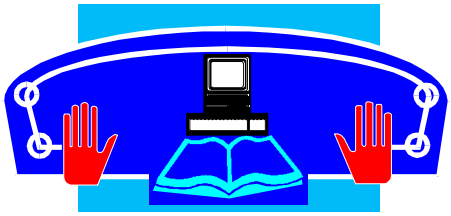

Report On Employment And Income From Nwt's Commercial Fisheries
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Author: G.n.w.t. - Economic Development & Tourism
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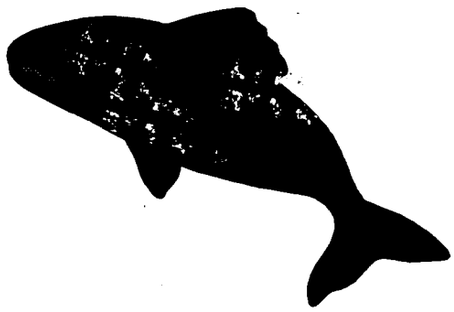
REPORT ON EMPLOYMENT AND INCOME FROM NWT'S COMMERCIAL FISHERIES

Winter 1990/91 - Summer 1991



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June 8, 1992

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REPORT ON EMPLOYMENT AND INCOME FROM NWT'S COMMERCIAL FISHERIES

Commercial fishing in the Northwest Territories plays an important part in the northern economy. It is the most developed of the renewable resource industries, and generated about $1.8 million in income in 1990/91 to about 700 fishermen and 100 employees in the fish processing/handling sector. See Figures 1 and 2. NWT fishermen harvested some 1.7 million kilograms of fish during the 1990/91 winter and 1991 summer seasons, which was valued at $2.2 million.

This report was prepared to show the impact of the Fish Freight Subsidy (Renewable Resource Enhancement Policy, Schedule A) on employment and income in the fish harvesting and processing/handling sectors of the NWT economy. The scope of the study includes export (outside the NWT) and intersettlement trade of inland and inshore marine species, where information is available. The growing offshore fishery, including shrimp and the developmental groundfish fisheries, is not currently subsidized, and is not addressed in this report.[1]

Commercial Fishery Assistance Program

High operating costs combined with falling fish prices render most NWT fisheries marginal at best, if assessed in purely financial terms. From a socioeconomic perspective the commercial fisheries play a key role in the northern economy, particularly in the more remote, isolated communities. Most commercial fisheries in the NWT depend upon the support of the fish freight subsidy for their very existence.

The program is comprised of four elements:

1) freight assistance and price support to Great Slave Lake fishermen to ensure they receive the same return per pound, after cost, as that received by Lake Winnipeg commercial fishermen;
2) price support for other inland fisheries to ensure fishermen the same price per pound for fish as that received by Great Slave Lake fishermen;
3) freight assistance to export char fisheries; and
4) assistance for intersettlement trade to offset up to 50% of freight cost between communities.

In the 1990/91 fiscal year, the Department of Economic Development and Tourism contributed $757,435 to NWT fisheries through fish freight assistance. By far the largest portion of program dollars (about $668,800 in 1990/91) is used to offset freight costs on Great Slave Lake.

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1 One and a half offshore shrimp licenses are held by an NWT company. Though landed outside the NWT, the shrimp fishery generated over $1 million in income to about 44 Baffin fishermen last year. Recent acquisitions of developmental groundfish licenses by NWT companies signifies prospects for additional pbs and income.

NWT Commercial Fisheries

All but the Great Slave Lake whitefish and trout fishery, active since 1945 and the only truly established fishery, are in various stages of development. The Cambridge Bay and Keewatin export char fisheries and the Baffin export turbot fishery have been ongoing for a minimum of five years, have established fish plants for processing, and are considered to be in an advanced developmental stage. A test fishery for broad whitefish in the Mackenzie Delta completed its third year in 1991. In addition, many coastal communities engage in intersettlement trade of char. Production is not monitored to the same degree as export fisheries; hence precise information about production and the number of people involved is often lacking.

Employment in the commercial fishing and fish processing/handling sectors is seasonal and somewhat sporadic, with wide variations in the number of participants and effort per participant at any given time. Typically, a small number of fishermen are responsible for harvesting the bulk of production, with the majority producing much smaller volumes. Fishermen have variable costs depending on the type of equipment they use and the type of fishery. There are gaps in the current information base. These factors make it difficult to depict an accurate picture of employment generated by the fishing and processing/handling sectors that is comparable with other sectors.

For comparison purposes person year equivalences were calculated based on certain assumptions. The methodology, its rationale and limitations are described below.

Methodology

Data was gathered from each region on fisheries production, participation, income **to fishermen and operating expenses, and employment and income in fish processing/handling for the period winter 1990/91 and summer 1991. The 1991/92 winter fisheries were in progress at the time of writing.** The results will not be **available until next summer.**

In some regions, a centralized processing facility exists, through which all export fish is routed on its way to southern markets. The Freshwater Fish Marketing Corporation (FFMC) purchases most of the fish from Great Slave Lake, Mackenzie Delta, and the Kitikmeot and Keewatin regions. In these cases, data was obtained either from the plant or the FFMC. In other regions, most notably the Baffin, the majority of the commercial ohar harvest is sold within the **Northwest Territories. Without passing through a** centralized location, fish harvest data **was more difficult to capture. Harvest data was collected through a telephone survey with appropriate members of fishing communities. While the data is deemed to be reasonably accurate, the numbers are not absolute.**

Person year equivalencies were calculated for fishing effort and processing/handling. The Business Development Fund Policy defines one person year as "a job where the employee receives at least twelve thousand dollars ($12,000) per year or forty (40) weeks of employment" (Schedule B, p. 14).

Fishing

Any individual who fishes and sells some portion of fish caught, regardless of quantity, was considered a fisherman for the purposes of this report. Net income of fishermen was selected as the basis for deriving person years. A valueof$12,000 net income was said to represent one person year of employment. (The number of fishermen as an indicator was ruled out because of the wide range of effort per fisherman. Volume produced was deemed not to be a suitable indicator because fishing effort per measure of production vanes from one fishery to another. This would result in inconsistencies between regions.) For the purposes of this report net income was defined as revenue generated from fish sales

minus operating expenses. By removing the effect of variable costs of operation, income provided a reliable indicator to measure comparative economic benefits stemming from each fishery.

Unlike net income on a cash flow statement, depreciation was not subtracted from gross revenues to arrive at net income. The reason for this departure from normal accounting methods was that capital investment in fishing operations vanes widely even within a fishery. Moreover, accurate information about capital investment is simply not available at this time. It was felt that any attempt to estimate depreciation costs would be too unreliable, thus diminishing the overall validity of the data.

Fish Processing/Handling

This sector includes all processing and handling which occurs in the NWT which ranges from gutting fish and packing on ice to preparation of fillets or smoked fish. The number of employees was frequently given as a range as employment levels fluctuate throughout the season. Estimates of hours worked per week, number of weeks and rate of pay were used to arrive at income figures. One person year was deemed to be equivalent to 40 hours per week, 40 weeks per year, in keeping with the definition in the Business Development Fund Policy.

A final word of caution in interpreting the data relates to the determination of person years. Though person year equivalences are a useful tool for drawing comparisons between regions, this type of analysis tends to undermine the important linkages between the informal economy and commercial fishing. For example:

- fishing takes place primarily in Level II and Ill communities where alternative prospects for employment are few;
- commercial fishing results in reduced reliance on social assistance;
- it is estimated that net benefits would be doubled if the value of the subsistence harvest were included (the import substitution value of the subsistence harvest was not calculated because of the difficulty in capturing such data); and
- the commercial fishery sustains the subsistence fishery by providing monetary income which is used to maintain equipment and fishing gear.

Commercial fishing represents more than an occupation, but cultivates a lifestyle and sense of pride, difficult to quantify, but important to the overall well-being of the community.

Results

The Fish Freight Subsidy impacts each of the commercial fisheries in the NW, with the exception of the Mackenzie Delta fishery. Tables 1 to 4 show income and employment from commercial fishing and processing/handling for 1990/91 and projections for 1992/93 broken down by fishery. Table 5 shows total employment and income generated from all NWT inland and inshore fisheries; Table 6 shows the employment and income generated from only those fisheries that benefit from the Fish Freight Subsidy (i.e. all fisheries but the Mackenzie Delta Fishery).

The_ subsidy impacts directly on employment and income in the primary production sector, and indirectly on the processing/handling sector. However, it is well recognized by participants in the industry and Economic Development and Tourism personnel that

viability of both segments of the fisheries hinge firmly on assistance provided through the freight subsidy. In other words, without the subsidy, the commercial fisheries which are presently marginal at best, could not be sustained at current fish prices.

Indirect benefits of the subsidy accrue to the transportation industry as well, but these are difficult to quantify and were thus excluded.

- The subsidy impacts on nearly 700 fishermen and about 100 employees in fish processing/handling.
- Net income to fishermen was about $1.13 million in fisheries benefiting from the subsidy and $1.15 million in all fisheries.
- Income for fish processing/handling was about $627,000 in fisheries benefiting from the subsidy and $672,000 in all fisheries.
- Person year equivalences for fisheries benefiting from the subsidy are 94 PY's for fishing and 35 PY's for processing/handling, totalling about 130 person years.

It is also noteworthy that in addition to the subsidy considerable financial support is provided through Economic Development and Tourism and Economic Development Agreement contribution funding (about $730,000 in the 1990/91 fiscal year). In particular the Mackenzie Delta test fishery relies heavily on such assistance.

The figures indicate greater wages on average accruing to participants in the processing/handling sector in comparison to primary production. This imbalance may be explained by the vast divergence in fishing effort among fishermen compared to the wage based processing/handling sector. The independence gained and supplemental benefits of providing food provide the necessary incentive for individuals to fish as opposed to seeking wage employment in recessing/handling. Moreover, the most dedicated fishermen would net substantially greater than average incomes.

It was endeavored to predict changes in income and employment for next year. The basis for the figures provided is projections by the Renewable Resource Development Officers in each region who have considerable experience and expertise in this area. Projections are necessarily speculative, as the single most important factor in determining changes in fisheries production is the price of fish, over which we have no control.

Projections for the 1991 /92 winter season and 1992 summer season are:

- A $197,834 increase in net income to fishermen is projected, based largely on an estimated doubling of turbot production associated with the establishment of an additional fish buyer in Pangnirtung. This figure could be even greater if char prices recover from the slump of 1991.
- An increase of $45,000 in wages to fish processing/handling employees is projected for 1992.

FIGURE 1

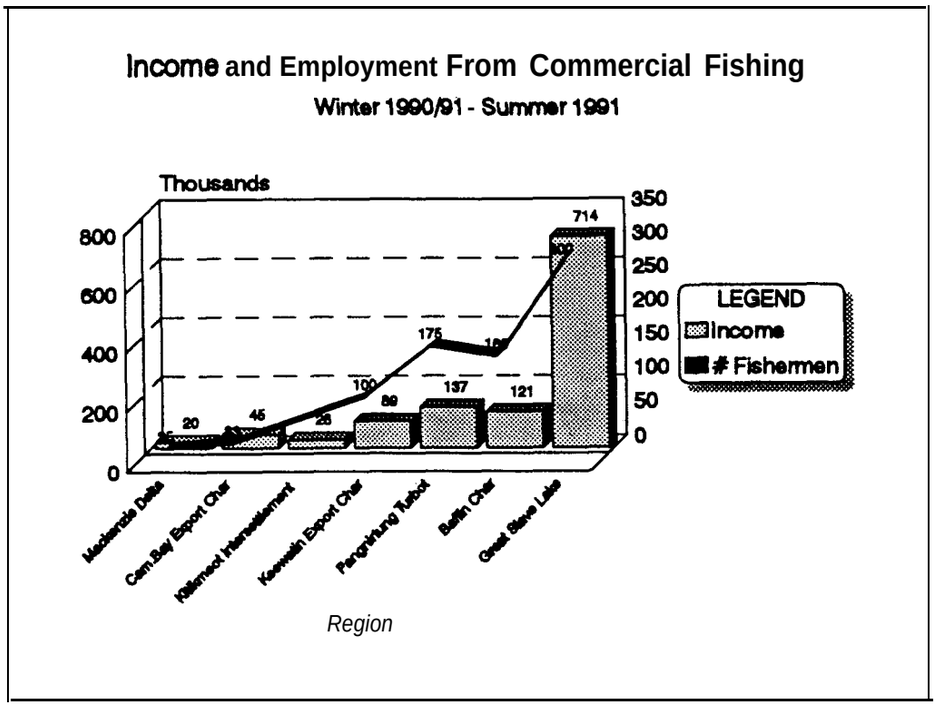

FIGURE 2

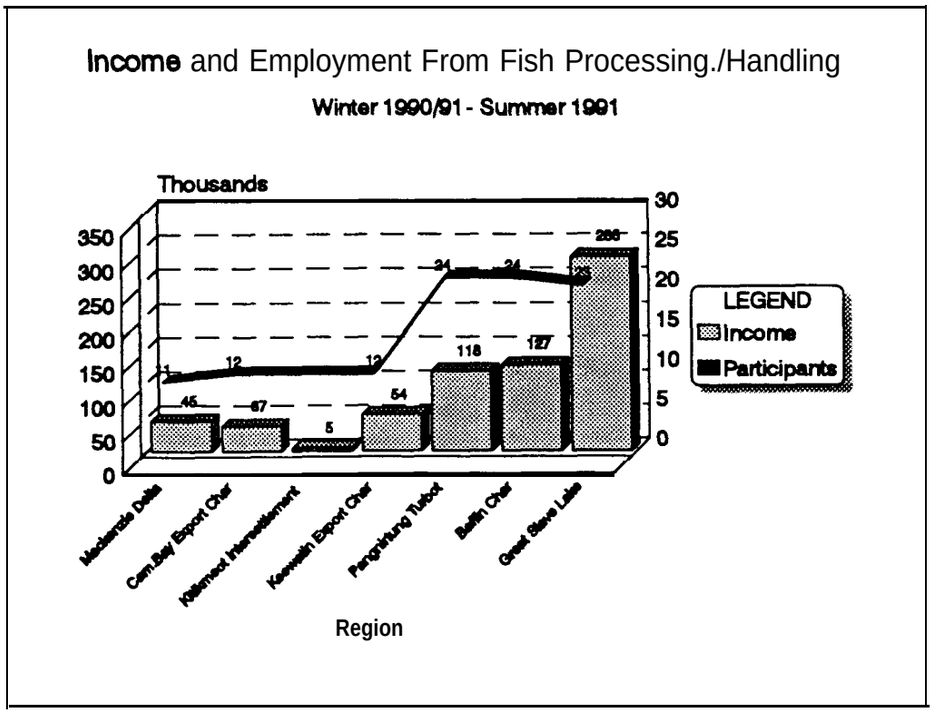

TABLE 1 Income and Employment From Commercial Fishing in the Northwest Territories Winter 1990/91 - Summer 1991

Fishery	# Fishermen	Volume (kg)	Gross Revenues ($)	Expenses ($/kg)	Total Expenses ($)	Net Income ($)	Income/ # Fisherman ($)[1]	PY's
Mackenzie Delta Fishery	25	24,332	29,338	0.37	9,027	20,310	813	1.7
Cambridge Bay Export Char	33	31,683	45,401	0.02	600	44,801	1,357	3.7
Kitikmeot Interset. Trade	n/a	9,080	232,117	0.83	4,320	27,797	n/a	2.3
Keewatin Export Char	est. 100	38,573	121,869	0.85	32,787	89,082	est.890	7.4
Keewatin Interset. Trade				unknown				
Pangnirtung Turbot Fishery	[3]175	121,675	187,770	0.42	51,104	136,666	.1,367	11.4
Baffin Char Fishery	[4]est.160	51,361	167,585	0.91	46,739	120,846	est.755	10.0
Great Slave Lake Fishery	[5]300	1,488,121	1,635,753	n/a	n/a	714,298	2,381	59.5
Total	**693+**	**1,764,825**	**2,219,833**	**n/a**	**n/a**	**1,153,800**	n/a	**96.0**

1 Averages do not necessarily reflect a typical fisherman as there is a wide range in productivity. For example, in the turbot fishery, the best fishermen can make over $20,000.

2 Does not include final payment.

3 Based on 86 licensed fishermen and an additional 89 helpers. There is overlap between this figure and the one below as some fishermen fish for char and turbot.

4 About 100 fishermen are from Pangnirtung and also fish for turbot. The remaining 60 fishermen fish for char throughout the Baffin.

5 This figure represents about 109 licensed fishermen and additional seasonal workers.

General Notes:

Information presented in this table is for winter fisheries 1990/91 and summer fisheries 1991. Data for winter fisheries in 1991/92 is not yet available. Refer to Appendix I for an explaination of how net income was determined. Income would be approximately doubled if import replacement value of subsistence harvest was to be included.

TABLE 2 **Projected Income and Employment for Fishing Winter 1991/92 and Summer 1992**

Fishery	Projected Net Income ($)	Projected Incr (Deer) ($)	Incr(Decr) in # of Fishermen	Incr(Decr) in Projected PY'S	Notes
Mackenzie Delta Fishery	20,031	0	0	0	No change predicted.
Cambridge Bay Export Char	64,300	19,500	0	5.3	1991 represented a particularity low year for production. Historically, production at Cambridge Bay is about 100,000 lb (45,000 kg)
Kitikmeot Interset. Trade	27,797	0	0	0	No change predicted.
Keewatin Export Char	89,082	0	0	0	No change predicted.
Keewatin Interset. Trade	unknown	o	0	0	No change predicted.
Pangnirtung Turbot Fishery	300,000	163,334	0	13.6	Figures are basal on projected production of 250,000 kg turbot and a price to fishermen of $.70/lb ($1 .54/kg) and expanses of $.42/kg. Production is split amongst two companies, only one of which engages in secondary processing.
Baffin Char Fishery	120,846	0	0	0	A $ 50/lb increase in char prices to fishermen could result in a 10-20% increase in char production.
Nettilling Lake	15,000	15,000	4	1.25	Based on 40,000 lb (18,000 kg) at $4.25/lb minimum viable price.
Great Slave Lake Fishery	714,298	'o	o	0	No change predicted.
Total	**1,351,354**	**197,834**	**4**	**20.15**	

The above noted projections are speculative only, and depend on factors beyond the control of the Department of Economic Development and Tourism.

TABLE 3

NWT Fish Processing/Handling Employment and Income Winter 1990-91- Summer 1991

Plant/Station	Season From	To	Jobs	Income ($)	Estimated # PY's[1]
Mackenzie Delta	Aug	Sept	1 Manager; 4 seasonal on collector vessel; 2 ft. at plant; 4 pt. at plant	[2]$44,900	1.20
Kitikmeot					2.30
Cambridge Bay	mid Aug	mid Sept	1 pt. Mgr and administration, 10-12 labourers	$37,000	
Export Fishery[4]	mid June	early July	7 low, 15 high		
Kitikmeot Interset-tlement Trade	Nov March	Dec May	minimal	$5,000	
Keewatin[3]					2.60
Chesterfield Inlet	late July	early Sept	1 Mgr, 2-3 labourers for plant& collector boat	$16,000	
Rankin Inlet	"	"	1 Mgr, 2-3 labourers	est. $12,800	
Whale Cove	"	"	1 Mgr, 1-2 ft. labourer	est. $12,800	
Arviat	"	"	1 Mgr, 2 labourers	$12,800	
Baffin[5]					
Pangnirtung	Dec	June	1 Manager, 1 bookkeeper, plus 22 labourers on average	$118,425	8.00
Iqaluit	Year round		2 ft. year round plus seasonal labourers as required	$50,000	2.00
Hall Beach	Ott	May	4 part time	$11,200	0.50
Igloolik	Dec	May	1 ft. plus 5 pt.	$20,000	2.00
Arctic Bay	Dec	May	2 ft. plus 5 pt. as required	6$31,000	2.00
Clyde River	Dec	May	Up to 5 seasonal labourers	$15,000	1.00
Great Slave Lake[7]	June Dec	Ott May	7 full time, 16 seasonal	$285,450	15.00
TOTAL			**100-110**	**est. $672,375**	**36.60**

See Notes on following page

TABLE 3 continued

Notes on Wages ft. = full time pt. = part time

1 One person-year (PY) is defined as 40 weeks of employment, as in the Business Development Fund Policy, Schedule B, p. 14.

2 Figure based on 1 Manager, 6 weeks @ $20,000; 6 labourers @ $15.00 per hour, 50 hour per week, 5 weeks; 4 labourers @ $15.00 per hour, 8 hours per week, 5 weeks. •Mackenzie Delta did not benefit from the fish freight subsidy.

3 Manager -$20.00 par hour, 40 hours per week, 8 weeks; labourers - $10.00 per hour, 40 hours per week, 8 weeks.

4 Wage bill figure estimate from region; person yeara baaed on 12 labourers and 1 manager for 7 weeks.

5 Wage bill and person year figures are estimates from region with the exception of Pangnirtung. Wage bill is actual; person year figures is estimated based on 11 labourers per shift, 6 hours per shift, 2 shifts per day, 6 daya per week, 14 weeks, plus management and administration.

6 Of $31,000, approximately $25,000 and $6,000 are derived from fish processing/handling end muktuk processing respectively; only the latter benefits from the fish freight subsidy.

7 Wage bill and person-year figures are estimates from region.

TABLE 4

Projected Changes for Winter 1991/92 - Summer 1992
NWT Fish Processing/Handling

Fishery	Projected Increase or Decrease	Income ($)	Incr (Deer) in Income ($)	PY's	Incr(Decr) In PY's
Mackenzie Delta	same	44,900	0	1.20	0
Kitikmeot					
Cambridge Bay Export Char	43% increase	53,000	16,000	3.30	1.00
Kitikmeot Intersettlement Trade	same	est. 5,000	0	min.	o
Keewatin	same	54,400	0	2.60	0
Baffin					
Nettilling Lake late Aug - early Sept	increase to 4 labourers	110,000	10,000	0.60	0.60
Pangnirtung	increase in hours and income; decrease in # of participants	150,000	31,575	8.00	0
Iqaluit	increase to 4 labourers	75,000	25,000	3.00	1.00
Hall Beach	same	11,200	0	0.50	0
Igloolik	decrease 50%	10,000	(10,000)	1.00	(1.0)
Arctic Bay	increase	35,000	4.000	2.00	0
Clyde River	same	15,000	o	1.00	0
Great Slave Lake	same	285,450	0	15.00	0
Total		**est. 748,950**	**76,575**	**38.20**	**1.60**

[1] Figure basedon4Iabourers@$10.00 per hour, 12 hours per day, 7 days per week, 3 weeks.
[2] Estimated 1 manager, 1 bookkeeper, 15 labourers and 2 trainees; 8 hour shifts for 9 weeks and 10 hour shifts for 6 weeks.

The above noted projections are speculative only, and depend on factors beyond the control of the Department of Economic Development and Tourism.

TABLE 5

Employment and Income in Commercial Fishing and Fish Processing/Handling
(all commercial fisheries)

sector	#of Participants	Net Income ($)	Person Years
Fishing	693+	1,153,800	96.0
Fish Processing/ Handling	90-110	672,375	36.6
Total	**approx. 800**	**1,826,175**	**132.6**

TABLE 6

Impact of the Fish Freight Subsidy on Employment and Income[1]

Sector	#of Participants	Income ($)	Person Years
Fishing	668+	1,133,490	94.3
Fish Processing/ Handling	89-99	627,475	35.4
Total	**approx. 789**	**1,760,965**	**129.7**

This table represents employment and income in all fisheries benefiting from the Fish Freight Subsidy.

APPENDIX I
Expense Data by Regional Fishery

Introduction

The following pages show cash flow analyses for seven regional commercial fisheries in the NWT. The information was compiled in order to conduct a comparative analysis of fisheries income. Cash flow, as represented by gross revenues minus operating expenses was calculated for each fishery, as an indicator of the relative wealth flowing to fishermen as a result of commercial fishing effort. This data was subsequently used to calculate person years in the main report.

In most fisheries, subsistence and commercial fishing are carried out simultaneously, utilizing the same equipment. To determine those costs associated with the commercial fishery alone, costs proportionate to the amount of time spent commercial fishing was used. Value of the subsistence catch has not been included because such data is lacking. Consideration of the import substitution value of the subsistence catch would vastly increase the economic value of the fishery.

There are slight variations in the manner in which data is presented resulting from differences in availability of complete and current data. For example, cash flow analyses had been conducted only for the Arviat (then Eskimo Point) and Maguse River char fishery and the Pangnirtung turbot fishery. In other regions no such data has been collected; it was necessary to draw from the expertise of regional personnel who are knowledgeable about the fisheries. Depending on the information available, a cash flow analysis was presented for individual (average or hypothetical) fisherman or the fishery as a whole.

Great Slave Lake represents a deviation to this approach. Net income was determined on the basis of wage and salary expenses as documented in a recent survey report.

To ensure consistency of data between regions certain basic assumptions were made.

1. Only expenses for oil and gas, net replacement, repairs and miscellaneous supplies were included in operating expenses.

2. Food is deemed to be a necessary expenditure, whether fishing or otherwise occupied, and was not included as an operating expense.

3. Depreciation costs of capital were omitted because of the wide range of capital equipment being used within each fishery and between regional fisheries. Moreover, inclusion of depreciation would likely result in skewing of information because of the dirth of accurate information.

4. One person year (PY) was representedby$12,000 net income as defined in the Business Development Fund Policy, Schedule B, p. 14.

5. Throughout the main report, the term net income is used to represent gross income minus expenses (not including depreciation).

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Mackenzie Delta Fishery
Cash Flow Analysis for an Average Fisherman -1991

	Amount ($)
Gross Income From Fish Sales	1,174
Operating Expenses (3 weeks; 2 return trips to Inuvik) (Commercial use only)	
Oil & Gas	200
Net Replacement	111
Miscellaneous and Repairs	50
Total Expenses*	361
Cash Flow	813
Total Cash Flow All Fishermen	$20,325
# PY's@$12,000 per PY	1.7
Expenses Per Kilogram	$.371

1991 Production

Gross Revenues From Fish Sales	**$29,338**
Total Volume (kg)	**24,332**
Total Expenses @ $.371	**$9,027**
Total Net Income	$20,310
Number of fishermen	**25**
Average Production Per Fisherman (kg)	**973**

Estimated Capital Investment for Average Fishing Operation (used by 3 fishermen)

	($)	Term (years)	% Commercial Use
Cabin and contents	15,000	15	50
Boat	3,000	3	50
Outboard Motor	4,000	3	50
Canoe	500	3	50
Nets	300		
Miscellaneous Gear	700		

Sources: Income data collected in region. Operating expenses and capital investment are estimates from region based on three years observation.

- Expenses do not include depreciation.

Natural Resources Section **June 8,1992**

Cambridge Bay Export Char
Cash Flow Analysis For an Average Fisherman -1991

	Amount ($)
Gross Income From Fish Sales	1,375
Operating Expenses (6 weeks - Commercial use only))	
Oil & Gas	0
Net Replacement ($600/year/33 fishermen)	18
Repairs and Miscellaneous Supplies	0
Total Expenses*	18
Cash Flow	1,357
Cost Per Kilogram	.019
1991 Production	
Gross Revenues From Fish Sales	$45,401
Total Volume (kg)	31,683
Total Expenses @ $.019	$600
Net Income For Fishery	$44,801
#PY's@$12,000 per PY	3.7
Number of fishermen	33
Average Production Per Fisherman (kg)	960

Capital Investment

	($)	Term (years]	- % Commercial Use
Aluminum Boats	n/a	n/a	n/a
Gill Nets	n/a	n/a	n/a
Conduit Weir (Jayco Lake)	n/a	n/a	n/a

Sources: Income data collected in region. Operating expenses and capital investment are estimates from region based on observation.

* Expenses do not include depreciation.

Natural Resources Section **June 8,1992**

Kitikmeot Intersettlement Trade (Char) "
Cash Flow Analysis for all Fisherman (excluding export sales to Co-op) - 1991

	Amount ($)
Gross Income From Fish Sales	32,117
Operating Expenses (6 weeks) (Commercial use only)	
Oil & Gas ($100/load of fish; #trips depends on location)	3,600
Net Replacement	720
Miscellaneous Supplies	0
Total Expenses*	4,320
Cash Flow All Fishermen	27,797
#PY's@$12,000 per PY	2.3
Cost per kg	$.83

1991 Production	
Gross Revenues From Fish Sales	$32,117
Total Volume (kg)	9,080
Number of fishermen	unknown
Average Production Per Fisherman	unknown

Capital Investment

	($)	Term (years)	% Commercial Use
Aluminum Boats	n/a	n/a	n/a
Gill nets	n/a	n/a	n/a
Snowmobiles	5,000	5	10

Sources: Income data collected in region. Operating expenses and capital investment are estimates from region based on observation.

* Expenses do not include depreciation.

Natural Resources Section **June 8,1992**

Keewatin Export Char Fishery
Cash Flow Analysis For a Hypothetical Full-time Fisherman -1988

	Amount ($)
Gross Income From Fish Sales	**5,040**
Operating Expenses (6 weeks, 20 trips) (**Commercial** use only)	
Oil & Gas	500
Net Replacement	400
Repairs (**skidoo** and **komatik**)	250
Miscellaneous **Supplies**	100
Total Annual Expenses For 1988	1,250
Add 10.5% inflation to **September** 1991	131
Total Annual Expenses For 1991 .	1,381
Cash Flow	3,659
Annual Production For One Full Time Hypothetical Fisherman (kg)	1,633
Expenses Per Kilogram	.85

1991 Production	
Gross Revenues From Fish Sales	**$121,869**
Total Volume (kg)	**38,573**
Total Expenses @ $.85/kg	**$32,787**
Net Income For Fishery	$89,082
#PYs@$12,000 per PY	7.4
Number of Fishermen	est. 100
Average Production Per Fisherman (kg)	386
Average Net Income Per **Fisherman**	$890

Capital Investment for Hypothetical Full-time Fishing **Operation**

	($)	**Term (years)**	**%** Commercial Use
Canoe	**$4,000**	**5-6**	**30**
Outboard Motor	**$3,000**	**3**	**30**
50 yard Gill nets (3)	$600	1	30

Sources: Production and income data collected in region. Expenses extrapolated from "An Economic Analysis of the Eskimo Point and **Maguse** River Commercial Char Fishery: Summer 1988" prepared for the Department of Economic Development and Tourism by Lynda **Yonge, Faculty** of Environmental Studies, 1989. Inflation rate based on Consumer Price Index for September 1991 for food and transportation (Statistics Quarterly, Vol. 13, No. 3, September, 1991, p. 27).

-- * Expenses do not include depreciation.

Natural Resources Section **June 8,1992**

Baffin Turbot Fishery
Expenses for an Optimal Two Person Fishing Operation

Operating Expenses (3 months) -1988 (Commercial use only)	Amount ($)
Oil & Gas	1,790
Line Hauler Operation	935
Net Replacement	500
Repairs (skidoo and komatik)	844
Bait	216
Miscellaneous Supplies	0
Total Annual Expenses For Two Person Fishing Operation 1988	4,285
Add 10.5% inflation to September 1991	450
Total Annual Expenses For Two Person Fishing Operation 1991 .	4,735
Annual Production For Two Person Operation (kg)	11,340
Expenses Per Kilogram	.42

1991 Production	
Gross Revenues From Fish Sales	$187,770
Total Volume (kg)	121,675
Expenses @ $.42/kg	$51,104
Net Income	$136,666
#PY's@$12,000 per PY	11.4
Number of Fishermen	est. 100
Average Production Per Fisherman (kg)	est. 1,217
Average Net Income Per Fisherman	est. $1,367

Capital Investment for Average Fishing Operation

	($)	Term (years)	% Commercial Use
Snowmobile	6,000	3	40
Motorized Line Hauler	3,000	10	100
Komatic	300	5	
Fishing Gear	500	1	1 ; ;

Sources: Production and income data collected in region. Expenses extrapolated from "Pangnirtung Winter Turbot Fishery", prepared for the Department of Economic Development and Tourism by Canadian Fishery Consultants Limited, 1988. Inflation rate based on Consumer Price Index for September 1991 for food and transportation (Statistics Quarterly, **Vol. 13,** No. 3, September, 1991, p. 27)

• Expenses do not include depreciation.

Natural Resources Section **June 8,1992**

Baffin Char Fishery (Intersettlement Trade)
Expenses for One Person Fishing Operation

Operating Expenses (6 weeks) -1988 (Commercial use only)	**Amount ($)**
011 & Gas	**895**
Net **Replacement**	**250**
Repairs (skidoo and komatik)	**422**
Miscellaneous Supplies	**300**
Total Annual Expenses For One Person Fishing Operation 1988	1,867
Add 10.5% inflation to **September** 1991	196
Total Annual Expenses For One Person Fishing Operation **1991**	2,063
Annual Production For One Person Operation (kg)	2,268
Expenses Per Kilogram	.91
1991 Production	
Gross Revenues From Fish Sales	$167.585
Total Volume (kg)	51 **,361**
Expenses **@ $.91/kg**	$46,739
Net Income	$120;846
# PY's **@** $12,000 per PY	10
Number of Fishermen	est. 160
Average Production Per Fisherman	est. 321
Average Net Income Per Fisherman	est. $755

Capital Investment for Average Fishing Operation

	($)	Term (years)	% Commercial Use
Snowmobile	5,000	**3**	40
Komatic	300	5	40
Nets	**1,000**	1	**n/a**
Fishing Gear	500	1	**n/a**
Aluminum Boat	**?**	?	**?**

Sources: Production and income data collected in region by telephone survey to producers. Expenses extrapolated from **"Pangnirtung Winter** Turbot Fishery", prepared for the Department of Economic Development and Tourism by Canadian Fishery Consultants Limited, 1988. Inflation rate based on Consumer Price Index for Se **tember** 1991 for food and transportation (Statistics **Quarterly,** VoP13, No. 3, September, 1991, p. 27)

- Expenses do **not** include depreciation.

Natural Resources Section **June 8,1992**

Great Slave Lake Commercial Whitefish and Trout Fishery

A Cost and Earnings Study of Great Slave Lake (GSL) fishermen conducted during 1990 and 1991 concluded that on average, operational expenses of the fishery exceeded revenues. This makes a pointed statement about the economics of the fishery. The fishery is highly subsidized and would not be viable without the support of the GNWT. However, part of this result is no doubt attributable to the source of information, namely income tax returns, which would tend to overstate expenses.

To address the problem of possible exaggeration of expenses a different approach was used in determining net income for the GSL fishery than that adopted for other fisheries. Wages and salaries expenses were documented in the survey report for 49 of the 57 fishing operations on GSL. These figures were used to determine estimated net income. Since the survey is relatively recent, costs were considered to be current.

Production

Season	#of Operators	Volume (kg)	Gross Revenues ($)
Winter 1990/91	51	598 981	818 114
Summer 1991		889:140	817:639
Total	1:;	1,488,121	1,635,753

Average Expense Per Fishing Operation For Wages and Salaries	$15,263
Average Expense per Kilogram of Production For Wages and Salaries ($.22/lb)	$.48
Estimated Net Income For All Fishing Operations Winter 1990/91 and Summer 1991	$714,298
#PY's@$12,000 per PY	59.5
Number of Fishermen	300
Average Production Per Fisherman (kg)	4,960
Net Income Per Fisherman	2,381
Average Production Per Operator in Winter (kg)	11,745
Average Production Per Operator in Summer (kg)	15,330
Average Gross Revenues Per Operator in Winter	$16;041
Average Gross Revenues Per Operator in Summer	$14,097

Capital **Investment** in GSL Fishery

	# Owned by **47** Operators	**($)**	Term (years)	**% Commer-** cial Use
Whitefish Boat	**14**	**n/a**	**n/a**	**n/a**
Skiff	**27**	**n/a**	**n/a**	**n/a**
Yawl with Inboard Motor	**1**	**n/a**	**n/a**	**n/a**
Yawl with Outboard Motor	**14**	n/a	**n/a**	**n/a**
Outboard Motor	**33**	**n/a**	**n/a**	**n/a**
Bombardier	23	n/a	**n/a**	**n/a**
Bombardier Motor	20	**n/a**	**n/a**	**n/a**
Snowmobile	29	**n/a**	**n/a**	n/a
Auger	**12**	**n/a**	**n/a**	**n/a**
Truck	**34**	**n/a**	**n/a**	**n/a**
Miscellaneous Equipment	**n/a**	**n/a**	**n/a**	**n/a**
Nets	**n/a**	n/a	**n/a**	**n/a**

Sources: Production figures collected by region from David Bergunder of Freshwater Fish Marketing Corporation. Expense data and capital investment was extracted form the "Great Slave Lake Fishery **Survey**: Overall Results" published by the Bureau of Statistics, **GNWT**, 1991, Tables 4.6,4.7 (p. 41), Table 5.1 (p. 57) and Table 5.2 (p. 58).