



Arctic Development

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History For The Task Force On Fisheries
Development In The Northwest Terr
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LAC LA MARTRE COMMERCIAL FISHERY

A Case History for the Task Force on Fisheries Development in the Northwest Territories

FISHERIES

3-10-3

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Background:

A commercial fishery for Lac La Martre was officially considered for the first time in 1960 when the natives appeared to favour such a development. The Department of Indian Affairs and Northern Development registered concern that, in light of the significant domestic harvest, the addition of a commercial harvest would serve to deplete the lake.

Mr. Jack Hitchcock, District Officer for the Department of Fisheries, favoured the immediate development of a commercial fishery open to all Canadians. His decision was based on a personal visit to the settlement, as well as visits by Fishery Officers, which indicated that the primitive methods being used by the natives in their domestic fishery and the small amount of effort extended by them resulted in a low harvest. During the 1959/60 winter there is record of food being flown into the settlement for the "starving" Indians. Fishery Officers were reportedly able to catch a significant quantity of fish a short distance from shore. The development of a commercial fishery, in Mr. Hitchcock's opinion, would not interfere with the domestic fishery as it was presently being conducted and the natives would certainly be free to participate in the commercial operations, should they so desire.

Mr. Hitchcock's request for a commercial quota was held in abeyance by his supervisors until such time as a definite economic requirement for the development of the fishery was indicated. One person, a whiteman, did apply for a licence but was turned down in November 1960.

This action could, in part, be responsible for an effort on the part of the Indian Agency to improve the fishing techniques to prepare the base for a community operated commercial fishery. A direct result was the supplying of fish from Lac La Martre, surplus to domestic requirements, as a form of welfare relief to Fort Rae.

The Dogrib people were considered a very primitive group and showed evidence of distrust when approached about the possibilities of a commercial fishery for the area. However, Mr. G. Jones visited the settlement in 1964

and recommended that \$6000 be included in the annual estimates for D. I. A.N. D. to construct two combination ice houses and fish plant buildings, but commented that there was a need to protect the natives should a fishery be developed. D.I.A.N.D. then proceeded to request a quota from the Department of Fisheries with the understanding that a relatively small quota would be required to be fished solely by residents of La Martre. Fisheries indicated that a 250,000 lb. quota would be possible for the lake.

During the next two years the natives expressed interest, "on at least two occasions, in starting a commercial fishery which prompted Mr. Jones to recommend a fishing education program for the natives. This was followed by an organized winter fishery, under a Mr. Cansell, which yielded approximately 80-90 fish per net as opposed to the normal 10 fish per domestic net. This served to spark the natives interest and was followed in June 1967 by a petition signed by 82% of the male population of La Martre requesting a commercial fishery. Plans for a fish packing plant were drawn and approved in April 1968. A filleting operation was ruled out because the fish were determined to be #1 export grade.

A project evaluation report was prepared in February 1968 and a meeting between Fisheries, D.I.A.N.D. and the local natives indicated problem areas which prompted the Commissioner to halt the development until there was:

- 1) evidence of native support for the program.
- 2) adequate education of natives.
- 3) regulatory protection of the fishery for the natives.
- 4) an established quota.

This was responded to with evidence submitted by regional staff sufficient to justify the approval of funds in June 1968.

In October 1968 a letter from Mr. R.N. Gordon, Regional Director of the Department of Fisheries, indicated that a decision was expected from the Minister on 'exclusive commercial fishing privileges for residents, regardless of ethnic background, living in the immediate vicinity of designated lakes". It was further indicated, by a notation on May 13, 1969, that an Order in Council was imminent, but a subsequent report by the N.W.T. Government indicated that, by mutual agreement, commercial fishing licences were limited to the Indians of Lac La Martre. This 'mutual agreement has never been tested, as no

person other than La Martre residents has since applied for a commercial licence.

The possibility of development of a sports fishery for the lake also received some mention in past correspondence, but was never seriously considered because of the language problem and lack of managerial expertise. There was one attempt to change the emphasis from commercial to sports when two council members approached the Minister of D.I.A.N.D. in October 1968 in this regard. It appears that the above council members were influenced by Mr. E. Steinwand, who flew them in for the meeting, as he wanted to set up a lodge on the lake. The ignorance of the natives to the whitemans ways was played upon and an element of distrust and indecisiveness that is evident throughout the history of the fishery arose again.

The project continued in light of the above due to the commitments to that time, the feeling that commercial and sports fishing could go on simultaneously, the expected cash flow to the community and the advantage of a commissary which could take advantage of backhaul rates.

A final note of concern was registered by Mr. Bud Orange, M.P. for the N.W.T. in a letter to the Commissioner in April 1969. He was worried about the possibility of over-fishing, the unselective nature of the proposed gill net fishery (as opposed to trap nets) and the apparent lack of consultation with the natives resulting in a feeling of misunderstanding and misapprehension. The Commissioner replied assuring Mr. Orange of the natives support, as evidenced by their petition in 1967, the support of both the Department of Fisheries and the Fisheries Research Board, the benefits to the community of the cash flow and the development of natives as qualified professional commercial fishermen who could compete satisfactorily with commercial fishermen on other lakes.

Finally, another petition in August 1969 was received from the natives, in favour of a commercial fishery.

Construction:

This facet of the operation was speedily carried out under the direction of Mr. G. Jones. Movement of materials to the site and partial construction was achieved by the fall of 1968. Construction was completed in the spring of 1969. Total costs-were as follows:

Construction material and freight	\$44,600.
Yawls, motors, skidoos, etc.	21,000.
Improvements to floor requested by Fisheries-Inspection	<u>25,000.</u> (1970)
	\$90,000.

The facility can be briefly described as follows: The main two story building (40'x40') has a storage area, small living area and commissary on the top floor. The main floor houses the plant, consisting of a cooler (16'x20'), an ice house (20'x20'), capable of holding 4.00 tons of ice, and the receiving, dressing, culling and packing area.

Near the plant is a power house and a small building for washing. The Indians live nearby in tents during the period of plant operation. (Fig. 1 and Fig. 2)

It should be noted that input from the Inspection Branch of the Fisheries Service was not included during the planning and construction phase. Plans for plant design were drawn up exclusively by Mr. Jones.

Operation:

The fishery is conducted using twelve twenty foot wooden yawls of the same design as those on Great Slave Lake. Each boat is equipped with up to ten, 100 yd. gill nets. Nets with a stretched mesh size of 5½" were used exclusively in 1969 and 1970' and a mixture of 5½" and 6" in 1971. (Table 1 and Fig. 3)

Fishermen leave early in the morning to lift their nets and return to the plant by about 9:00 A.M. They sometimes reset after lifting but in 1971 were persuaded to reset in the *evening* to improve the quality of the catch. In the three years of operation, fishing has been carried out within a five to ten mile radius of the plant exclusive of an area defined by a line sixteen miles from the settlement which is reserved for domestic fishing.

The fishery has not operated without some problems and in 1969 Father Piche indicated there was apprehension among the natives that overfishing may occur. This could be a very real threat due to the economic dependence of the fishery on the large whitefish in the population, as will be shown later.

A request was received and granted by the Department of Fisheries and Forestry in March 1970 for a 50,000 extension to the 250,000 lb. quota to be fished prior to break-up. This fishery never materialized, but a similar request in October 1970 was granted providing the fish was taken in that

calendar year. This, combined with the fact that the project supervisor, Mr. R. Merkely, was to be transferred to the Arctic Coast in December, resulted in the fishery being carried out in November and early December. Indications are that the operation experienced a number of problems including mechanical difficulties with snow machines, poor quality of fish due to high percentage of recent spawners and conflict with the domestic interests as the operation extended to within five miles of the settlement. (Table 2)

The Inspection Branch of the Fisheries Service has had to pay frequent attention to the operation as a result of several on going deficiencies. Some of the problems are perhaps due to the natives lack of comprehension of the ramifications of bacterial contamination, but most could be solved by stronger in-plant supervision. The natives stopped fishing briefly on July 13, 1971 and petitioned for a project manager to help the native manager and, as well, asked for repairs to the powerhouse and motors and reduced prices at the commissary. A recommendation to turn the operation over to the natives after the first years operation was rejected by the Commissioner of the N.W.T. on the basis that they lacked experience and it would appear that they are still several years away from achieving the managerial expertise and maturity required to operate independently.

Economics:

No preliminary study of the economics of a commercial fishery on Lac La Martre appears to have been conducted and there is no indication that the relative economic merits of sports vs commercial or summer vs winter operations was studied.

The single most important factor in the economics of the fishery is transportation. The problem is twofold. Firstly, in 1971 the cost to ship the summer production from La Martre to the F.F.M.C. plant in Hay River was approximately 15¢ per pound. Secondly, there is a period of up to 5 days required for this transport which add significantly to the cull rate of fish. (Table 3)

The transport involves flying the fish by a twin engine Otter aircraft to Wool Bay station on Great Slave Lake (13¢/lb.) followed by up to three days waiting time and a subsequent two day trip by boat to Hay River (2¢/lb.)

Total expenditure for transportation in 1971 amounted to some \$29,000. The use of a larger aircraft with a higher payload is ruled out due to the absence of a landing strip at the plant and the shallow water in the vicinity of the plant.

The current prices offered by the F.F.M.C. are such that only jumbo , and large whitefish can be shipped at a profit due to the above transportation costs. Medium and small whitefish are normally culled by the fishermen and used to fill the domestic requirements while lake trout are shipped on a break-even basis. (Table 4) .

Fisheries Management:

The present quota of 250,000 lbs. was set with little or no biological data to support it. It was felt on the basis of visits to the lake by Fisheries representatives that the relatively shallow, warm water should maintain a fairly high rate of productivity and the few test nets that were set did indicate a substantial population of whitefish and lake trout. It is unfortunate that a management scheme was not instituted from the start to follow the commercial fishery.

There are a number of problems that make proper management of this fishery important:

- 1) The economic dependence on only the larger whitefish in the population. If overfishing were to occur, one of the first signs would be a decrease in the size of the fish.
- 2) The restricted area of fishing effort in the immediate vicinity of the fish plant. This is in part due to the small boats used in the fishing operation, but could also be a result of the unwillingness on the part of the fishermen to go farther than necessary to catch the fish.
- 3) The apparent large domestic harvest and high cull rate of commercial production which is not recorded as part of the quota. It is estimated that the total annual harvest could be as high as 400,000 lbs.

Conclusion and Recommendations:

The constriction of the fish plant at Lac La Martre has apparently achieved some of its major objectives by providing employment to the local natives, creating a cash flow into the community and reducing prices of goods through the commissary by utilizing aircraft backhaul. (Table 5) The overall

success of the development to date could be greater had more in depth preliminary planning conducted. In all developments of this type the following should be part of the planning process:

- " 1) a preliminary biological investigation of the system.
- 2) an on going biological monitoring program.
- 3) Inspection Branch involvement in the plant design and construction.
- 4) an economic feasibility study by an independent agency.

While the operation is too far advanced to satisfy the above requirements the following modifications and operative guidelines should lead to a marked **improvement:**

- 1) The feasibility of a winter operation should be investigated. It would be easier to distribute the fishing effort through the use of bombardiers to haul fish to the plant and the fish could be transported to Hay River via a winter road at a cost of approximately 5¢ per pound. A further alternative would be the use of a larger aircraft in the winter, such as a Bristol Freighter, which would reduce the cost to about 10¢ a pound F.O.B. Hay River. The reduction in travel time to Hay River and the cold air and water temperatures would also result in an improvement in the quality of product thereby reducing the number of culls.

If a conflict of interest occurs part of the fishery could be carried out in March and April, after the close of the trapping season. The remainder of the fishing could then take place from break-up to mid-July prior to the warm water period which necessitates extensive culling. This would only partially reduce the high transportation costs as the early -er production would still have to be flown out by small aircraft and little or no success would be achieved in distributing the summer fishing effort due to the high cost involved.

- 2) The lake should be zoned by the Fisheries Service to reduce the fishing pressure in the vicinity of the plant and a monitoring system adopted to more accurately assess the potential of the lake.
- 3) The total harvest from the lake should be reflected by the quota. This requires an accurate assessment of the domestic harvest as well as a requirement for all commercial production to be culled at the plant.

- 4) The management of the fishery should not be handed over to the natives for several years until they demonstrate the strong management capabilities required in an operation of this type.

APPENDIX

TABLE 1: Dressed Poundage of fish shipped from Lac La Martre to the F. F.M. C. Hay River 1969- 1971 (summer only)

	1969*	1970*	1971-
Jumbo Whitefish	124,189 (62%)	104,800 (55%)	133,283 (67%)
Large Whitefish	40,217 (20%)	57,301 (30%)	24,175 (12%)
Lake Trout	35,669 (18%)	27,988 (15%)	39,194 (21%)
	<u>200,075</u>	<u>190,089</u>	196,652

* - 5½" mesh nets used
 ** - 5½" & 6¼" mesh nets used

TABLE 2: Poundage of whitefish and lake trout harvested from Lac La Martre - (November and December 1970)

	<u>Pounds shipped</u>	<u>Pounds culled</u>
Whitefish dressed	26,146	1,925
Lake Trout dressed	4,873	856
Lake Trout headless	5,297	—
Total	<u>36,316</u>	<u>2,831</u>

TABLE 3: Number of culls of Lac La Martre fish reported by the F.F.M.C. - Wool Bay Station - 1971

	<u>Reduction (Lbs.)</u>	<u>*Culls (Lbs.)</u>	<u>Total</u>
July 1 - 15	3/+,261	802*	35,063
July 16- 31	73,968	2,909	76,877
August 1-15	43,864	2,847	46,711
August 16- 31	@+,559	2,875	47,434

*Note: Approximately equal numbers were culled at the plant, due to quality or size. In addition an unknown number were culled on the lake.

TABLE 4: Cost Breakdown - 1971

Plant rental (whitefish only)	5¢ per lb.
Gutters	1½¢
Workers	1¢
Gas and oil	1¢
Aircraft	13¢
Packer Wool Bay to Hay River	2¢
Total	<u>23½¢</u>

<u>Revenue</u>	<u>Summer 1971</u>	<u>Winter 71/72</u>
Jumbo Whitefish	371%	34¢
Large Whitefish	29¢	28¢
Medium Whitefish	19¢	17¢
Lake Trout	23@ (4-8 lbs.)	29u! (4-8 lbs.)

NOTE: Motor repairs, fuel oil, ice, nets and boxes, plant manager salary.

TABLE 5: Economic and employment benefits to Lac La Martre residents as a result of the Packing Plant (1969-1971) (not including 1970 winter fishery)

Wages to operate the plant	\$6038	\$6300	\$6303
Earnings to fishermen .	\$2\$775	\$19575	\$26303
Commissary Sales	\$13670	\$16717	\$28375
No. of fishermen	20	23	32*
Total Employed	23	26	33 ,
Sales F.F.M.C.	\$65804	\$65313	\$59663

* (Only 24 were active ie. earned more than \$400)

FIGURE 1 - Aerial view of Lac La Martre fish plant with natives' tents on left.

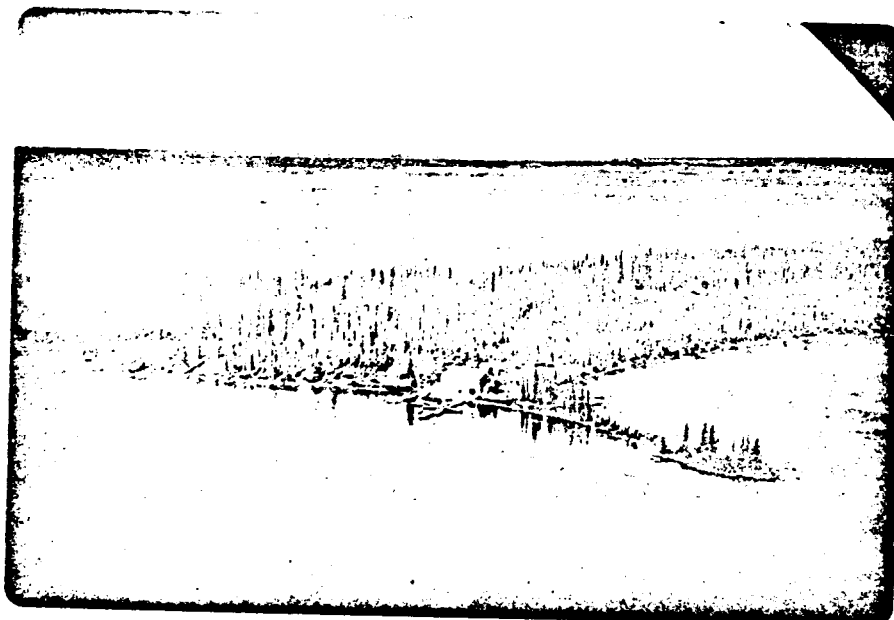


FIGURE 2 - Lac La Martre fish plant.

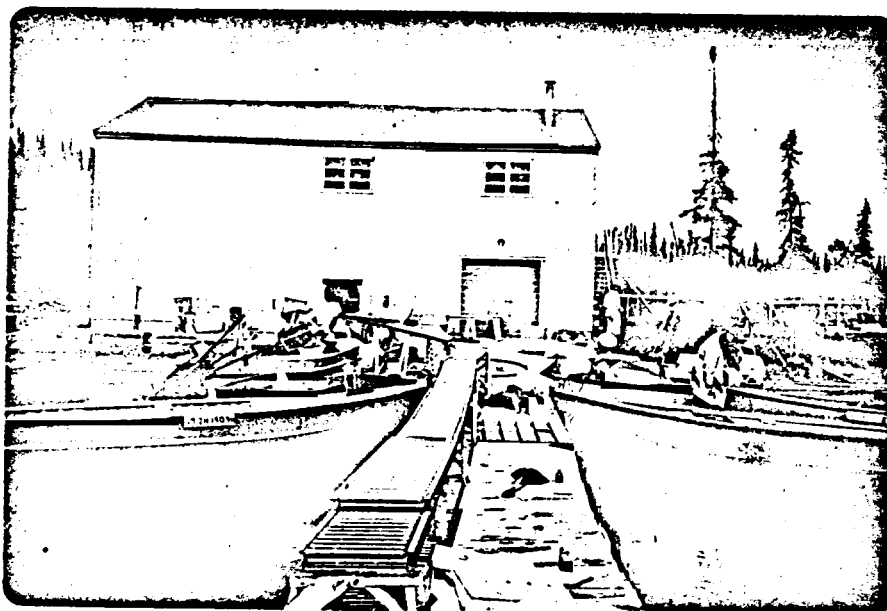


FIGURE 3- Wooden yawl used in commercial fishery on Lac La Martre.

