities along the Quebec coasts of Hudson Strait and Hudson Bay, respectively, harvested an estimated 114 and 89 belugas on average each year. During the same period residents of Lake Harbour and Cape Dorset harvested an estimated 49 belugas on average each year from Hudson Strait, and residents of Sanikiluaq 20 per year from eastern Hudson Bay (Table 10). The harvests reported by Inukjuak and Kuujuarapik decreased sharply about 1980. The numbers of eastern Hudson Bay whales taken in the Hudson Strait and Belcher Islands harvests are unknown. Two other factors with the potential to adversely affect this stock are habitat modification by hydroelectric developments, and competition for food with commercial fisheries.	COSEWIC considers this stock to be threatened. It is not known whether the population can sustain itself at current harvests. Given the uncertain estimates of stock size and vital rates, and of hunting losses, DFO has been following a conservative management strategy for this stock. It will be important in any management plan to consider the harvests of hunters from both Nunavut and northern Quebec.  (Jonkel 1969; Francis 1977; Finley et al. 1982; Smith and Hammil 1986; Reeves and Mitchell 1987a+b, 1989b; Strong 1989; Caron and Smith 1990; Olpinski 1990; Bodaly et al. 1992)
WESTERN HUDSON BAY BELUGA			
STOCK DEFINITION	STOCK SIZE	HARVEST AND OTHER IMPACTS	STOCK ASSESSMENT (references)
In summer, beluga are distributed all along the western coast of Hudson Bay, from James Bay to Arviat. They	This whale stock appears not to have experienced the kind of depletion from overhunting that has been	Hunters from Arviat, Chesterfield Inlet, Coral Harbour, Rankin Inlet, and Whale Cove together landed an estimated 180 beluga per	COSEWIC does not consider this population to be at risk. While there are no data to determine a trend in abundance, the

Table 7. Continued.

WESTERN HUDSON BAY BELUGA--continued			
STOCK DEFINITION	STOCK SIZE	HARVEST AND OTHER IMPACTS	STOCK ASSESSMENT (references)
arrive at coastal estuaries in large numbers immediately after spring break-up and generally leave by late August or early September, following the west coast of Hudson Bay northward. Large aggregations of belugas are found at the estuaries of the Nelson, Churchill, and Seal rivers, and smaller concentrations at the Winisk and Severn rivers. The relationship of these whales with those in James Bay and eastern Hudson Bay is not known. Site tenacity, local population depletion, morphometrics, and the timing of movements all suggest that the populations may be separate, however, they do have a continuous distribution and likely winter together in Hudson Strait. Recent genetic analyses suggest that belugas that summer in the Belchers may be part of the Western Hudson Bay stock.	demonstrated for the populations in Cumberland Sound, Ungava Bay, and (possibly) eastern Hudson Bay, despite a long history of commercial whaling that only ended in 1968. Two separate aerial surveys in July 1987, resulted in total estimates for the western Hudson Bay stock of 23,000 (95% C.I. = 10,300 to 58,300) and 25,100 animals (95% C.I. = 18,300 to 32,800), respectively. These estimates did not correct for submerged animals or include animals along the Ontario coast, so they are likely to be conservative. Later in July, an additional 1,299 belugas were sighted on a reconnaissance flight along the Ontario coast of Hudson Bay. These numbers far exceed the 1965 estimate of 8,000 to 10,000 animals for the western Hudson Bay stock. The 1965 estimate was based on a low coverage survey of a smaller area. Differences in coverage and in the method of estimation preclude any statement on population trend between 1965 and 1987.	year on average over the 5 year period 1988-91 and 1993 (Table 9). The loss rate and total annual removal are unknown. Animals from the western Hudson Bay stock may also make up a substantial portion of the Hudson Strait harvest, and a portion of the Sanikiluaq harvest, so the annual removal from this stock may be much higher. In the past, another 2 to 4 belugas have been live captured each year at Churchill for aquarium display. The effect of hydro-electric development on this stock is unknown and of particular concern given the large beluga concentrations in the Churchill and Nelson estuaries.	western Hudson Bay stock appears to be large, despite a substantial harvest and habitat modifications. DFO estimates that hunters kill about 2% of the animals in this stock each year. The stock can probably sustain an annual harvest of 2 to 3%. Provided that the stock and harvest estimates are accurate, the population should be increasing or stable. If a larger proportion of the Hudson Strait and/or Sanikiluaq harvest comes from this population, then removal may be at or near the recruitment rate. If removal reaches the recruitment rate, then harvest quotas may be necessary to prevent a decline in the population. This stock is shared by Inuit in the Keewatin, Baffin, and northern Quebec and should be managed as a shared resource.  (Doan and Douglas 1953; Brack and McIntosh 1963; Sergeant 1973, 1981; Finley et al. 1982; Reeves and Mitchell 1989a; Strong 1989; Cosens et al. 1990; Richard et al. 1990; Stewart et al. 1991; Richard 1993; J. Brown, pers. comm.)
NORTHERN HUDSON BAY BELUGA			
STOCK DEFINITION	STOCK SIZE	HARVEST AND OTHER IMPACTS	STOCK ASSESSMENT (references)
During the summer concentrations of belugas are found in northern Hudson Bay from Wager Bay through Frozen Strait and along the northern coast of Southampton Island to Bell Peninsula. The relationship of these animals with those in Foxe Basin and the High Arctic, and in eastern and western Hudson Bay is not known. They are presumed to winter mainly in Hudson Strait.	Aerial surveys of the Repulse Bay-Frozen Strait area in July 1982-83, estimated a population size of 700 to 1,000 belugas. On 27 July 1983, 143 belugas were seen in the estuary of the Canyon River, Southampton Island. No belugas were seen on an aerial survey of Frozen Strait in March 1983, although locals occasionally see belugas at the winter floe edge of Daly Bay, in Lyon Inlet, and off Cape Bylot, northern Southampton Island.	Residents of Repulse Bay harvested an estimated 24 belugas per year on average over the 10 year period 1982-91 (see also Table 9). The extent to which other communities also harvest whales from this stock is unknown, as are the loss rates and the total annual removal. Ice entrapment is perhaps the only other significant source of impact on this beluga population.	Very little is known of belugas in this area, making responsible management decisions difficult.  (Guinn and Stewart 1988; Richard et al. 1990)

Table 7. Continued.

<b>NARWHAL GENERAL</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVESTING RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
<p>Three stocks of narwhal have been tentatively identified in and around the eastern Canadian Arctic: one summering adjacent to northwest Greenland, one in the Canadian High Arctic Archipelago and along the eastern Baffin coast, and one in northwestern Hudson Bay. The relationships between these stocks and existence of sub-stocks has not been studied.</p>	<p>The number of narwhals that live in Canadian waters is unknown. Indices of the population size, based on counts of the number of animals visible at the surface, are used to facilitate stock management.</p>	<p>The harvest of a narwhal calf or an adult accompanied by a calf is prohibited in Canadian waters under the Marine Mammal Regulations of the Fisheries Act. There are quotas on the subsistence harvest of narwhal for many communities in Nunavut. These quotas are opened and set annually by variation notice. In 1993, the number of narwhal that could be harvested by each community was: 100--Arctic Bay, Pond Inlet; 50--Broughton Island, Clyde River; 40--Pangnirtung; 25--Igloodik, Repulse Bay; 20--Grise Fiord, Resolute Bay; 12--Creswell Bay; 10--Cape Dorset, Coral Harbour, Gjoa Haven, Hall Beach, Iqaluit, Lake Harbour, Pelly Bay, Spence Bay, Rankin Inlet; and 5--Chesterfield Inlet, Whale Cove.</p>	<p>The narwhal is listed in CITES Appendix II, so the export of narwhal parts or derivatives from Canada is controlled through the CITES permit system. In 1985, a motion to place narwhal on Appendix I was narrowly defeated. It was strongly opposed by Canada since narwhal are not considered by COSEWIC to be in danger of extinction, and placement on Appendix I would have ended the international trade in narwhal ivory.</p> <p>(Reeves and Tracey 1980; Strong 1988; Hay and Mansfield 1989; Yaremchuck and Wong 1989a; Kingsley 1989, 1990).</p>
<b>HIGH ARCTIC NARWHAL</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVESTS AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
<p>In the spring, narwhals from this stock migrate northward along the east coast of Baffin Island and westward from Baffin Bay into the eastern Canadian arctic archipelago. During the summer major concentrations of narwhals occur in Eclipse Sound/Navv Board Inlet, Admiralty Inlet, Prince Regent Inlet, and Peel Sound. It is not known whether groups of narwhals (50-400 animals) seen along the east coast of Baffin Island in late July and early August are late migrants or part of another smaller stock. There is a return eastward migration in the fall, through Lancaster Sound and southward along the east coast of Baffin Island. Narwhal have also been reported entering Foxe Basin from the north via Fury and Hecla Strait. Most of the stock is thought to winter around Disko Bay, Greenland. Some</p>	<p>A DFO survey of the 4 major concentration areas in August 1984, estimated that 18,000 narwhals (95% C.I. = 14,000 to 22,000) were visible at the surface. A Greenland survey in 1985 counted 4,000 narwhals summering in the Thule District. If these animals are part of the same stock, then the stock size could number 22,000 (C.I. = 18,000 to 26,000) animals. Given that only areas of concentration were surveyed and that less than 50% of the animals may be visible at the surface at any given time, the stock size may be an underestimate.</p>	<p>Canadian hunters from Arctic Bay, Broughton Island, Clyde River, Creswell Bay, Grise Fiord, Hall Beach, Igloodik, Pelly Bay, Pond Inlet, Resolute Bay, and Spence Bay together landed an estimated 285 narwhal on average each year over the 6 year period 1988-93 from this stock (Tables 8 and 10). It is not known whether a portion of the Pangnirtung harvest is from this stock. If the High Arctic narwhal in Canada and west Greenland are of the same stock, then the total annual landed kill in Canada and Greenland is about 1,000 whales. In Canada, loss rates vary from 7% to almost 70% depending upon hunting conditions. However, these estimates are from a few locations and seasons and cannot be extrapolated to estimate an overall loss rate. Reports of the landed harvest are underestimates. Other concerns with this stock: vessic in Lancaster Sound, chemical pollutants, habitat degradation from snowmobile and boat traffic, and interactions</p>	<p>The annual rate of removal that narwhal stocks can sustain is unknown. Based on their experience with belugas, DFO has estimated that 2.5% of the High Arctic narwhal stock can probably be removed (i.e. killed or captured) annually without causing the stock to decline. The annual Canadian landed harvest is about 1.3 to 2.0% of the index stock. At this level of harvest the risk of stock depletion is probably low, depending upon loss rates, since the estimate of stock size does not include animals that were below the surface. If the High Arctic narwhal in Canada and Greenland are part of the same stock, then the current landed kill in Canada and Greenland may be 3.8 to 5.6% of the index stock. The risk of stock depletion is high at this rate of removal. Canada and Greenland have signed a bilateral agreement, sharing management responsibility for this stock and are examining research and</p>

Table 7. Continued.

<b>HIGH ARCTIC NARWHAL--continued</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVESTS AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
narwhal overwinter in the "North water" east of southern Ellesmere Island. Narwhals found off the northwestern coast of Greenland in the summer months may also be part of this stock.		with commercial fisheries for turbot. Exploratory fisheries for turbot are under way at a number of High Arctic communities.	management needs.  (Vibe 1950; Mansfield et al. 1975; Brody 1976; Greendale and Brousseau-Greendale 1976; Hay and McLung 1976; Read and Stephansson 1976; Davis et al. 1978; Guinn and Stewart 1988; Strong 1988; Weaver and Walker 1988; Clarke et al. 1989; Cosens and Dueck 1990, 1991; Cosens et al. 1990, 1993; Roberge and Dunn 1990; CGJC 1993; Richard et al. 1994; P. Richard, pers. comm.)
<b>NORTHERN HUDSON BAY NARWHAL</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVEST AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
In summer narwhal are found in northwestern Hudson Bay from about 62°N to 67°N latitude, with concentrations in the Repulse Bay/Frozen Strait area. They are presumed to winter in Hudson Strait because a gap in distribution separates the Baffin Bay/Davis Strait winter aggregation from that in eastern Hudson Strait. The degree of interchange between the stocks is unknown and they are being considered discrete until there is evidence to the contrary.	A DFO survey of the summer aggregations estimated the stock to number 1,355 animals (90% C.I. = 1,000 to 1,900). This estimate was not corrected for submerged animals and may be low.	The harvest in northern Hudson Bay is usually limited to the communities of Repulse Bay and Coral Harbour, but the narwhal harvested by residents of Cape Dorset and Lake Harbour are also likely to be from this stock. Residents of these communities landed an estimated 24 narwhal each year, over the 4 year period 1988-91 (Tables 8 and 10). The loss rates and the total annual removal are unknown. It is not known whether a portion of the Pangnirtung harvest is from this stock. At present no other major concerns have been identified with this stock. Oil spills and ship noise are unlikely to pose a threat to this stock in the near future.	The annual rate of removal that this narwhal stock can sustain is unknown. Based on their experience with belugas, DFO has estimated that perhaps 2.5% of a narwhal stock can be removed annually without causing the stock to decline. Current harvest quotas were set by negotiating community needs, and are not based on biological data. If filled, they would permit an annual harvest of 75 animals, or 5.5% of the index stock. It is unlikely that the stock could sustain such a harvest.  (McLaren-Marex 1979a+b; McLaren and Davis 1982; Clarke et al. 1989; Richard 1991b)
<b>KILLER WHALE</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVEST RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
Killer whales have a worldwide distribution limited only by ice cover, shortage of prey, and human	The number of killer whales that summer in the Canadian Arctic is unknown. Pods of 10-20 animals have	An Indian or Inuk who is not a beneficiary under the Western Arctic (Inuvialuit) or James Bay and Northern Quebec claims settlement	The killer whale is listed in CITES Appendix II, so the export of killer whale parts or derivatives from Canada is controlled

Table 7. Continued.

<b>KILLER WHALE--continued</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVEST RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
predation. In summer they occur in small numbers (tens) in open water or near ice edges along the entire eastern coast of Nunavut, and in Hudson Bay, Foxe Basin, Hudson Strait, Lancaster Sound, Eclipse Sound, Navy Board Inlet, Admiralty Inlet, Prince Regent Inlet, and Jones Sound. They have also strayed into Baker Lake. These animals may be part of a broader stock, or at least a complex of "communities" that ranges into the Labrador Sea and along the west and southwest coasts of Greenland during some part of the year. Their wintering grounds are unknown.	been seen repeatedly in the waters of northern Baffin Island and Cumberland Sound, sometimes in the act of preying on other marine mammals.	acts can harvest killer whales without a licence for food, social or ceremonial purposes. All others require a licence issued under the Marine Mammal Regulations or the Aboriginal Communal Fishing Licences Regulations. There is no commercial harvest of killer whale in Canadian waters. They are killed on rare occasions by Nunavut Inuit. In September 1977, Inuit from Pangnirtung killed 14 whales that were trapped in a saltwater lake at the head of Cumberland Sound. Little use was made of the carcasses.	through the CITES permit system. COSEWIC is interested in the killer whale but does not consider the species to be of immediate concern. Because it is the top-level marine carnivore, the killer whale is likely at greater risk from chemical contaminants in the marine environment than are other marine mammals.  (Steltner et al. 1984; Heyning and Dahlheim 1988; Campbell et al. 1988; Reeves and Mitchell 1988)
<b>BOWHEAD WHALE GENERAL</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVEST RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
Land masses and broad expanses of ice at least partially separate four stocks of bowhead which are centered in the Greenland Sea, Davis Strait, Bering Sea, and Sea of Okhotsk. It is not known whether whales inhabiting northwestern Hudson Bay and Foxe Basin are part of the Davis Strait stock or represent a fifth stock. The degree of interbreeding between these stocks is unknown.	The size of the bowhead whale population that inhabits the waters of Nunavut is unknown.	The harvest of a bowhead calf or an adult accompanied by a calf is prohibited in Canadian waters under the Marine Mammal Regulations of the Fisheries Act. The harvest of other bowhead is only permitted in an area along the mainland coast of the Beaufort Sea. This area is opened and the quota set by annual variation notice.	The bowhead is protected from international trade by listing on CITES Appendix 1. COSEWIC considers the bowhead to be endangered in Canada.  (Mansfield 1985; Reeves and Leatherwood 1985; Mitchell and Reeves 1986)
<b>WESTERN ARCTIC BOWHEAD WHALE</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVEST AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
Whales from this stock are distributed in the Beaufort, Chukchi, and Bering seas. It is not yet clear whether they represent a single stock or a number of stocks. Those that summer in the western Canadian Arctic migrate northward through Bering Strait in	A combined visual and acoustic census of bowheads migrating past Point Barrow in the spring estimated that there were 7,800 bowhead (95% C.I. = 5,700 to 10,600) in this population. A visual census of the population yielded a population estimate of 4,417	The community of Aklavik harvested a bowhead in 1991 and obtained a licence to harvest one in 1993, but were unsuccessful due to poor weather. Whales from this stock are also harvested by people in Alaska and Siberia. The International Whaling Commission approved a quota of 54 whales	This stock was depleted by commercial whaling and is still considered to be endangered. Population trends cannot be evaluated given the existing data. DFO estimates that 1% of the bowheads in this stock can be removed annually without causing the stock to decline. Based on the

Table 7. Continued.

WESTERN ARCTIC BOWHEAD WHALE--continued			
STOCK DEFINITION	POPULATION SIZE	HARVEST AND OTHER IMPACTS	STOCK ASSESSMENT (references)
early spring. The Beaufort Sea is a major summering area for this stock, and some animals penetrate eastward into the Amundsen and Coronation gulfs. In the fall, the population returns to the Bering Sea to overwinter near the edge of the pack ice.	bowhead (95% C.I. = 2,613 to 6,221). DFO considers the first to be an overestimate and the second to be an underestimate of the actual number of bowhead in the stock. Before it was depleted by commercial whaling, which took place mainly between 1848 and 1914, the stock may have numbered 18,000 animals.	struck or 41 whales landed by Alaskan Inupiat from this stock during 1993. They landed 41 and struck but lost another 11 bowhead (total struck 52). In 1994 the IWC will set quotas for 1994-96. Other sources of natural mortality are not well documented, and the effects of environmental contaminants are also unknown. Bowhead are sensitive to noise disturbance and depend upon dense aggregations of planktonic copepods for food. Noise from hydrocarbon developments has the potential to disrupt migration and feeding patterns, as would anything that altered the distribution or abundance of the planktonic copepods or the bowhead's ability to filter them from the water.	estimated stock size, there is a moderate risk of stock decline under current quotas.  (Mansfield 1971, 1985; Reeves and Leatherwood 1985; Mitchell and Reeves 1986; Cosens et al. 1990; Bodaly et al. 1992; R. Moshenko, pers. comm.)
EASTERN ARCTIC BOWHEAD WHALE			
STOCK DEFINITION	STOCK SIZE	HARVEST AND OTHER IMPACTS	STOCK ASSESSMENT (references)
Bowhead from the Davis Strait stock summer in Lancaster Sound, Pond Inlet, Admiralty Inlet, Prince Regent Inlet, and along the east coast of Baffin Island. The degree to which they are separated from bowhead that summer in northwestern Hudson Bay and Foxe Basin is unknown. Most of the bowhead in the Canadian eastern Arctic are thought to overwinter at the southern edge of the pack ice in Davis Strait. They move northward in spring, following the receding pack ice to seek out the most productive waters in which to feed. Whalers speculated that there was a southward movement of bowhead through Fury and Hecla Strait in the fall, but its existence has not been proven or disproven.	Between 1719 and 1811, commercial whalers harvested over 28,000 bowhead from eastern Arctic waters. The bowhead population has never recovered. American and British whalers killed an estimated 688 bowhead in northwestern Hudson Bay between 1860 and 1915, and very nearly extirpated bowhead from the area. There are no good estimates of the size of the bowhead population in the eastern Canadian Arctic. The Davis Strait stock which may have numbered about 10,000 animals in 1825, now probably numbers in the low hundreds. The Hudson Bay/Foxe Basin stock which numbered perhaps 500 to 1000 animals in 1859, now probably numbers between a few tens and a few hundred animals.	Bowhead are not harvested in the eastern Canadian Arctic, although hunters do shoot at them occasionally. Predation by killer whale and ice entrapment appear to be major causes of bowhead mortality in the eastern Canadian Arctic. Indeed, the predations of killer whale may be sufficient to slow population recovery from commercial overhunting.	This stock is considered to be endangered. A conservative approach for management is to recognize separate stocks based on summer feeding distributions. Their predictable concentration at areas of discontinuity or mixing has made bowhead very vulnerable to capture, and still leaves them susceptible to disturbance by man. One such area is Isabella Bay, near Clyde River, which has been designated a National Wildlife Area.  (Ross 1974, 1979a+b; Davis and Koski 1980; Mitchell and Reeves 1981, 1982, 1983; Reeves and Leatherwood 1985; Finley 1990; Myers 1990; Reeves and Mitchell 1990; J. Garlich-Miller, pers. comm.)

Table 7. Continued.

<b>ATLANTIC WALRUS GENERAL</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVEST RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
Atlantic walrus in Canada range over much of the eastern High Arctic and Hudson Bay. Present concentrations are found mainly in Foxe Basin and northern Hudson Bay. Smaller concentrations are found in the central High Arctic, in Smith Sound, along the southeastern coast of Baffin Island, and in southeastern Hudson Bay.	The walrus population in the Canadian eastern Arctic is apparently much reduced as a result of excessive commercial harvesting from about 1885 into the early 1900's. No reliable method has yet been developed for estimating the number of walrus in a population.	In 1928, the hunting of walrus in Canada was limited to native subsistence use by an order in the Privy Council (P.C. 1036). Today, the Marine Mammal Regulations limit walrus hunting without permit to the Indian and Inuit natives of Canada. A native hunter may take up to four walrus per year except in the settlements of Coral Harbour (60), Sanikiluaq (10), Arctic Bay (10), and Clyde River (20) where catches are limited by annual community quotas (in brackets). Non-native hunters can take walrus for subsistence provided they obtain a licence and permission from the local Hunters and Trappers Association.	Walrus populations in Canadian waters appear to be stable for the present and are not in any COSEWIC category. The export of walrus meat from the NWT and northern Quebec is prohibited, and the export of other parts including the tusk is controlled by DFO permit. The walrus is listed on CITES Appendix III. Persons wishing to export walrus parts or derivatives from Canada must obtain an export permit from the Canadian CITES administration.  (Mansfield 1958, 1967a, 1973; Loughrey 1959; Reeves 1978; Fay 1985; Richard and Campbell 1988; Marine Mammal Regulations 1993; G. Weber, pers. comm.)
<b>HIGH ARCTIC WALRUS</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVEST AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
Walrus frequent Lancaster Sound, mainly along the southeastern coast of Devon Island, Penny Strait, and Jones Sound in summer. It is not known whether this area supports a single stock or several discrete stocks. Overwintering walrus have been seen at the Penny Strait and Hell's Gate polynyas, along the southern coast of Devon Island, and in the "North water" east of Coburg and Ellesmere islands. There appears to be a general westward movement of walrus into Lancaster Sound in the spring and eastward movement out of the area in the fall.	The number of walrus in this area is unknown. An estimated 700 walrus overwinter in the North Water.	Hunters from Arctic Bay, Grise Fiord, Pond Inlet, Creswell Bay, and Resolute Bay together landed an estimated 21 walrus from this stock each year over the 6 year period 1988-93 (Table 10). The loss rates and total annual removal are unknown. Other potential threats to this stock include chemical and noise pollution, icebreaking activities, human disturbance at haulout sites, and competition for molluscs with commercial fisheries.	Data on catch and stock size is poor, making responsible management decisions difficult.  (Vibe 1950; Read and Stephansson 1976; Salter 1979a+b; Smith et al. 1979; Finley and Renaud 1980; Richard and Campbell 1988)
<b>EASTERN BAFFIN WALRUS</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVEST AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
Small numbers of walrus summer along the coast of Baffin Island from	Whalers once shipped over 4,000 walrus skins annually from the	Over the 6 year period 1988-93, residents of Iqaluit, Pangnirtung, Broughton Island and	It is not possible to assess the stability of this stock at present given the lack of data

Table 7. Continued.

<b>EASTERN BAFFIN WALRUS--continued</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVEST AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
<p>Cape Henry Kater south to Loks Land. It is not known whether this area supports a single stock or several discrete stocks, nor is the relationship of these animals to other stocks known. Walrus are uncommon between Clyde River and Pond Inlet. There is believed to be a general southern movement of the eastern Baffin walrus in the fall, but some winter at the floe edge or in the polynya at the mouth of Cumberland Sound.</p>	<p>Padloping Island area, which supported a very large walrus population. Today's population is much smaller, although there are numerous summer and fall haulouts. On 15 August 1979, 600 to 700 walrus were seen on a small island near Lady Franklin Island. About a dozen smaller haulouts were observed in the Lemieux Islands, Cyrus Field Bay, and Hoare Bay during these summer and fall surveys in 1977 and 1979. The number of animals at each haulout varied from a few to about 100. Summer and fall haulouts are also scattered along the east coast of Baffin Island from Cape Henry Kater southward to Exeter Sound.</p>	<p>Clyde River together harvested an estimated 49 walrus per year on average from this stock (Table 10). Other potential threats to this stock include chemical and noise pollution, human disturbance at haulout sites, and competition for molluscs with commercial fisheries.</p>	<p>on catch and stock size.</p> <p>(Mansfield 1958; Anders et al. 1967; Wood 1974; MacLaren-Atlantic 1978; MacLaren Marex 1979, 1980a+b; Smith et al. 1979; Guinn and Stewart 1988; Richard and Campbell 1988; Cosens et al. 1993)</p>
<b>FOX E BASIN WALRUS</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVEST AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
<p>Foxe Basin may support a discrete stock of walrus. This assertion is based on apparent geographical separation and size differences. It is not known whether this area supports a single stock or several discrete stocks.</p>	<p>DFO has estimated that there were 5,500 walrus (95% C.I. = 2,700 to 11,200) in Foxe Basin in 1989, based on visual surveys using systematic strip transects. This estimate has not been corrected for submerged animals or missed surface animals. It is an index and not an absolute measure of abundance. Survey estimates can vary widely since the walrus distribution is highly clumped.</p>	<p>DFO does not have accurate year-to-year estimates of the walrus harvest by hunters from Hall Beach and Igloodik (Table 10), or of the rate of removal that this walrus stock can sustain. In 1992 and 1993, the communities together harvested an estimated average of 235 animals each year. The overall loss rate at hunts observed by DFO during July and August 1982-84 was 32% of the animals struck (i.e. struck:landed ratio of 1.47). Other potential threats to this stock include chemical and noise pollution, human disturbance at haulout sites, and competition for molluscs with commercial fisheries. Intersettlement trade in walrus products (i.e. igunuk) has begun and may lead to larger harvests. Their abandonment of traditional haulouts near Igloodik and relatively low body condition indices (i.e. skinny), suggest that this stock may be suffering from habitat loss.</p>	<p>DFO lacks the data needed to properly assess the stability of this stock. Given the limited knowledge of this stock it has recommended that harvest rates not be increased pending further research.</p> <p>(Orr et al. 1986; Richard and Campbell 1988; Cosens et al. 1993; R. Stewart, pers. comm.)</p>

Table 7. Continued.

<b>NORTHERN HUDSON BAY WALRUS</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVEST AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
<p>Northern Hudson Bay and Hudson Strait may support a stock of walrus that is discrete from that in northern Foxe Basin. This assertion is based on apparent geographical separation and size differences. It is not known whether this area supports a single stock or several discrete stocks. Walrus from Coats Island may move into Foxe Channel in late summer.</p>	<p>In northern Hudson Bay, walrus are most often found aggregated in Evans Strait and at traditional haulout sites on Coats Island. They also haulout on pack ice in Foxe Channel. Aerial surveys of the northern Hudson Bay haulouts in 1988-90 yielded average daily counts that were in the upper range of similar counts which took place in 1976-77. Therefore, it is unlikely that the population has declined sharply in abundance over the past decade. At Coats Island the maximum daily count was 1,376 walrus, and at Nottingham Island a day later it was 461 walrus. Walrus have apparently abandoned several of their traditional haulout sites along the Keewatin coast.</p>	<p>DFO does not have accurate estimates of the walrus harvest, or of the rate of removal that the stock can sustain. Other potential threats to this stock include chemical and noise pollution, human disturbance at haulout sites, and competition for molluscs with commercial fisheries.</p>	<p>This stock is shared by Inuit in the Keewatin, Baffin, and northern Quebec and should be managed as a shared resource. Data on catch and stock size is poor, making responsible management decisions difficult. A preliminary analysis by DFO suggests that the numbers of walrus in northern Hudson Bay are stable. Additional data are needed to verify this analysis.</p> <p>(Freeman 1974/5; Miller and Bonness 1983; Orr and Rebizant 1987; Richard and Campbell 1988; Olpinski 1990; Mansfield and St. Aubin 1991; Cosens et al. 1993; P. Richard, pers. comm.)</p>
<b>SOUTHEASTERN HUDSON BAY WALRUS</b>			
<b>STOCK DEFINITION</b>	<b>STOCK SIZE</b>	<b>HARVEST AND OTHER IMPACTS</b>	<b>STOCK ASSESSMENT (references)</b>
<p>Little is known of the walrus in southeastern Hudson Bay. In the past they were found, sometimes abundantly, in the Belcher, King George and Sleeper Islands, and in northern James Bay. Today their numbers are much reduced. There is no evidence for movements of animals out of this area, but there are likely local seasonal movements between summer haulouts and overwintering areas. The Sleeper Islands and Cape Henrietta Maria, on the Ontario coast, are important summer haulouts. Walrus are found in winter in open water west of the Sleepers.</p>	<p>There has not been a population survey of walrus in southeastern Hudson Bay and northern James Bay. This region's walrus population has apparently been much reduced by hunting. In the spring of 1955, a herd of 1,000 animals was seen hauled out at Cape Henrietta Maria. At least 310 walrus were hauled out there in October 1978. Since then, similar large herds have not been reported from the area. Few walrus are now seen in James Bay, where they once ranged south to the Paint Islands.</p>	<p>Walrus in this area are harvested by Inuit from Sanikiluaq and northern Quebec. Over the 5 year period from 1988-92, hunters from Sanikiluaq landed an estimated average of 17 animals per year (Table 10). The loss rates and total annual removal are unknown. Other concerns for these walrus are the potential for habitat disruption by hydroelectric development and, to a lesser extent, from other human activities such as the commercial harvest of marine invertebrates.</p>	<p>Based on very limited data, this population appears to have been much reduced by hunting. It is not known whether the population can sustain the current harvest. Lacking data on stock identity and size, harvests and vital rates, managers should adopt a very conservative approach to managing this population. It is important that stock management decisions consider the walrus harvests of Inuit living in Nunavut and in northern Quebec.</p> <p>(Strong 1989; Olpinski 1990; Stewart et al. 1993a)</p>

Table 7. Continued.

<b>RINGED SEAL</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVEST RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
Ringed seals in the Canadian Arctic are considered to be part of the same management stock.	The total number of seals in the population is unknown. There are population estimates for many areas of the Canadian Arctic. Most of these estimates are extrapolations of population survey data based on ice distribution. Surveys of basking seals underestimate the numbers present.	Harvests have varied greatly over the past few decades due to fluctuations in the pelt market, the number of sled dogs, and the availability of other meats. The harvest is somewhere between 10,000 and 100,000 animals per year in Arctic Canada. Arctic foxes and polar bears prey heavily on ringed seals. Icebreaker traffic, chemical pollutants, marine commercial fisheries, and commercial sealing have the potential to adversely effect ringed seal populations.	<p>The ringed seal has been examined by COSEWIC and is not considered to be at risk. It is not controlled by CITES. DFO estimates that 8% of the ringed seals in a given area can be removed annually without causing the stock to decline. Overall, the stock is stable but there has been evidence of recurrent mortality due to high population densities, and of large fluctuations in reproductive rates due to unidentified factors.</p> <p>(Manning 1943; McLaren 1958b, 1962; Smith 1975a + b; Read and Stephansson 1976; Smith et al. 1979; Smith and Hammill 1981; Finley et al. 1983; Calvert and Stirling 1985; Kingsley 1985; Stewart et al. 1986; Clarke et al. 1989)</p>
<b>BEARDED SEAL</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVEST RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
Separate stocks of bearded seal have not been identified in Arctic Canada. Because the Canadian animals only undertake short, local migrations local stock depletion is possible. Consequently, the species is perhaps best managed on a "local community stock" basis.	Abundance estimates of bearded seal are scarce. DFO has questioned the validity of earlier estimates of about 185,000 bearded seals in Foxe Basin, Hudson Bay, Hudson Strait, and Ungava Bay and considers them outdated.	Current harvest levels are unknown and cannot be expressed as a percentage of the total stock. Predation by polar bears and, rarely, walrus has been documented but not quantified. Icebreaker traffic, chemical pollutants, marine commercial fisheries, and commercial sealing have the potential to adversely effect bearded seal populations. Their patchy distribution and use of areas of high benthic production may, in some areas, make them especially vulnerable to habitat disruption.	<p>The bearded seal was examined by COSEWIC in 1994 but has not been placed in any risk category, nor is it controlled by CITES. The stock status and expected trends in abundance cannot be assessed due to the lack of harvest and biological data. Likewise, it is not possible at present to estimate the proportion of the bearded seals in a given area that can be removed annually without causing the local stock to decline. Because the species is relatively sedentary, there is the potential for localized overharvesting.</p> <p>(Vibe 1950; McLaren 1958; Mansfield 1958b; Read and Stephansson 1976; Smith 1981; Kingsley et al. 1985; Stewart et al. 1986; Cleator and Stirling 1990; H. Cleator, pers. comm.; R. Moshenko, pers. comm.)</p>

Table 7. Continued.

<b>HARP SEAL</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVEST RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
In late spring, harp seals migrate from the northwest Atlantic through Davis Strait and Baffin Bay into the High Arctic waters of Canada and Greenland. They are also found in northern Hudson Bay and Foxe Basin during the summer. These animals come from two management stocks, one in the Gulf of St. Lawrence and another north of Newfoundland and east of Labrador. These stocks are separated on the basis of historic location of whelping patches, mean whelping date, and exploitation history.	Current estimates place the Northwest Atlantic harp seal population at between 2.4 and 4.2 million animals. It is not known how many of these animals summer in the waters of Nunavut.	The harvest of these seals in Arctic Canada is not known. The overall Canadian harvest has dropped sharply since the European ban on the importation of white-coated harp seal pelts. The harvest in southern Canada averages $55,298 \pm 6,574$ (N = 9 years) seals annually, roughly 1.7% of the population. In Arctic Canada, harp seals are still an important source of food for local dogs. Failure of harp seals to enter Frobisher Bay in 1991 forced many dog team owners to reduce the size of their teams. The concern has been raised that increasing numbers of harp seal may compete with ringed seal and/or commercial fisheries for resources. DFO believes that the impact of any such competition will be minimal.	The harp seal has not been examined by COSEWIC, nor is it controlled by CITES. Aerial surveys, hunter observations and changes in age structure suggest that the harp seal population is increasing in size. DFO has estimated that 7% of the harp seal population can be removed annually without causing the population to decline.  (Mansfield 1976a; Ronald and Healey 1981; Bowen 1982; Fallis et al. 1983; Roff and Bowen 1986; Stewart et al. 1986; Cosens et al. 1993)
<b>HARBOUR SEAL</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVEST RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
These seals occur at estuaries in Hudson and James bays, southern Foxe Basin, and along the southern and eastern coast of Baffin Island, northward to Smith Sound along the east coast of Ellesmere Island. There are also freshwater populations in the Thlewiaza River, Ennadai Lake, and on the Belchers.	There are no estimates of the harbour seal population in the Canadian eastern Arctic. However, the numbers are very small relative to the ringed and bearded seals.	The harvest of these seals in Arctic Canada is not known. They are very vulnerable to overharvesting since they are sedentary and can be harvested at predictable locations all year. Other sources of impact are likely minor relative to harvesting by humans.	The harbour seal has not been examined by COSEWIC, nor is it controlled by CITES. The stock status and expected trends in abundance cannot be assessed due to the lack of harvest and biological data. The potential for localized overharvesting is high.  (Mansfield 1967a+b; Beck et al. 1976; Bigg 1981)
<b>HOODED SEAL</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVEST RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
There are summer records of hooded seal along the Canadian coasts of Davis Strait and Baffin Bay from Cumberland Sound north to Ellesmere Island (Kane Basin). These seals are uncommon further west but have been reported from Foxe Basin, Hudson Bay	Hooded seals are uncommon summer migrants into waters of the Canadian Arctic and Hudson Bay. They normally summer along the Greenland coasts.	The harvest of these seals in Arctic Canada is not known but probably very low. A few hooded seals are harvested in the Baffin Region.	The hooded seal has not been examined by COSEWIC, nor is it controlled by CITES. The stock status and expected trends in abundance cannot be assessed due to the lack of harvest and biological data.

Table 7. Continued.

<b>HOODED SEAL--continued</b>			
<b>STOCK DEFINITION</b>	<b>POPULATION SIZE</b>	<b>HARVEST RESTRICTIONS</b>	<b>SPECIES STATUS (references)</b>
and the Beaufort Sea. It is not known whether they originate from the whelping grounds in Davis Strait or from another area. They migrate northward in the spring and return southward in the fall. They tend to occur farther offshore and occupy deeper water than the harp seal, and to prefer thick drifting ice over fast ice.			(Sergeant 1974; Koski 1980; Reeves and Ling 1981; Kovacs and Lavigne 1986; Guinn and Stewart 1988; Lavigne and Kovacs 1988; R. Stewart, pers. comm.)

Table 8. Beluga, walrus, and narwhal landed by residents of the Kitikmeot Region, 1988-93.

COMMUNITY	YEAR <sup>1</sup>	BELUGA	NARWHAL	WALRUS	COMMENTS AND REFERENCES
GJOA HAVEN	1988	18	2	0	The belugas were harvested at Creswell Bay, and the narwhal harvest was estimated from the 10 year average (DFO 1991).
PELLEY BAY	1989	0	1	0	DFO (1992a)
TALOYUAK (SPENCE BAY)	1988	28	1	0	The belugas were harvested at Creswell Bay and the narwhal at Repulse Bay (DFO 1991).
	1989	5	0	0	Harvested at Creswell Bay (DFO 1992a).
	1991	0	7	0	DFO (1993a)
	1993	N/A	N/A	0	G. Low, pers. comm.

<sup>1</sup> The years are the Federal Government's fiscal years (i.e. 1991 extends from 1 April 1991 through 31 March 1992).

Table 9. Beluga, narwhal, and walrus landed by residents of the Keewatin Region, 1988-91 and 1993. There are no 1992 harvest data.

COMMUNITY	YEAR <sup>1</sup>	BELUGA	NARWHAL	WALRUS	COMMENTS AND REFERENCES
ARVIAT	1988	45	0	3	Beluga and walrus harvests estimated from 15 year average (DFO 1991).
	1989	70	0	0	Beluga and walrus harvests estimated from 5 year average (DFO 1992a).
	1990	70	0	0	Beluga and walrus harvests estimated from 5 year average (DFO 1992b).
	1991	25	0	0	DFO (1993a)
	1993	23	0	0	K. Seto, pers. comm.
CHESTERFIELD INLET	1988	15	0	11	Beluga and walrus harvests estimated from 14 and 11 year averages, respectively (DFO 1991).
	1989	20	0	9	Beluga and walrus harvests estimated from 5 year average (DFO 1992a).
	1990	20	0	9	Beluga and walrus harvests estimated from 5 year average (DFO 1992b).
	1991	20	0	9	Walrus harvest estimated from 5 year average (DFO 1993a).
	1993	17	0	6	Four belugas were struck but lost during the hunt. (K. Seto, pers. comm.)
CORAL HARBOUR	1988	38	0	41	Beluga and walrus harvests estimated from 16 year averages (DFO 1991).
	1989	67	0	45	Beluga and walrus harvests estimated from 5 year average (DFO 1992a).
	1990	67	0	45	Beluga and walrus harvests estimated from 5 year average (DFO 1992b).
	1991	125	0	60	DFO (1993a)
	1993	20	1	55	K. Seto, pers. comm.
RANKIN INLET	1988	27	0	5	Beluga and walrus harvests estimated from 14 and 13 year averages, respectively (DFO 1991).
	1989	40	0	5	Beluga and walrus harvests estimated from 5 year average (DFO 1992a).
	1990	40	0	3	Beluga and walrus harvests estimated from 5 year average (DFO 1992b).
	1991	20	0	2	DFO (1993a)
	1993	14	0	4	K. Seto, pers. comm.
REPULSE BAY	1988	47	25	13	Beluga and walrus harvests estimated from 15 and 14 year averages, respectively (DFO 1991).

Table 9. Continued.

COMMUNITY	YEAR <sup>1</sup>	BELUGA	NARWHAL	WALRUS	COMMENTS AND REFERENCES
	1989	20	16	11	Beluga and walrus harvests estimated from 5 year average (DFO 1992a).
	1990	20	17	11	Beluga and walrus harvests estimated from 5 year average (DFO 1992b).
	1991	13	20	18	DFO (1993a)
	1993	12	13	25	Four narwhals were struck but lost during the hunt. (K. Seto, pers. comm.)
WHALE COVE	1988	16	0	2	Beluga and walrus harvests estimated from 15 and 11 year averages, respectively (DFO 1991).
	1989	27	0	0	Walrus harvest estimated from 5 year average (DFO 1992a).
	1990	27	0	0	Beluga and walrus harvests estimated from 5 year average (DFO 1992b).
	1991	25	0	0	DFO (1993a)
	1993	19	0	2	K. Seto, pers. comm.

<sup>1</sup> The years are the Federal Government's fiscal years (e.g. 1991 extends from 1 April 1991 through 31 March 1992).

Table 10. Beluga, narwhal, and walrus landed by residents of the Baffin Region, 1988-93.

COMMUNITY	YEAR <sup>1</sup>	BELUGA	NARWHAL	WALRUS	COMMENTS AND REFERENCES
ARCTIC BAY	1988	4	86	2	Beluga harvest estimated from the 13 year average (DFO 1991).
	1989	3	99	1	Beluga and walrus harvests estimated from the 5 year average (DFO 1992a).
	1990	0	67	1	DFO (1992b)
	1991	20	114	4	DFO (1993a)
	1992	4	102	1	Beluga and walrus harvests estimated from the 5 year average (DFO 1993b).
	1993	2	85	0	Five narwhals were struck but lost (G. Weber, pers. comm.)
BROUGHTON ISLAND	1988	2	26	12	DFO (1991)
	1989	0	46	15	DFO (1992a)
	1990	0	50	10	Walrus harvest estimated from 5 year average (DFO 1992b).
	1991	0	50	13	DFO (1993a)
	1992	0	40	21	DFO (1993b)
	1993	0	52	0	G. Weber, pers. comm.
CAPE DORSET	1988	10	1	35	Walrus harvest estimated from the 13 year average (DFO 1991).
	1989	18	0	24	Beluga and walrus harvests estimated from 5 year average (DFO 1992a).
	1990	39	0	24	DFO (1992b)
	1991	37	16	7	DFO (1993a)
	1992	36	0	11	Beluga and walrus harvests estimated from 5 year average (DFO 1993b).
	1993	35	0	23	G. Weber, pers. comm.
CLYDE RIVER	1988	13	44	1	Beluga harvest estimated from 13 year average (DFO 1991).
	1989	0	36	0	DFO (1992a)
	1990	0	26	1	Beluga and walrus harvests estimated from 5 year average (DFO 1992b).
	1991	0	35	7	DFO (1993a)

Table 10. Continued.

COMMUNITY	YEAR <sup>1</sup>	BELUGA	NARWHAL	WALRUS	COMMENTS AND REFERENCES
	1992	0	33	2	Walrus harvest estimated from 5 year average (DFO 1993b).
	1993	0	34	0	G. Weber, pers. comm.
CRESWELL BAY	1988	20	12	1	DFO (1991)
	1989	9	19	0	Beluga harvest estimated from 5 year mean, narwhal harvest includes Resolute harvest (DFO 1992a).
	1990	9	12	0	Beluga harvest estimated from 5 year average (DFO 1992b).
	1991	9	12	0	Beluga harvest estimated from 5 year average (DFO 1993a).
	1992	no data	0	0	Beluga harvest estimated from 5 year average (DFO 1993b).
	1993	N/A	N/A	N/A	
GRISE FIORD	1988	25	7	8	DFO (1991)
	1989	8	5	7	Walrus harvest estimated from 5 year average (DFO 1992a).
	1990	0	19	19	DFO (1992b)
	1991	25	20	9	Walrus harvest estimated from 5 year average (DFO 1993a).
	1992	17	1	22	Beluga harvest estimated from 5 year average (DFO 1993b)
	1993	10	9	12	A narwhal and two walrus were struck but lost (G. Weber, pers. comm.).
HALL BEACH	1988	3	0	61	DFO (1991)
	1989	11	3	74	Beluga and walrus harvests estimated from 5 year average (DFO 1992a).
	1990	11	0	74	Beluga and walrus harvests estimated from 5 year average (DFO 1992b).
	1991	0	0	74	Walrus harvest estimated from 5 year average (DFO 1993a).
	1992	7	1	70	DFO (1993b)
	1993	1	0	60	G. Weber, pers. comm.
IGLOOLIK	1988	14	0	124	(DFO 1991)
	1989	8	0	63	DFO (1992a)

Table 10. Continued.

COMMUNITY	YEAR <sup>1</sup>	BELUGA	NARWHAL	WALRUS	COMMENTS AND REFERENCES
	1990	21	0	104	Beluga and walrus harvests estimated from 5 year average (DFO 1992b).
	1991	0	0	104	Walrus harvest estimated from 5 year average (DFO 1993a).
	1992	100	25	225	DFO (1993b)
	1993	20	27	115	Ten walrus were struck but lost (G. Weber, pers. comm.).
<b>IQALUIT</b>	1988	44	0	10	DFO (1991)
	1989	40	0	8	DFO (1992a)
	1990	2	3	16	Walrus harvest estimated from 5 year average (DFO 1992b).
	1991	11	0	16	Walrus harvest estimated from 5 year average (DFO 1993a).
	1992	31	0	16	Walrus harvest estimated from 5 year average (DFO 1993b).
	1993	35	0	29	A beluga and two walrus were struck but lost (G. Weber, pers. comm.).
<b>LAKE HARBOUR</b>	1988	9	0	4	DFO (1991)
	1989	28	0	9	DFO (1992a)
	1990	21	0	8	DFO (1992b)
	1991	28	0	22	DFO (1993a)
	1992	20	0	7	DFO (1993b)
	1993	13	0	N/A	G. Weber, pers. comm.
<b>PANGNIRTUNG</b>	1988	46	2	44	DFO (1991)
	1989	42	40	8	DFO (1992a)
	1990	36	2	40	DFO (1992b)
	1991	31	8	21	Walrus harvest estimated from 5 year average (DFO 1993a).
	1992	35	4	3	DFO (1993b)
	1993	15	24	0	A beluga and six narwhals were struck but lost (G. Weber, pers. comm.).

Table 10. Continued.

COMMUNITY	YEAR <sup>1</sup>	BELUGA	NARWHAL	WALRUS	COMMENTS AND REFERENCES
POND INLET	1988	3	53	2	Beluga harvest estimated from 13 year average (DFO 1991).
	1989	1	77	3	DFO (1992a)
	1990	1	69	0	DFO (1992b)
	1991	0	100	3	Walrus harvest estimated from 5 year average (DFO 1993a).
	1992	2	99	3	Beluga and walrus harvests estimated from 5 year average (DFO 1993b).
	1993	1	78	2	G. Weber, pers. comm.
RESOLUTE	1988	7	0	2	DFO (1991)
	1989	12	0	4	Narwhal harvest included with Creswell Bay--see above (DFO 1992a).
	1990	5	10	5	Beluga and walrus harvests estimated from 5 year average (DFO 1992b).
	1991	0	9	3	DFO (1993a)
	1992	4	0	4	Beluga and walrus harvests estimated from 5 year average (DFO 1993b).
	1993	11	8	6	The narwhals were taken at Creswell Bay (G. Weber, pers. comm.).
SANIKILUAQ	1988	20	0	5	Beluga and walrus harvests estimated from 12 year averages (DFO 1991).
	1989	19	0	5	Walrus harvest estimated from 5 year average (DFO 1992a).
	1990	20	0	5	Walrus harvest estimated from 5 year average (DFO 1992b).
	1991	22	0	5	Walrus harvest estimated from 5 year average (DFO 1993a).
	1992	20	0	no data	Beluga harvests estimated from 5 year average (DFO 1993b).
	1993	>10	0	no data	G. Weber, pers. comm.

<sup>1</sup> The years are the Federal Government's fiscal years (e.g. 1991 extends from 1 April 1991 through 31 March 1992).



