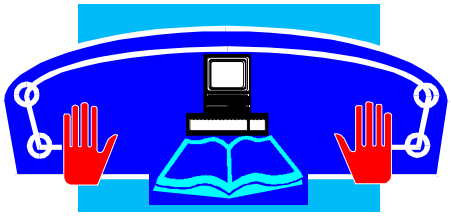

Keewatin Region Commercial Fishing Industry And Operational Plan
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Introduction

In February of 1989 RT & Associates was contracted in association with Symbion Consultants to develop a commercial fishing strategy for the Keewatin Region. The purpose of the strategy was to prepare a plan that would:

- manage and develop fish resources on a sustainable basis for the benefit of present and future residents of the Region;
- generate, distribute and maximize income and income-in-kind benefits to residents.

The plan was also to lead to long-term industry viability and have the support of those involved in the industry.

In August 1989, after extensive community consultation, research and analysis, a strategy report with the above objectives was developed by the contractors and approved by a steering committee.

To implement the strategy a business and operational plan is now required. The purpose of this second document is to meet this objective.

Background

Commercial fishing was introduced to the Keewatin in the early 1960s and has since existed in a variety of forms. The present commercial fishery is based exclusively on anadromous (sea run) Arctic char. Fish are caught primarily by local fishermen who set 50-yard gill nets from 22-foot canoes at the mouths of coastal river systems. Fishing takes place during August and September when char are moving upstream to winter in freshwater lakes. Fishermen seil their catch in dressed form, either directly, or through a holding station operation, to the Rankin Inlet plant or to the plant in Chesterfield Inlet. Fish are then resold to the Freshwater Fish Marketing Corporation (FFMC) in Winnipeg in either fresh or frozen form.

Participation in the commercial fishery is high - there were 123 fishermen in 1988- however there are a number of problems affecting the industry.

First, the economic returns to the fishermen are low (they currently receive only $1.00 to $1.40 a pound for their catch). As a result, fishermen have found that although this generates a small cash income in the short term, it is not sufficient to cover the replacement costs of fishing equipment over the long term. This has resulted in limited production and a number of fishermen questioning whether they should pursue commercial fishing as a source of income. Indeed, low income has also affected the viability of combined domestic/commercial activities which rely on the income from commercial fishing to subsidize domestic activity.

A second problem is that most fishermen have small freighter canoes which are only suitable for harvesting quotas close to the communities. This means that although the quotas near communities are harvested quickly, the cash flows generated are not sufficient to purchase equipment better-suited to harvesting more distant quotas. The use of small canoes has also meant fishermen are often stranded by weather and are unable to bring their catch to the receiving stations before spoilage. The problem has been compounded by a lack of ice when traveling long distances.

A third problem is that the Rankin Inlet fish plant consumes most of the revenues earned by the fisheries. For example, in 1988 FFMC paid an average of $4.00 per pound for Arctic char, a higher price than for any other species of

fish, however of that, $4.00, or 55% ($2.22 per pound) went to the Rankin Inlet plant. This high cost of processing is due to the fact that the Rankin Inlet plant is old, oversized and in very poor condition. Moreover the plant does not meet DFO standards and significant investment would be required to improve the facility. This is also true of the Eskimo Point receiving station which also does not meet DFO standards. Under current government regulations these two facilities cannot be used for continued export purposes.

A fourth problem is that transportation scheduling and reliability between communities is poor, and high air freight and local cartage costs create a severe drain on fish revenues. Moreover, fish loads are sometimes bumped off regular scheduled flights to make room for passengers. This too has resulted in fish spoilage which is ultimately reflected in lower prices to the fishermen.

A sixth and final problem is that no one organization oversees the Keewatin fishery, rather there has been a profusion of government departments and agencies and local groups involved in the industry, including DFO, Economic Development & Tourism (ED&T), Renewable Resources, FFMC, community Hunters and Trappers Associations (HTAs), private entrepreneurs and " fishermen. The result has been confusion and ad hoc coordination in the industry.

In spite of the problems faced by the fishery in its present state, an examination of the available resource base and market demand indicates it is possible for the industry to grow and provide long-term economic benefits. At present quota levels, it can be assumed that at least 140,000 lbs of char could be harvested per annum. At an average of $4.00 a pound, this would bring approximately $560,000 into the Region.

The fishery can also be organized in a manner that provides higher prices (over $1.40 per lb) to the fisherman, which would create more incentive to fish commercially and result in a more stable, consistent level of harvest as well as increased economic viability for both the fishermen and the industry as a whole over the long term. In she% the Keewatin fishery can be made profitable and self-sustaining.

Operations

Fishermen

The Keewatin fishery consists of a large number of commercial and domestic/commercial fishermen, fishing from small canvas-covered freighter canoes, competing for the limited quotas in each community. However there are approximately 82,000 lbs. of available quota that are currently not harvested for lack of suitable equipment. To access these quotas, up to 13 commercial-scale fishing units will be introduced into the fishery. Each unit will be privately owned and will consist of a Lake Winnipeg yawl, a 50-60 hp motor and two fishermen setting 6-10 nets.

The fishing units will harvest in areas not currently being fished by domestic or commercial fishermen. Quota allocation issues will be dealt with by an industry development corporation that will be formed to oversee all facets of the commercial fishing industry in the Keewatin (see Management Section). It is also expected that a system of limited-entry licenses will be introduced to limit commercial-scale fishing to the more distant quota areas, leaving the quotas adjacent to communities to smaller scale commercial/domestic fishermen. This system will allow the commercial-scale fishermen to fish at an economically-viable level while reducing the competition in the community quota areas.

It is estimated that the 13 yawls will be purchased and equipped over a three-year period for a total cost of $180,000. Funding for the yawls will be obtained through a combination of BLF loan ($162,000) and GNWT capital contribution ($18,000).

Receiving Stations

Receiving/holding stations will be located in Whale Cove, Chesterfield Inlet and Eskimo Point. These stations will receive fish from local fishermen, repack it on ice and send it to a central processing plant in Rankin Inlet.

The receiving station in Chesterfield Inlet will be located in the existing Chesterfield Inlet fish plant, a facility that is four years old and in good condition. The station has a holding capacity of 10,000 pounds and is capable of

handling the projected maximum volumes of 3,000 pounds a day and 20,000 pounds over the season. Although the station has ice production capabilities and is registered to freeze fish for export, it will only be used to pack and ship fresh fish. The station is privately owned by the Chesterfield Inlet Fishermen's Association

The existing receiving/packing station in Whale Cove will also be used as a receiving station. The facility is nine years old, in good condition, with ice production capabilities and a holding capacity of 3,000 pounds. Like the Chesterfield Inlet station it is also capable of handling the projected maximum volumes of 3,000 pounds a day and 20,000 pounds over the season. The building is privately owned by the Whale Cove HTA.

The receiving station in Eskimo Point is in very poor condition and will have to be replaced to meet DFO inspection standards. A new facility, similar to the one in Whale Cove will therefore be built with a GNWT capital contribution ($50,000). It too it will be privately owned.

Freezer/Packer Boats

There are two freezer/packer vessels in the Region, the Arctic Tern and the Natsiak. Both are privately owned and are registered to freeze fish for export from the NWT. These boats will be hired as collector boats to pick up, freeze and deliver fish from the Chesterfield Inlet and Ferguson River areas to the Chesterfield Inlet and Whale Cove receiving stations. This will allow fishermen to harvest distant quotas and transport their fish to receiving stations without incurring the present time, cost and risk to product quality. It will also allow fishermen to increase their overall harvest and economic return.

The Arctic Tern is nine years old and in fair condition, with a holding capacity of 13,000 pounds. The Natsiak is two years old and in good condition with a holding capacity of 2S,000 pounds. It is estimated that the two boats together will be able to pick up, process and deliver a total of 69,100 pounds during the season.

Since the ability to harvest the remote quotas is unknown and the use of the freezer/packer vessels in this capacity is untried, the freezer/packer operators will initially be given a guaranteed contract of $21,000 each to cover the risk

involved in this new operation. Since the boats are also used for freight hauls it is expected that additional income will allow them to earn a small profit, however to ensure they do, the overall profitability of the boats will have to be monitored carefully in the initial years of operation.

Central Rankin Inlet Plant

To reduce the costs of packing and processing and to avoid inheriting the excessive costs and problems associated with the existing fish plant, a new fish plant will be built in Rankin Inlet. The plant will receive fish from receiving stations located in Whale Cove, Chesterfield Inlet and Eskimo Point, and from fishermen operating out of Rankin Inlet. The plant ill then ship the fish either fresh, packed on ice, or frozen, to FFMC in Winnipeg for resale.

The plant will be built to meet DFO inspection standards and will be designed to handle a throughput volume of up to 150,000 pounds during the season, with a storage capacity of 40,000 pounds. This will enable the facility to handle/process up to 75,000 pounds of fresh fish from the receiving stations and up to 69,100 pounds of previously-frozen fish from the freezer/packer vessels. The central plant will be owned by the fishermen's incorporated organization and run by a general manager.

Dedicated Aircraft

To ensure reliable transportation of fish between the receiving stations and the Rankin Inlet plant, a Cessna 207 will be chartered for the duration of the fishing season. Daily flights will be made to each community to pick up and deliver fish from the receiving stations to the Rankin Inlet plant. The aircraft has large cargo doors and a carrying capacity of 1,150-1,200 pounds, making it appropriate for this type of use, and it is available from Skyward Aviation in Thompson, Manitoba for a daily rate of $1,430 including fuel, maintenance and pilot accommodation. Based on 35 days of operation, 127,750 pounds of iced product, (76,958 pounds of fish) can be transported during the season at a seasonal cost of $50,050.

General Manager and Industry Development Corporation

A general manager will be hired to coordinate and oversee the entire fishery operations. The position will have an annual salary of $55,000 with additional benefits of $20,000 for a total of $75,000.

In addition, an industry development corporation will be formed to represent all those involved in the industry, formulate policy and make policy decisions to stimulate industry grow@ lobby government, oversee the general manager and generally arbitrate between various groups in the industry. It is expected that the corporation's board of directors will meet three times a year, with $10,000 required per meeting to cover travel and meeting expenses, for a total of $30,000 per annum.

Both the cost of the general manager's salary and the corporation's meetings will be covered in part by a GNWT O&M contribution for the first three years of operation (Year 1$35,000, Year 2$20,000, Year 3$5,000 for a total of $60,000) after which, industry revenues will be sufficient to cover these costs.

Markets

All fish harvested will be sold to FFMC in Winnipeg, since FFMC will provide the highest return to the industry, guaranteed sales and volume purchase. Should there be any surplus production, it will be sold to identified markets in the Region as well as in Yellowknife.

Winter Fisheries, Ice Houses and Weirs

Winter fisheries will be undertaken at one location each year in the Region at an estimated cost of $10,000 per annum or $50,000 over the five-year period. Coral Harbour has identified three suitable locations for testing:

Location #1	65°, 21' 30" North	84°, 31' West
Location #2	65°, 09' North	84°, 11' West
Location #3	63°, 56' North	80", 46' West

It is expected that the GNWT (Departments of Renewable Resources and ED&T) will provide an annual contribution of $10,000 for each test fishery or $50,000 over a five-year period.

Two ice houses will be constructed, one in the Ferguson River area, another in the Chesterfield Inlet area; both are distant quota areas with large quotas that will be harvested by fishermen in conjunction with the collector boats. Cost of construction is estimated to be $15,000 per ice house for a total of $30,000. It is expected that a GNWT capital contribution will be obtained for construction.

As well, the merits of incorporating weirs in certain river systems will be explored wherever there is strong community support for their use. Discussions with fishermen indicate that the Copperneedle River, Stony Point and Ranger Seal Bay systems offer potential for using weirs.

Season length

The commercial fishing season will run for a total of five weeks, from the first week of August to the end of the first week of September.. After that time the receiving stations and central plant will be shut down to minimize energy and maintenance costs.

Sources and allocations of funds for the implementation of the strategy over the next five years are as follows:

Allocations:		**sources:**	
Rankin Inlet Fish Plant	$300,000	GNWT Capital Contribution	$398,000
EP Receiving Station	50,000	GNWT O&M Contribution	110,000
Yawls (13 units)	180,000	BLF	162,000
Ice Houses	30,000		
Test Fisheries	50,000		
Industry Association & General Manager	60,000		
Total	$670,000	Total	$670,000

Marketing

Arctic Char produced in the NWT is either exported to FFMC in Winnipeg for resale, or sold within the Territories by local brokers to retail outlets and institutions. During the 1988/89 season 72% of commercial char sales from the Keewatin fishery was sold to FFMC; the remaining 28% was sold in Yellowknife and the Keewatin. Market trends and analysis indicate the following:

Export Markets

AU fish exported from the NWT is sold through FFMC in Winnipeg whose mandate is to maximize returns to fishermen by serving as a central buying, processing and marketing agency. FFMC's primary market for Arctic char is gourmet restaurants and food suppliers. FFMC believes that as a gourmet item, Arctic char will continue to command a high price as long as supply and high quality is consistent high year-round.

Over the last year FFMC has paid the Rankin Inlet plant between $3.50 and $5.00 per lb. for *frozen* Arctic char, for an average price of $4.00 per lb. The average price for @I char has been $4.50 per lb. FFMC sells frozen Arctic char throughout the year in small volumes so the marketplace does not view it as a cheap, readily available product. Fresh char is sold immediately upon delivery to brokers.

Based on discussions with FFMC officials, it is estimated that over a five-year period the corporation could sell twice the volume currently shipped from the Keewatin (66,370 lbs.) as long as fish supplies are reliable and of good quality. This would translate into an annual volume of 132,740 lbs. by Year 5. As well, the Baffin Region has indicated it will be reducing sales to FFMC in order to meet their growing local demand. Keewatin char could therefore replace the Baffin supply over the next five years at an annual rate of 3,200 lbs. per year, or a total of 16,000 lbs. At this rate of increase, total potential sales to FFMC in Year 5 could be 148,740 lbs. FFMC has also indicated that more fresh char could be sold and that market demand is for fresh product.

Markets within the NWT

The primary market for Arctic char in the NWT is among retail food stores, hotels and restaurants catering to both tourists and local residents, and institutions such as school residences, correctional centres and hospital transient centres.

Yellowknife: Analysis of the Yellowknife market indicates there is considerable room for increased sales. For example, the Seafood Outlet in Yellowknife said it would be interested in purchasing approximately 14,000 pounds of fresh or frozen char from the Keewatin throughout the year provided that the product quality is consistently high. Quality and consistent supply are the main concern of Yellowknife outlets. Summer is the peak season for sales because of the high tourist interest and the greater number of banquets and conventions.

The preferred products in Yellowknife are vacuum-packed frozen fillets or steaks and smoked char for retail sales, and whole frozen (gutted) fish for hotel use. The wholesale price for fresh and frozen char varies, depending on supply and quality, between $2.75 and $3.25 a pound plus freight costs.

The present demand for fresh and frozen char by hotels and retail outlets is approximately 17,000 pounds a year and some of this is now being met by char from Cambridge Bay. If the Keewatin were to obtain 50910 of the current Kitikmeot sales in Yellowknife, this would translate into 8,500 lbs. in Year I. If this amount were to increase by 10% per annum, sales in Year 5 would be 12,444 lbs.

Keewatin has a price advantage over Kitikmeot due to lower transportation costs, but to compete, Keewatin char will have to be of a consistently high quality and good appearance and will have to be available on a reliable basis. As well, since Yellowknife retailers are only prepared to handle fish in 1,000 pound lots, char would have to be stored in volume in the Region and shipped to Yellowknife as orders were placed.

Regional Markets: Based on discussions with local store managers and individual operators the opportunity for commercial sales in most Keewatin communities is limited because there are readily accessible char stocks and strong domestic fisheries to supply local needs. Small volumes are sold during

the winter when availability is low, and retail prices average between $1.S0 and $2.00 per pound. Baker Lake and Coral Harbour are exceptions because char is difficult to obtain locally. The co-op managers in these communities estimate an annual demand of 30,000 in each community, with a retail price between $2.00 and $3.00 a pound.

Rankin Inlet also provides a larger market for char because the nearby commercial char quotas have been closed to allow stocks to recover from overfishing. According to the local Bay manager, the store sold 1,000 pounds of frozen char last winter at $5.00 a pound. The manager said the store could easily sell at least twice that amount each year.

Another market in Rankin Inlet involves the local hotel and school dining room which are operated by one business. This operator annually imports 4,000-5,000 pounds of fish product from Winnipeg because he can not obtain Arctic char in the Region. He is willing to pay up to $3.00 a pound for char. He also indicated the hotel provides an outlet for sales of Arctic char to customers and again, because of a lack of adequate supply, demand cannot be met. The operator feels the hotel could possibly sell 5,000 lbs. a year at a retail value of $4.50 to $5.00 a pound.

Total regional demand is estimated to be 72,000 pounds a year at an average wholesale price of $1.70-3.00a pound.

Most outlets in the Region said they prefer to receive fish whole frozen, either round or gutted, and most are interested in buying both summer and winter fishery products. The most important factor in satisfying the regional market is the availability of supply. The quality of the char that is available is acceptable to most customers.

Market Size

Including both export and NWT sales, the total potential market is therefore:

	Year 1	Year 5
FFMC	82,844	148,740
Yellowknife	8,500	12,444
Keewatin	72,000	105,175
Total Market	163,344 lbs.	266,359 lbs.

Pricing

The schedule of prices for frozen Arctic char by market are presented in Table 1. As indicated, after deducting the cost of transportation from the Rankin fish plant to market and adding the GNWT transportation subsidy the best available price for Arctic char is from FFMC.

FFMC has in the past been responsible for increasing the price obtained for Arctic char and the corporation continues to test for market acceptance for

Table B-7
Comparison of Arctic Char Prices Paid to
Keewatin Brokers or Rankin Inlet Fish Plant

Market	Price	Transportation cost	Subsidy	Net price
FFMC	4.00*	.33	.17	3.87
Yellowknife	3.25	.33	.17	3.08
Rankin	2.25-3.00	nil	nil	2.25-3.00
Baker Lake	2.00-3.00	.40	.20	1.80- 2.80
Coral Harbor	2.00-3.00	.55	.28	1.72-2.72
Churchill	2.70	.45	.28	2.25
Other Communities	1.50-2.00	.34**	.17	1.33-1.83

*FFMC price represents blended first and second payments.
** Average transportation cost (Rankin to communities) used.

further increases. However this must be done carefully: if prices are increased too high or too rapidly product will stop selling. Indeed in 1984 when the corporation increased the price to over $5.00 per lb. the market for char became smaller and more exclusive - at the time according to a Theme Stevenson & Kellogg report on the industry there was a danger of the market disappearing altogether.

Market Ranking

As outlined in Table 2, markets have been ranked according to the demand and price received. As indicated, FFMC offers the best market because it offers the highest price, guaranteed sales, and volume purchase. The corporation also provides promotion and marketing assistance and management advice. As well, by selling to FFMC, regional storage costs are kept to a minimum because the corporation is able to purchase all of the commercial production over a short season.

The Yellowknife market is ranked second in opportunity because it offers a higher price than the remaining markets.

The remaining communities have lower prices than Yellowknife and are ranked in descending order as follows: Rankin Inlet, Churchill, Baker Lake, Coral Harbour and the remaining regional communities.

Table 8
Arctic Char Market Ranking

	Rank	Market Size (lbs.)	Sales Price	Guaranteed Purchase	Guaranteed Price
FFMC	1	82,844	$3.87	Yes	Yes
Yellowknife	2	8,500	$3.08	No	No
Rankin	3	12,000	$2.25 "3.00	No	No
Churchill	4	2,000	$2.25	No	No
Baker lake	5	30,000	$1.80 - 2.80	No	No
Coral Harbour	6	30,000	$1.72 - 2.72	No	No
Other Communities	7	8.000	$1.50	No	No

Competition

The only territorial competition for Arctic char comes from the Kitikmeot and to a lesser extent the Baffin. However, overall demand for Arctic char both in the south and in Yellowknife is not being met and there is room for expansion. Assuming that the Keewatin provides a consistently high quality product and a reliable supply, there will be little difficulty in finding markets.

Outside competition for Arctic char appears to be Labrador char and farmed char. However Labrador char has declined in importance as a serious competitor because its lighter colour does not have the same appeal as the red fleshed NWT Arctic char, and because production and average size has dropped, suggesting overfishing. As well, farmed char does not represent a serious threat to NW'T' Arctic char because of its low level of production and its size limitations - farmed char is sold as "pan-sized" (8-12 oz.) fish and cannot economically be grown large enough to meet the demand for banquet size or steaks. Therefore markets for farmed and wild char are different, and restaurants will likely continue to demand wild char.

The real competition for Arctic char is salmon and there is now an oversupply of farmed salmon on the market, primarily from BC and Norway. However, since char is only produced in relatively small quantities and since it is distinct from salmon, it can be argued that there will continue to be a strong market niche for Arctic char in the south, especially if properly promoted. The real difficulty rests in ensuring continuous and reliable supply of good quality, and preferably fresh, product.

Marketing Strategy

Based on market information obtained, all available Arctic char quotas in the Region could be sold by Year 5 to FFMC. As such, Keewatin fishermen will increase production to meet this target including development of winter fisheries..

Since higher prices can be obtained by selling fresh as opposed to frozen char to FFMC, attempts will also be made to overcome logistical problems wherever practical in order to sell fresh char to FFMC.

Any surplus production will be sold primarily to markets in Yellowknife and Rankin Inlet and, depending on available price, to secondary markets in other communities. Attempts will be made to raise regional prices to the same level that FFMC pays, particularly in the case of sales to government-funded institutions such as the Rankin Inlet school residence.

Building and Boat Requirements

Rankin Inlet Fish Plant and Equipment

The new Rankin Inlet fish plant will be designed to meet DFO standards. It will be capable of handling up to 150,000 pounds of fish over the five-week season, including processing up to 75,000 of fresh fish from the receiving stations.

The fish plant will consist of a 30' x 40 wood-frame, metal-clad building, with an impermeable concrete floor. It will house a processing area, blast freezer, cold storage area, and ice making equipment.

Because of the large volume of fish being flown in from other communities, locating the plant at the airport was considered, however the area near the airport is not serviced and does not have a utility trunk line nearby. A location near the present fish plant is recommended, as these lots are zoned for industrial use and are fully serviced.

The cost of materials and labour to build the fish plant will be $170,000 (estimate provided by Sanajiit Contracting in Rankin Inlet).

The fish plant will contain the following equipment:

Refrigeration Equipment:

- Blast freezer capable of freezing to -3&C. with a capacity of 5,000 pounds per 24 hours operation.
- Cold storage capable of holding 40,000 pounds at -20°C.
- Ice making equipment capable of producing 5,000 pounds of ice per day.

Mechanical **Equipment:**

- Water pump, hose and filtering system
- Pressure tank

- Hot water tank
- Chlorinator
- Mechanical room exhaust fan

Processing Equipment:

- Washing table — 5' x 8' stainless steel
- Weigh scale
- Racking pallets for hanging and freezing fish
- Box-making and strapping equipment

Total Rankin Inlet fish plant construction and equipment cost is estimated to be $300,000. It is expected that a GNWT capital contribution will be provided to cover these costs. The industry development corporation will own and operate the fish plant.

Eskimo Point Receiving Station

As already mentioned, the existing receiving station in Eskimo Point is in poor condition and must be replaced to meet DFO inspection standards. A building similar to the receiving station in Whale Cove will therefore be built, with a small packing area and ice-making equipment. The cost of the new receiving station will be $50,000, of which $35,000 will be for materials and labour to construct the building and $15,000 will be for the ice machine and other equipment.

As with the Rankin fish plant, it is expected that the GNWT will provide a capital contribution to cover these costs. The receiving station will be privately owned by Kakavik Fisher Foods in Eskimo Point.

Fishing Yawls and Nets

Lake Winnipeg yawls with 50-60 hp outboard motors will be purchased for harvesting the more distant quotas. These boats will enable fishermen to set up to 10 nets each, thereby increasing overall catch and boat efficiency. The cost of the yawls are estimated to be $8,500, and the motors $4,000 (purchased in Winnipeg FOB Eskimo Point). In addition, each yawl will be outfitted with six nets at an estimated cost of $1,200. The yawls will be privately owned by fishermen. It is expected that over a three-year period 13 fully-equipped yawls will be obtained at a total cost of about $180,000.

Funds to purchase the yawls and nets will be made available from the Business Loan Fund (BLF) or the Business Development Fund (BDC) to be established under CEIC's Community Futures Program, a program likely to be operational this winter. In order to meet BLF or BDC equity requirements it is expected that the GNWT will provide 10% of the cost of each fully-equipped yawl, for a total of $18,000 in capital contributions.

Total estimated capital requirements for buildings and boat requirements are:

Rankin Inlet Plant	$300,000
Eskimo Point Receiving Station	50,000
Yawls	180,000
Total	$530,000

Management

The Keewatin fisheries will be managed by a development corporation that will represent all major groups in the industry. The purpose of the development corporation will be to promote viability of the industry in the Keewatin and to increase the financial return to those involved (primarily the full-time commercial fishermen).

It is expected that the development corporation will have a base of shareholders comprised of commercial fishermen (including the full-time and domestic/commercial fishermen), receiving station operators and employees, collector boat operators and employees, and fish plant employees.

The development corporation's board of directors will consist of nine members. Seven members will be selected such that each member represents the commercial fishing industry in one regional community. They will also be selected on the basis that they are "business minded" and bring to the board a strong commitment to industry viability and profitability. As well, to ensure a broad representation, the Keewatin Chamber of Commerce and the Keewatin Wildlife Federation will each appoint one member to the board of directors. A representative from the DFO and a representative from ED&T will sit on the board in a non-voting advisory capacity.

The development corporation's board of directors will meet a minimum of three times per year.

The development corporation will own and manage the Rankin Inlet fish plant and, through contract, direct the operation of a dedicated aircraft. Other facets of the industry (fishing yawls, collector boats and receiving stations) will be owned privately.

The development corporation will annually determine with DFO the allocation of regional commercial fishing quotas among commercial fishermen. The corporation will also be the sole agent for FFMC in the Region. Through this arrangement the corporation will be able to direct both industry production and export.

The corporation will hire a general manager to oversee the day-to-day operations of the industry in the Region. Specific responsibilities of the general manager will include overseeing:

- **1.** Operation of the Rankin Inlet fish plant and the dedicated aircraft.
- **2.** Coordination of the fishermen, collector boats and receiving stations.
- 3. Negotiating the annual price for Arctic char with FFMC.
- **4.** Arranging and" ensuring implementation of training programs, including fishing skills and business management training.
- **5.** Arranging board of directors meetings and carrying out policies and directives on behalf of the board.
- **6.** Developing and implementing an effective communications strategy between the board and those involved in the industry at the regional level.
- **7.** Lobbying and assisting in the implementation of initiatives airned at expanding the industry. These would include projects such as winter fisheries, promoting the use of weirs, producing smoked and canned Arctic char, and undertaking test fisheries for marine species such as shrimp, scallops, cod and turbot.
- 8. Monitoring the financial performance of the industry and the return to those involved in the industry.

The corporation will also enter into an annual management agreement with FFMC to provide both marketing and management advice to the board of directors and the general manager.

Employees

The central processing facility in Rankin Inlet will hire 4-5 employees for the five-week fishing season to receive, repack and process fish.

Each receiving station will be operated by one person with additional help hired during periods of peak activity.

The collector boats will each operate with a crew of three.

The introduction of the yawl fishing units will provide new commercial-level fishing opportunities for up to 26 fishermen (two fishermen to each yawl) for five weeks.

As well, it is expected that the domestic/commercial opportunities in the community quota areas will continue to provide income for upwards of 123 fishermen.

The above employment opportunities will all go to residents in the Region.

The fishery will also create a general manager's position and although initially the position is likely to be filled by a non-resident, within five years it is expected that a local person will be identified and trained to replace the non-resident.

Wages will be paid according to the following schedule:

Per season	per person
Rankin Inlet Plant	$3,500
Receiving Stations	2,400
Freezer/Packer Boats	2,000
Per Annum	
General Manager (includes $20,000 in benefits)	$75,000

In summary (see Table 3), it is estimated that by Year 5 the Keewatin fishery will create/maintain a total of one full-time position, and seasonal employment for 163 people for a period of five weeks, for a total income of $209,985 that would be lost if the fishery were not developed.

Table 3
Employment Created/Maintained

	seasonal	Full-time	Income
Yawl Fishermen	26		$43,485
Domestic/Commercial Fishermen	123		62,600
collector Boats	6		4,000
Receiving Stations	3		7,200
Rankin Inlet Fish Plant	5		17,500
General Manager		1	75,000
Total	163	1	$20%965

Training

To maximize opportunities for local employment, training will be provided at all levels of the industry, and include the following:

Training For Fishermen

Each year before the season starts, groups of fishermen will be given training in net handling, fish handling, sanitation in boats, and gear maintenance. This task will be contracted out to someone in the Region with demonstrated expertise in the area and effective communication skills (such as David Alagalak). The individual will be expected to visit each community and provide a training workshop. Training for the receiving station and Rankin Inlet plant workers will also be provided and will include fish grad@ packing, record keeping, and equipment maintenance.

In addition, on a pilot project basis and following a recommendation made by FFMC (Alex Drobot), an exchange program between fishermen from the Keewatin and Lake Winnipeg will be initiated for fishermen, packers and receiving station/fish plant operators. For example, select Keewatin fishermen would be sent down to work with Lake Winnipeg fishermen on their boats. The focus of training would be, first, on how to use the nets and handle the fish when harvesting, and second, on effective techniques to maintain quality, such as the proper use of ice, rapid packing, etc. The Lake Winnipeg fishermen would then come to work with Keewatin fishermen on their boats. In this way both groups would learn from each other and be exposed to different working environments, equipment and techniques.

As well, receiving station packers/managers would be sent to either FFMC or to a packing station on Lake Winnipeg where they would work with the agents packing and grading fish, keeping records, etc.

It is expected the general manager will initiate discussions with CEIC to obtain funding for training purposes, including $500-600 as a training allowance for each fishermen and $400 for packers/managers, plus travel-related expenses to cover a two-week period.

Before pursuing the above, the general manager will investigate an alternative approach to involve FFMC providing training to fishermen and packers through FFMC staff at a central location in the Region. FFMC (Alex Drobout) has indicated the corporation would be receptive to this approach.

Board Member Training

A training/education program is also needed for members of the development corporation's board of directors to familiarize them with their roles in policy-making and decision-making for the fishery. A series of workshops would be provided by the Department of Economic Development and Tourism in the Region for this purpose.

Other Training

To reduce the high costs of equipment repair, a local refrigeration mechanic would be trained. It is expected that the general manager will work closely with CEIC to identify a suitable candidate for training.

It is important to note that because of the high level of industry participation and the high level of turnover among fishermen, plant workers and management, an ongoing commitment to training is required throughout the life of the fishing industry.

Financial Analysis

In addition to the $350,000 capital contribution required to replace the Rankin Inlet fish plant and the Eskimo Point receiving station, financial analysis indicates that the Keewatin fishing industry will require a government subsidy of $110,000 to cover a portion of its O&M costs over the five-year period. However the level of subsidy required will decline each year until Years 4 and 5, when the only subsidy required will be to finance test fishery work at $10,000 per annum. The exception to this maybe some capital contribution required beyond Year 5 to assist in the replacement of collector boats and the Whale Cove and Chesterfield Inlet receiving stations. All other costs will be covered by revenues from fish sales. It should be noted that he following projections are based on very conservative estimates and represent the minimum expected incomes for each component of the fishery.

Table 4
Financial Highlights
(all figures In 1989 dollars, $000)

	Year 1	Year 2	Year 3	Year 4	Year 5
Average Price per Pound	4.09	4.11	4.12	4.13	4.12
Revenues	432.4	474.9	517.4	559.9	596.3
Revenue Increase	32%	10%	9%	8%	7%
Cost of Revenues	477.3	502.4	528.8	584.1	599.5
Industry Assoc. Expenses	153.4	153.4	153.4	154.6	156.1
Industry Assoc. Expenses as% of Revenues	35%	32%	30%	28%	26%
Industry operating Income (Loss)	(44.9)	(27.5)	(11.4)	(4.2)	(3.2)
GNWT O&M Contribution	45	30	15	10	10
Net Industry Income (Loss)	0.1	2.5	3.6	5.8	6.8
Per Annum Profit (LOSS) Centres:					
Yawl Units (per yawl)	1.4	1.9	2.3	2.8	3.3
Eskimo Point Station	1.2	1.2	1.2	1.2	1.2
Rankin Inlet Plant	0.8	0.8	0.8	0.8	0.8
other Receiving - collector Boats	(2.3) (9.7')	(2.3) (9.7)	(2.3) (9.7)	(2.3) (7.2)	(2.3) (3.2)

Financial Assessment

Average Price **Per Pound: The** average price per pound is a blended average of the price paid by FFMC for fresh and frozen product Since fresh product receives a higher price, every attempt will be made to sell as much fresh fish as possible. The price per pound has been calculated on the basis of 20,000 pounds of fresh sales in Year 1, 25,000 pounds in Year 2, 30,000 pounds in Year 3 and 35,000 pounds in Years 4 and 5. Since volumes of fresh fish will remain constant in Years 4 and 5, while volumes of frozen fish will increase, the blended price per pound will drop slightly in Year 5 from $4.13 to $4.12.

Revenues: Discounting inflation, the Keewatin Fishery is expected to increase revenues by 3270 over 1988 levels in the first year. This large increase is due to the introduction of new equipment and the two freezer/packer vessels as collector boats in the first year, resulting in an increase in the total harvest of approximately 24,000 pounds. In the following four years the revenue increase will be more modest as more new fishing units are phased in and the freezer/packer vessels increase the amount of fish processed.

Cost of Revenues: Cost of revenue calculations are based on current operating costs and historical information. Costs include all aspects of running the fishery including, operating and capital replacement costs for each component of the fishery, as well as cartage and freight costs. These figures provide for a modest increase in the price paid to fishermen from $1.40 in Year 1 to $1.60 in Year 5. The cost of revenues exceed total earned revenues by 10% in Year 1, decreasing annually until Year 5 when costs exceed total earned revenues by 5% because revenues are not sufficient to cover the costs of test fishery work

Industry Association Expenses: The Keewatin fishing industry has a number of fixed costs that must be shared by the industry as a whole. These expenses include development corporation meeting expenses, the general manager's salary, general administrative and legal fees, and test fishery work. In Year 1, industry association expenses make up 35% of the total cost of revenues. As the volume harvested increases, these expenses decline to 26% in Year 5.

Operating Industry Income: During the first year of the fishing strategy, the Keewatin fishery will incur an operating loss of $44,900. Performance improves

annually such that losses decline to $27,500 in Year 2, $11,400 in Year 3, $4,200 in Year 4 and $3,200 in Year 5.

GNWT O&M Contributions: O&M contributions from the GNWT will total $110,000 over the five-year period, broken down as follows: Year *1:* $45,000, $35,000 to cover operating losses and $10,000 for test fishery work; Year *2:* $30,000, 20,000 to cover operating expenses and $10,000 for test fishery work; Year *3:* $15,000, $5,000 to cover operating expenses and $10,000 for test fishery work. The GNWT will provide a further $10,000 in Years 4 and 5 for additional test fishery work.

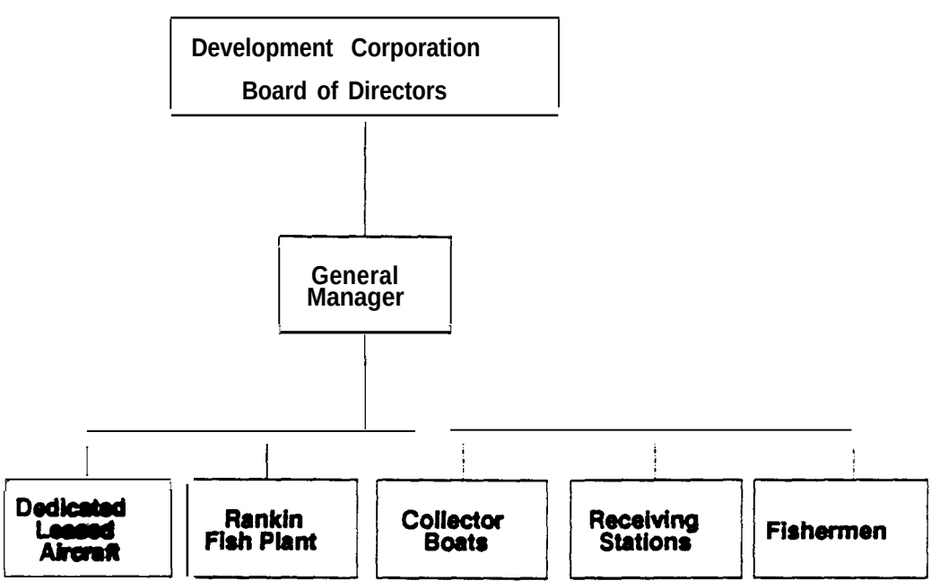
Net Industry Income: Total revenues, including GNWT O&M contributions, result in a small net industry profit in Year 1 which increases at a modest rate over the five-year period. It is expected that this profit will be used for working capital purposes.

Yawl Units: Annual net income for individual yawl units has been calculated on the assumption that price paid for fish increases from S1.40 in Year 1 to $1.60 in Year 5. Volume harvested remains constant throughout the five-year period since it is assumed that the units will be able to harvest their entire quota once the new equipment is put into use. These figures include all operating costs, depreciation on all equipment (calculated on a straight line basis), and loan payments at 15% interest, given a 10% equity contribution The net income for the fishing units represents the income available to the fishermen, as they do not pay themselves a wage.

Eskimo **Point Station:** Net income for the Eskimo Point receiving station has been calculated on the basis of handling 22,900 pounds of fish a season. This is the maximum volume available in the area and as harvesting is already at this level, no change in volume is expected over the five-year period. The receiving station will receive $0.40 per pound and at this rate will be able to cover all operating costs including wages of $2,400 a season, and depreciation of both the building and equipment. The cost of building the receiving station will be fully capitalized by a GNWT Capital Contribution, therefore the station will be operating free of debt and will earn a small annual profit. It will also be able to pay for capital replacement from earned revenues.

Figure 1 provides a summary of the development corporation's organization.

Figure 1
Keewatin Commercial Fisheries
Development Corporation Organization



Rankin Inlet Plant: It is impossible to determine the exact costs of running the new Rankin Inlet fish plant because there are no other plants of its size in the Region, therefore income has been based on a lump sum payment of $50,000 per season. This is adequate to cover all estimated costs and depreciation of both the building and equipment. Records of operating expenses will be kept for the plant to provide more accurate figures for analysis. As replacement of the Rankin Inlet Plant will be fully capitalized by a GNWT capital contribution, the plant will be running without debt and will earn a small annual profit. It will also be able to pay for capital replacement from earned revenues. Should the plant exceed costs some provision has been made for this contingency (see Critical Risks and Mitigative Measures).

Other Receiving Stations: Net incomes for the Whale Cove and Chesterfield Inlet receiving stations have been based on an average of the volume of fish available to the two stations, and the costs of running the Whale Cove station. The volume handled will remain the same over the five-year period as the quotas they service are already fully harvested. The receiving stations will receive $0.40 per pound and at this rate will be able to cover all operating expenses, including wages of $2,400 a season, and a portion of depreciation. It should be noted that since the receiving stations are not new and have not previously set aside funds for recapitalization they will not be able to accumulate the full cost of capital replacement over the remaining life of the facilities and a contribution to cover a portion of the cost of capital replacement will be required in the future. This is reflected in the annual net loss shown in the financial projections.

Collector Boats: During the first three years of operation the collector boats will be paid on a lump-sum contract basis to cover their operating expenses. As volumes processed increase they will be paid on a per pound basis and revenues will increase. It should be noted that the net incomes shown in the financial projections provide enough revenue to pay adequate wages and cover all operating expenses, but not enough to cover the full cost of capital replacement over the remaining life of the equipment. However, over the five-year period the collector boats are expected to earn additional revenues from freight hauls to offset this loss as well as earn a profit. Collector boats performance should be monitored carefully to determine if the boats do in fact earn a profit. It maybe that a contribution will be required to ensure capital replacement

Professional and Technical Services

Monitoring and interpretation of the impact of fishery development on the resource will be necessary in order to ensure long-term viability of the industry. To ensure this is accomplished, it is expected that DFO will undertake the work on an annual basis (possibly through the department's own personnel or through biological consultants hired under contract). As well, the corporation's general manager will ensure that the Rankin Inlet fish plant and the receiving stations keep appropriate records.

Development Corporation legal and accounting requirements will be contracted with regional and/or other territorial firms.

Economic Benefits

By Year 5 industry revenues would total $596,300, income for community residents would total $228,021, and job opportunities created/maintained would total 164 (see Table 4). On a cumulative basis the industry would have generated over the 5-year period $2,580,900 in revenues and $998,769 in income for residents.

In addition to the above benefits, the industry will have in place both management and infrastructure that will allow-it to better realize opportunities which may develop in the near future, including marine fisheries and value-added products (see Future Developments section). As well, local cartage operators and regional airlines will have been supported.

Table 4
Keewatin Fishery Benefits, 1990-1995

	1990	1995	1890-95
Revenues:	432,400	596,300	2,560,900
Resident Incomes:			
commercial/Domestic fishermen	68,172	70,336	291,563
Commercial fishermen	7,060	43,485	136,206
Receiving Stations	7,200	7,200	36,000
Collector Boats	12,000	12,000	60,000
Fish Plant	20,000	20,000	100,000
Industry (General Manager)	75,000	75,000	375,000
Total	189,432	228,021	996,769
Employment:			
Commercial/Domestic Fishermen	123	123	615
Commercial Fishermen	10	26	108
Receiving Stations	3	3	15
Collector Boats	6	6	30
Fish Plant	5	5	25
Industry (General Manager)	1	1	5
Total	148	164	796

Social Benefits

A viable commercial fishing industry in the Region will directly provide a means of subsidizing those involved in the domestic/commercial harvest. This will mean less need for government social assistance.

The industry will create employment opportunities for many people who would otherwise be unemployed (primarily older, unilingual residents unskilled in other areas).

A revitalized and growing commercial industry will provide reinforcement for traditional and cultural activities.

The industry will also create management opportunities for residents in the fish plant and receiving stations, and stimulate entrepreneurship at all levels.

Critical Risks and Mitigative Measures

Lack of Training

If training is not given to fishermen and receiving station packers/managers, the industry could continue to experience a high incidence of spoiled fish. To prevent this, training programs will be delivered before each season begins for the duration of the five-year period.

Untested Quotas

In the more distant areas, quotas have not been adequately tested. To compensate for this estimates used in preparing forecasted volumes have not exceeded 75% of the quotas allocated by DFO. Monitoring by DFO will allow the industry to determine overall impact on the resource.

Management

Without a coordinated industry, little progress will be made in development. The introduction of a development corporation representing all sectors of the industry and a general manager to provide day-today coordination will provide a means for overcoming this fundamental problem.

Business Attitude

Most fishermen do not adequately treat their fishing activities as a "business"; for example; very few keep records or save adequate funds for capital replacement purposes. Although it is unlikely that the domestic/commercial fishermen will change their practices it is expected that the general manager will work in developing more business-like practices among commercial yawl fishermen.

Financial Risk

There may be additional costs associated with the use of the dedicated aircraft and collector boats due to poor weather conditions and mechanical problems. In addition, the Rankin Inlet fish plant and the Eskimo Point receiving station will likely only be built in Year 1 and therefore not operational until Year 2, which will result in higher operating costs. To compensate for these contingencies funds have been allocated in the industry financial forecasts.

Future Developments

The primary goal during the five-year implementation period will be to provide the proper infrastructure and economic incentives to enable Keewatin fishermen to supply a consistent, high-quality product to the market, and to increase and stabilize production, Once this is accomplished, attention will be turned to encouraging industry growth in other areas, including:

Value-Added Products

Research indicates that there is good potential for sales of processed product such as smoked or canned Arctic char. These possibilities could be explored on a pilot project basis to determine the cost of production, market acceptability and potential returns. Indeed, the Department of Economic Development and Tourism has just completed a feasibility analysis of a char canning operation which indicates that a canning operation in Rankin Inlet is financially and technically feasible, and recommends that canning char should be considered a serious option for the new Rankin Inlet plant, The Department is now test marketing to confirm whether to pursue canning on a pilot project basis.

The potential for selling smoked char has already been demonstrated in the Baffin, Kitikmeot and Keewatin. To confirm overall market acceptance (including price acceptance) and profitability of selling smoked Arctic char, a two-year pilot project could be initiated on a small scale to produce both cold and hot smoked Arctic char similar to that being produced by Iqaluit Enterprises Ltd. Consideration should be given to a joint venture with Iqaluit Enterprises to economize on joint promotion and marketing initiatives.

Marine Fisheries

At present the marine resources of the Keewatin Region are unknown but there are strong markets for species such as shrimp, scallops, cod and turbot. A test fishery program should therefore be undertaken to determine the presence of these species and potential quotas that could be harvested.

Operational Plan

Project Implementation Schedule

Table 5 presents a five-year schedule for implementing the Keewatin Commercial Fishing Industry Business Plan.

In Year 1, community support will be obtained for implementing the business plan and establishing the development corporation to oversee and promote growth in the industry. Once this is accomplished, GNWT Capital contribution funding will be obtained to begin construction of the Rankin Inlet plant and Eskimo Point receiving station (design and materials ordering will only be done

Table 5
Keewatin Commercial Fishery implementation, 1990-95

	Year 1	Year 2	Year 3	Year 4-5
Organization				
Community Support				
Development Corp Organization				
Hire General Manager				
Financing				
GNWT Contributions				
BLF Yawl Loans				
CEIC Training Funds				
Capital Construction & Replacement				
Rankin Fish Plant				
Eskimo Point Receiving Station				
Yawls				
Ice Houses				
Iest Fisheries				
Training Delivery				
Basic Fisheries Skill				
Management Training				
Monitoring & Evacuation				

in Year I), as well as construction of one ice house. In addition, GNWT O&M contribution funding will be obtained to subsidize industry operational costs and test fisheries. During the same year, five fully-equipped Lake Winnipeg fishing yawls will be financed through loans and capital contributions; negotiations will be initiated with CEIC to obtain training funds and to implement training programs; and negotiations will begin with FFMC to establish target fish volumes and fish prices. Effective monitoring and evaluation programs will also be introduced.

In Year 2, the Rankin Inlet fish plant, Eskimo Point receiving station and a second ice house will be constructed. As well, five additional equipped Lake Winnipeg fishing yawls will be purchased and introduced into the industry. As in the previous year a test fishery will be undertaken, training, monitoring and evaluation programs implemented, and negotiations with FFMC completed.

In Years 3 to 5, three additional Winnipeg yawls will be introduced and as in previous years, test fisheries, training, monitoring and evaluation and annual negotiations with FFMC will continue.

Milestones

The next fiscal year is critical if the Keewatin commercial fishing industry is to develop into a viable industry, especially since neither the Rankin Inlet fish plant nor the Eskimo Point receiving station meet DFO standards and could be prevented from exporting. As well, if the economic return to fishermen is not improved, many fishermen could simply stop fishing, as indeed many have indicated they might do. The following is therefore related to the next 12-month period:

1. Support for the business plan is required if the industry is to develop. This will involve gaining approval from the fishermen, the receiving station operators, collector boat operators and fish plant workers in the regional communities. This should therefore begin immediately.

2. Once support is obtained an organizational meeting will have to be convened in a central regional location to form the development corporation and to select a representative board of directors. It is expected that representatives from each

community and each component in the industry will be represented at the organizational meeting.

3. A proposal to the GNWT will then have to be submitted requesting both capital and O&M contributions as outlined in the business plain

4. Since the development corporation will not have been funded to see that the above tasks are completed, it is recommended that the existing project steering committee serve this role.

5. Once GNWT funding is obtained the development corporation's board of directors can meet to review in detail plans for the year ahead, including designating board members to find a suitable general manager. It is expected that ED&T will deliver a workshop on directors' duties and responsibilities at this board meeting.

6. Finding a suitable general manager should then be pursued. Since the position will be the most important one in the industry it will be important that board members obtain outside assistance from steering committee members in the selection process.

7. Once hired, the general manager will begin implementing the business plan under the direction of the board of directors. Initially this will mean calling for tenders for construction of the Rankin Inlet fish plant and, with designated board representatives, selecting one firm to construct the facility. The generai manager will also assist the local owners of the Eskimo Point receiving station in selecting a construction firm to build anew station.

8. The general manager will attempt to identify, through the board and in consultation with fishermen, individuals interested in purchasing five Winnipeg yawl fishing units. Once this is accomplished the General Manager will work with the ED&T in arranging financing through the BLF and a 10% GNWT capital contribution. Alternatively the loan component could be obtained through the Business Development Corporation (BDC) which is likely to be established this winter as part of a Keewatin Community Futures program.

9. The board of directors, with the assistance of the general manager, will determine appropriate sites for the test fishery and the ice house. The general manager will oversee implementation.

10. Well before the season starts, the general manager will have to submit a proposal to CEIC to obtain funding for training programs. It is expected that in selecting and developing appropriate training programs the general manager will consult with both Arctic College and FFMC. Basic skills training for fishermen and packers and training yawl fishermen in basic business management practices will have to be arranged.

10. Before the start of the fishing season the general manager will negotiate with FFMC on a price for Keewatin fish and target volumes which the fishery can meet. New FFMC initiatives to promote and market Arctic char will be identified and tested.

11. The general manager will make arrangements with an air carrier to lease a suitable aircraft for the duration of the season. This task will involve soliciting proposals from various airlines, including Skyward Aviation in Thompson, Manitoba, to confirm the best overall price and level of service to be offered to the industry.

12. The general manager will ensure that contracts are negotiated with the two collector boats before the start of the season and that commitments are made to have fishermen harvesting before the collector boats arrived in designated locations.

13. During the season the general manager will work closely with all industry components and extensive travel will be required. The General Manager working with the fish plant and the receiving station managers will also ensure that monitoring occurrs and full cooperation is given to DFO representatives.

14. Once the season is over the general manager will develop a report for the development corporation's board of directors to review.

15. The board of directors will meet three times during the year: after funding approval is provided by the GNWT; before the start of the fishing season; and in

in the fall at the end of the season to review overall performance and to establish new policies and directives to promote further growth.

Appendix 1
Financial Statements

Consolidated Keewatin Fishery Industry

Proforma Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5
Volume Harvested	105,600	115,600	125,600	135,600	144,700
Avg Price/lb.	4.09	4.11	4.12	4.3.3	4.12
Revenues					
Fresh Sales	90,000	112,500	135,000	157,500	157,500
Frozen sales	342,400	362,400	382,400	402,400	438,800
Total Revenues	432,400	474,900	517,400	559,900	596,300
Government Subsidy	45,000	30,000	15,000	10, 000	10,000
Total Income	477,400	504,900	532,400	569,900	606,300
Disbursements					
cost of sales:					
Fishermen	147,840	167,620	188,400	210,180	231,520
Receiving Stations	22,680	22,680	22,680	22,680	22,680
Local Cartage	19,772	21,041	22,351	23,732	24,816
Aircraft (50% subsidy)	25,025	25,025	25,025	25,025	25.025
Freight to Wpg (0% subsidy)	16,547	20,598	24,957	29,880	34; 150
Rankin Fish Plant	50,000	50,000	50,000	50,000	50,000
Collector Boats	42,000	42,000	42,000	48,000	55,280
Subtotal	323,864	348,964	375,413	409,497	443,471
Shared Fixed Costs					
Management Group Funding	30,000	30,000	30,000	30,000	30,000
General Manager	75,000	75,000	75,000	75,000	75,000
Administration	20,000	20,000	20,000	20,000	20,000
Test Fisheries	10,000	10,000	10,000	10,000	10,000
Risk	18,410	18,410	18,410	19,610	21,066
Subtotal	153,410	153,410	153,410	154,610	156,066
Total Expenditures	477,274	502,374	528,823	5-,107	599,537
Net Income	126	2,526	3,577	5,793	6,763

Proforma Cash Flow

Opening Cash	0	126	2,652	6,229	12,022
Net Income	126	2,526	3,577	5,793	6,763
Closing Balance	126	2,652	6,229	12,022	18,785

Rankin Inlet Fish Plant

Proforma Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	50,000	50,000	50,000	50,000	50,000
Expenses					
Utilities	9,000	9,000	9,000	9,000	9,000
Wages and Benefits	20,000	20,000	20,000	20,000	20,000
Supplies	500	500	500	500	500
Maintenance and Repairs	2,000	2,000	2,000	2,000	2,000
Telephone	500	500	500	500	500
Depreciation	17,167	17,167	17,167	17,167	17,167
Total Expenses	49,167	49,167	49,167	49,167	49,167
Net Income	833	833	833	833	833

Proforma cash Flow

Opening	0	18,000	36,000	54,000	72,000
Net Income	833	833	833	833	833
Depreciation	17,167	17,167	17,167	17,167	17,167
Closing Balance	18,000	36,000	54,000	72,000	90,000

Proforma Balance Sheet

Assets					
Current Assets	18,000	36,000	54,000	72,000	90,000
Fixed Assets					
Building	170,000	170,000	170,000	170,000	170,000
Equipment	130,000	3.30,000	130,000	130,000	130,000
Less Accum. Depr.	17,167	34,333	51,500	68,667	85,833
Total Fixed Assets	282,833	265,667	248,500	231,333	214,167
Total Assets	300,833	301,667	302,500	303,333	304,167
Equity					
Retained Earnings	833	1,667	2,500	3,333	4,167
Contributed Equity	300,000	300,000	300,000	300,000	300,000
Total	300,833	301,667	302,500	303,333	304,167

Yawl Fishing Units

Proforma Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues					
Volume HamTested	6,300	6,300	6,300	6,300	6,300
Price/lb.	1.40	1.45	1.50	1.55	1.60
Fish Sale Revenue	8,820	9,135	9,450	9,765	10,080
10% Equity Contrib.	1,370				
Total Revenues	10,190	9,135	9,450	9,765	10,080
Expenses					
Gas and Oil.	1,875	1,875	1,875	1,875	1,875
Supplies	200	200	200	200	200
Repairs	500	500	500	500	500
Net Replacement	400	400	400	400	400
Depreciation	2,583	2,583	2,583	2,583	2,583
Loan Interest	1,850	1,715	1,560	1,382	1,177
Total Expenses	7,408	7,273	7,3.18	6,940	6,735
Net Income	1,43.2	1,862	2,332	2,825	3,345

Proforma Cash Flow

Opening Cash	o	3,097	6,510	10,237	1 4 , 2 7 9
Net Income	1,41.2	1,862	2,332	2,825	3,345
Bank Loan	(898)	(1,033)	(1,3.88)	(1,366)	(1,571)
Depreciation	2,583	2,583	2,583	2,583	2,583
Closing Balance	3,097	6,510	10,237	14,279	18,636

Proforma Balance Sheet

Assets					
current Assets	3,097	6,510	10,237	14,279	18,636
Fixed Assets					
Boat	8,500	8,500	8,500	8,500	8,500
Motor	4,000	4,000	4,000	4,000	4,000
Nets	1,200	1,200	1,200	1,200	1,200
Less Accum. Deprec.	2,583	5,166	7,749	10,332	12,915
Total Fixed Assets	1.1,117	8,534	5,951	3,368	785
Total Assets	14,214	1.5,044	16,188	17,647	19,421
Liabilities					
Loan	11,432	10,398	9,210	7,844	6,267
Total Liability	11,432	10,398	9,210	7,844	6,267
Equity					
Retained Earnings	1,412	3,276	5,608	8,433	11,784
Contributed Equity	1,370	1,370	1,370	1,370	1,370
Total	14,214	15,044	16,188	17,647	19,421

Collector Boats

Proforma Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues					
Fish processing	21,000	21,000	21,000	24,000	28,000
Expenses					
Wages	6,000	6,000	6,000	6,000	6,000
W & ~	2,000	2,000	2,000	2,000	2,000
Fuel	5,000	5,000	5,000	5,500	5,500
Supplies	2,000	2,000	2,000	2,000	2,000
Insurance/Docking	1,000	1,000	1,000	1,000	1,000
Depreciation	14,700	14,700	14,700	14,700	14,700
Total Expenses	30,700	30,700	30,700	31,200	31,200
Net Income	(9,700)	(9,700)	(9,700)	(7,200)	(3,200)

Proforma Cash Flow

Opening Cash	0	5,000	10,000	15,000	22,500
Net Income	(9,700)	(9,700)	(9,700)	(7,200)	(3,200)
Depreciation	14,700	14,700	14,700	14,700	14,700
closing Balance	5,000	10, 000	15,000	22,500	34,000

Proforma Balance Sheet

Assets					
current Assets	5,000	10,000	15,000	22,500	34,000
Fixed Assets					
Boat	150,000	150,000	150,000	150,000	150,000
Equipment	100,000	100, 000	100,000	100,000	100,000
Less Accum. Depr.	14,700	29,400	44,100	58,800	73,500
Total Fixed Assets	235,300	220,600	205,900	191,200	176,500
Total Assets	240,300	230,600	220,900	213,700	210,500
Liabilities					
Shareholders Equity	240,300	230,600	220,900	213,700	210,500

Whale Cove and Chesterfield Inlet roving Stations

Proforma Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues					
Volume Handled	17,700	17,700	17,700	17,700	17,700
Rate/lb.	0.4	0.4	0.4	0.4	0.4
Total Revenues	7,080	7,080	7,080	7,080	7,080
Expenses					
Wages	2,400	2,400	2,400	2,400	2,400
Supplies and Repairs	1,000	1,000	1,000	1,000	1,000
Power	1,200	1,200	1,200	1,200	1,200
Telephone	60	60	60	60	60
License	25	25	25	25	25
Depreciation	4,688	4,688	4,688	4,688	4,688
Total Expenses	9,373	9,373	9,373	9,373	9,373
Net Income	(2,293)	(2,293)	(2,293)	(2,293)	(2,293)

Proforma Cash Flow

Opening Balance	0	2,395	4,790	7,185	9,580
Net Income	(2,293)	(2,293)	(2,293)	(2,293)	(2,293)
Depreciation	4,688	4,688	4,688	4,688	4,688
Closing Balance	2,395	4,790	7,185	9,580	3.1,975

Proforma Balance Sheet

Assets					
Current Assets	2,395	4,790	7,185	9,580	11,975
Fixed Assets					
Building	35,000	35,000	35,000	35,000	35,000
Equipment	15,000	15,000	15,000	15,000	15,000
Less ~ * Dep.	4,688	9,375	14,063	18,750	23,438
Total Fixed Assets	45,33.3	40,625	35,938	31,250	26,563
Total Assets	47,708	45,43,5	43,123	40,830	38,538
Equity					
Retained Earnings	47,708	45,435	43,123	40,830	38,538
Total	47,708	45,415	43,X23	40,830	38,538

Notes to Projected Financial Statements

Note: All projections are in 1989 *dollars,* all *fish weights are dressed weights in pounds.*

Yawl Fishing Units

It is assumed that each fishing unit will be able to harvest the entire quota allocated to it in the first year that new equipment is put into use and therefore harvest volumes will remain the same throughout the five-year period. The volume figure used for calculations is an average of all new quota areas that will be assigned to commercial-scale fishermen.

Price paid per pound increases at a modest rate from $1.40 a pound in Year 1 to $1.60 a pound in Year 5. This level of increase is available from the revenues earned by the industry as harvest levels increase, assuming that the price paid by FFMC remains at 1989 levels.

The GNWT will provide a 10% equity contribution ($1,370) towards the purchase of each new yawl unit.

Expenses for yawl units have been adapted from the current costs of commercial-scale harvesting out of the Maguse River and Whale Cove areas as presented in the Fishery Strategy document. It has been assumed that each unit will make a total of 25 trips during the season. Depreciation has been calculated using the straight line method, assuming a life of 10 years for the yawls and three years for motors and nets. Loan financing costs have been based on a total loan of $12,330 (after the 10% equity contribution) with interest at 1570 amortized over eight years.

Eskimo Point Receiving Station

The current level of harvest handled by the receiving stations is not expected to change over the five-year period of the strategy, as the maximum available quota from nearby quotas is already being harvested.

Price per pound has been calculated to cover all operating expenses, including $2,400 in wages, and all depreciation costs.

Expenses are based on the 1988 operating expenses of the Whale Cove receiving station as presented in the Fishery Strategy document. It is expected that each of the receiving stations will operate in a similar manner with similar equipment.

Depreciation has been calculated using the straight line method, assuming a life of 20 years for the building (replacement value $35,000) and 10 years for the ice equipment (replacement value $15,0(M)).

Rankin Inlet Plant

It is impossible to get accurate costs for running the new Rankin Inlet fish plant, as a plant of this size has never been used in the Keewatin before. Therefore a lump sum of $50,000 has been used to cover all costs during the first years of operation. This figure has been extrapolated from historical records for the present Rankin Inlet fish plant and from current costs of the Chesterfield Inlet plant.

Utilities have been estimated on the basis of NCPC charges of $21.20/month as a service charge, $0.3114/kwh base rate and $0.0424/kw demand rate, and water charges of $.00004/l.

Wages have been estimated on the basis of five people working 35 days at $100 per day. Benefits have been added at a rate of 9%.

Depreciation has been calculated using the straight line method assuming a life of 20 years for the building (replacement value $170,000) and 15 years for the refrigeration equipment (replacement value $130,0(M).

Other Receiving Stations

The current level of harvest handled by the receiving stations is not expected to change over the five-year period of the strategy since the maximum available quota from nearby areas is already being harvested. The volume used to calculate incomes for the Chesterfield Inlet and Whale Cove receiving stations is an average of the quotas available to the two facilities.

Expenses are based on the 1988 operating expenses of the Whale Cove receiving station as presented in the Fishery Strategy document. It is expected that each of the receiving stations will operate in a similar manner with similar equipment.

Depreciation has been calculated using the straight line method, based on the cost of building a new facility similar to the one being built in Eskimo Point ($50,000) and an estimated life based on the current age of buildings and equipment.

Collector Boats

Volume processed is an average of the expected volumes for the two boats. Beginning in Year 1 the Arctic Tern will collect fish from the Ferguson River and the Natsiak will be used in the Chesterfield Inlet area. The Arctic Tern has fished the Ferguson River in the past so it is expected to be able to process 20,000 pounds from this quota in the first year. Because of the limited history of commercial fishing in the Chesterfield Inlet area, a more conservative volume of 10,000 pounds is estimated for the Natsiak.

In Years 2 and 3 it is assumed that the Arctic Tern will remain at the 20,000 pound level (a conservative estimate) while the Natsiak will increase by 10,000 pounds a year. This represents expansion by one quota a year for the Natsiak. In Years 4 and 5 additional expansion for the Arctic Tern will come from harvesting the full Ferguson River quota (26,000 pounds) in Year 4 and adding 1/2 the Copperneedle quota in Year 5. The Natsiak will continue to increase at a slightly lower rate until it reaches the full quota of 38,000 pounds in Year 5.

The use of the collector boats is new in the Keewatin and their effectiveness in the first three years of operation is unknown, therefore the operators of the vessels will each be contracted for $21,000 per annum to cover all their expenses while ensuring them of a guaranteed income. Once the vessels are established as a part of the infrastructure, cost information will be evaluated to determine an appropriate processing fee based on volume.

For the purposes of financial projection, an estimated cost of $0.80/lb for operating the vessels as freezer/packers has been used in Years 4 and 5. This figure is based on information provided by the operator of the Arctic Tern and is expected to cover operating costs but not all of the costs of depreciation.

Depreciation has been calculated using the straight line method, based on a replacement cost of $250,000 and an expected life of 10 years for the refrigeration equipment (replacement value $100,000) and 20 years for the boats (replacement value $150,000). It was also assumed that some of the depreciation would be associated with use of the vessels for freighting so the total depreciation was adjusted to reflect only that portion that could be attributed to use in the fishery based on historical records for the Arctic Term

Industry Statements

Volumes harvested are based on the use of both freezer/packer vessels as collector boats, the introduction of new yawl fishing units and the continued participation of the smaller scale commercial/domestic fishermen. Year 1 harvests represent a 32% increase over 1988 harvest levels resulting from the introduction of both freezer/packer vessels and five new yawl units. Additional increases in Years 2 to 5 are more modest, 9.5% in Year 2, 8.7% in Year 3,8.090 in Year 4 and 6.7% in Year 5, and will result from the introduction of more yawl units (5 in Year 2, 3 in Year 3) and an increase in the amount of fish handled by the collector boats.

The average price per pound is a blended average of the price paid for fresh and frozen product Average FFMC prices of $4.50 for fresh char and $4.00 for frozen char have been used.

Because of the higher price paid for fresh char, every attempt will be made to sell as much fresh fish as possible, however there are a number of logistical problems that limit the amount of fish that can be shipped out fresh. Revenues from fresh sales have been calculated on the basis of shipping 20,000 pounds in Year 1,25,000 pounds in Year 2, 30,000 pounds in Year 3 and 35,000 pounds in Years 4 and 5. It is unlikely that more than 35,000 pounds of fish can be shipped out fresh, however any increase in the level of fresh fish shipped will increase the overall income to the fishery.

The remainder of the fish harvested will be shipped as frozen product to FFMC.

Disbursements for the industry are based on the revenues paid to each component of the fishery, i.e. the fishermen, the receiving stations, the collector

boats and the Rankin Inlet fish plant. In addition there are a number of other costs that must be met from the revenues of the fishery:

Local Cartage: Fish must be transferred from the receiving stations to the community airport for shipment to Rankin Inlet, from the Rankin Inlet airport to the Rankin Inlet fish plant, from the collector boats to the Rankin Inlet fish plant, and from the Rankin Inlet fish plant to the airport for shipment to Winnipeg. Cartage fees have been calculated using the following local rates: Eskimo Point $0.10/lb., Whale Cove $0.08/%. Chesterfield Inlet $0.04/lb., Rankin Inlet $0.05/lb. In addition, any fish that is shipped fresh (i.e. ail fish from the receiving stations to Rankin Inlet and all fresh fish sent to Winnipeg) must be packed on ice so a correction factor of 1.66 (based on 60 lbs of fish and 40 lbs of ice per box) has been applied to the appropriate volumes.

Dedicated Aircraft: Aircraft costs are based on use of a dedicated aircraft for 35 days at a rate of $1,430/day inclusive of fuel, maintenance and pilot accommodation at a rate of $150/day. The daily rate for a dedicated aircraft was obtained from Skyward Aviation in Thompson, Manitoba. The rate quoted assumes one trip each day to Eskimo Point, Whale Cove and Chesterfield Inlet with a daily total of 500 round trip miles and an aggregate payload of 3,650 lbs. Based on 35 days of operation, the volume that could be moved is approximately 127,750 pounds inclusive of ice and containers or 76,958 pounds of fish. This is ample to transport all of the fish that will be brought into the receiving stations.

The plane will be hired for the season, regardless of the level of harvest, therefore it represents a fixed cost of $50,050 a season. There is a GNWT freight subsidy available to cover 50% of the freight costs between communities and between a community and Winnipeg. When this subsidy is factored in the fixed cost for the dedicated aircraft is reduced to $25,025 a season.

Freight to Winnipeg: The cost of shipping fish from Rankin Inlet to Winnipeg is based on NW'I' Air's Special Commodity Rate for guaranteed volumes of $0.33 a pound. The total cost of freight used in the financial projections includes a correction factor to account for ice shipped with fresh fish and the 50% GNWT freight subsidy.

Management Group Funding: **The management board** of the fishery development corporation will meet three times during the year. Core funding of $30,000 a year has been allocated to cover the cost of these meetings.

General Manager: **The** general manager hired by the development corporation will receive an **annual** salary and benefits package amounting to $75,000 a year. **Although** the cost of the general manager makes up a large proportion of the costs of the fishery, proper coordination and management of the industry is absolutely **critical.** The wages paid to the general manager must be high enough to attract the services of a competent **person.**

Administration: **An** additional $20,000 a year has been allocated to cover administrative **costs** such as legal fees, insurance and **accounting.**

Test Fisheries: Test fisheries will be conducted during each year of the strategy. Annual costs are estimated to be $10,000 for equipment and labour.

Risk: Commercial **fishing** in the **Keewatin Region is a high-risk undertaking. Poor weather and mechanical problems are likely to reduce the ability of the dedicated aircraft to deliver fresh fish daily. Similarly the collector boats may not be able to process and deliver fish as expected. In addition, the new Rankin Inlet plant and the new Eskimo Point receiving station will be built during Year 1 of the** strategy and **will** not be operational until Year **2,** which will likely result in higher operating costs. To **cover these contingencies, a risk factor has been added** to the financial projections. The amount of money allocated to cover risk has been calculated using 20% of the costs of the dedicated aircraft and the collector boats as these are the two components most likely to experience problems.