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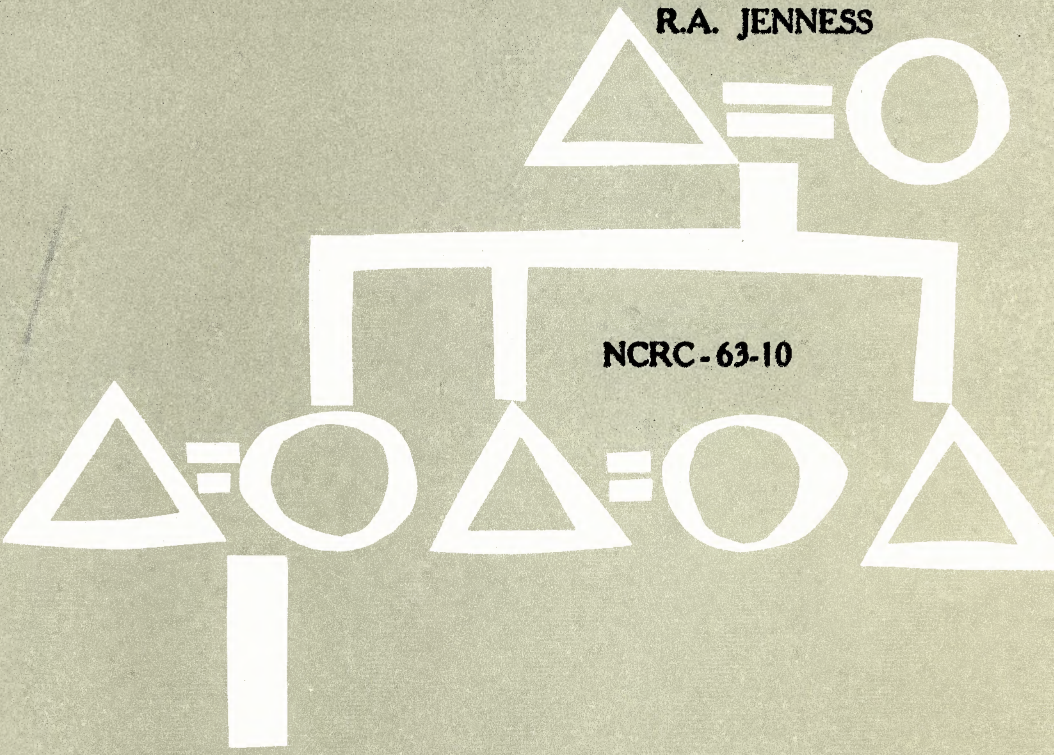
GREAT SLAVE LAKE FISHING INDUSTRY

R.A. JENNESS



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GREAT SLAVE LAKE FISHING INDUSTRY

by

R.A. Jenness

This report is reproduced in this form as a contribution to our knowledge of the north. The opinions expressed, however, are those of the author and not necessarily those of the Department.

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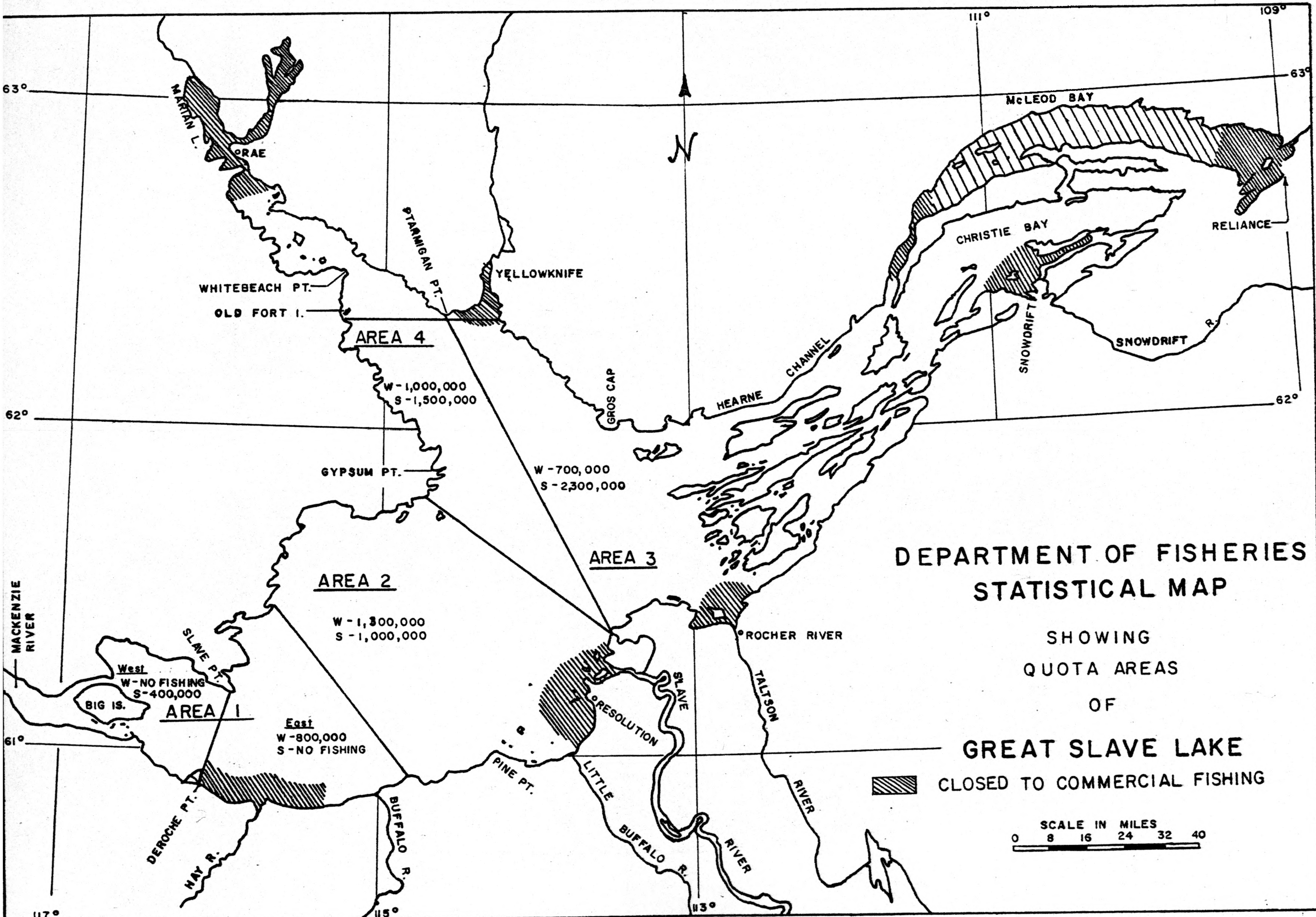
DEPARTMENT OF FISHERIES
STATISTICAL MAP
SHOWING
QUOTA AREAS
OF
GREAT SLAVE LAKE
CLOSED TO COMMERCIAL FISHING
SCALE IN MILES
0 8 16 24 32 40
AREA 1
West
W-NO FISHING
S-400,000
East
W-800,000
S-NO FISHING
AREA 2
W-1,300,000
S-1,000,000
AREA 3
W-700,000
S-2,300,000
AREA 4
W-1,000,000
S-1,500,000
MARIAN L.
RAE
WHITEBEACH PT.
OLD FORT I.
PTARMIGAN PT.
YELLOWKNIFE
GYPSUM PT.
GROS CAP
HEARNE
CHANNEL
McLEOD BAY
CHRISTIE BAY
RELIANCE
SNOWDRIFT
SNOWDRIFT
R.
ROCHER RIVER
TALTSON
RIVER
SLAVE
RIVER
RESOLUTION
LITTLE
BUFFALO R.
PINE PT.
BUFFALO R.
HAY R.
DEROCHE PT.
SLAVE PT.
BIG IS.
MACKENZIE
RIVER
N
63°
62°
61°
117°
115°
113°
111°
109°

INTRODUCTION

In 1945, following investigations by the Fisheries Research Board of Canada, the Northwest Territories Council opened Great Slave Lake to commercial fishing, but limited the annual catch of all species combined to three and a half million pounds. Only one company, McInnes Products Corporation Ltd., an old Lake Athabasca firm, took up the challenge and began to operate on the lake. Using a number of old barges and lake boats on which it had installed freezing and filleting equipment, it shipped fillets of whitefish (coregonus clupeaformis) and trout (cristivomer namaycush) via Waterways to Birdseye Ltd., in the United States.

Upon the completion of the Mackenzie Highway to Hay River in 1948 the government raised to nine million pounds the annual quota for whitefish and trout in the round. This encouraged a number of fishing companies to establish at Hay River, where they built docking and warehousing facilities and arranged to ship fresh fish to markets in Chicago, Detroit and New York. Their competition reduced the filleting operation of McInnes Products to about 15% of the lake's total catch; for that company could afford to pay no more than eight cents a pound for whitefish, as against the ten or eleven cents paid by the companies that handled fresh fish. It tried to compensate for its lower price by accepting fish of poorer quality than its rivals were shipping; but the effort failed, and several years ago its filleting operation was forced to close down.

The first incoming fishing companies, McInnes Ltd., and Menzies Ltd., established their plants at the mouth of Hay River's east channel. Later, the Northwest Territories Commissioner ordered them, ostensibly for public health reasons, to move their installations to the island's west channel some two miles out of town, though it was well known that the west channel's approach was too shallow for fishing vessels: however, the two companies managed to evade the regulation. Since that period McInnes has moved away from Great Slave Lake and Menzies operates during the summer season only; but two other companies have moved in and operate the year round, viz. Carter Fisheries Ltd., and Kutcher and Trefiak Ltd. These two companies were required from the outset to establish their permanent buildings on the west channel. Finding it impossible, however, to land there with large fishing craft they now bring their catch into the eastern harbour, where they load it directly into refrigerator trucks bound for Edmonton. Obviously, their action largely frustrates the purpose behind the original order to operate from the west channel.

1. WHO FISHES AND HOW

A. General

Great Slave Lake produces some of the best fish caught in western freshwater lakes. At the present time there is a commercial quota of 9, 000, 000 pounds on its whitefish and lake trout, but some officials of the Federal Department of Fisheries believe that this amount could be raised to 12, 000, 000 pounds if market and other conditions so warranted and ancillary fishing operations took out the coarser grade fish. Given a market for these coarse fish, i.e. ciscoes, inconnus, pike, suckers, burbots and other species, the lake might easily yield an equal quantity of them also.

In the early years, a dearth of local fishermen, and ties contracted in the provinces by incoming fishing companies, contributed to an inflow of fishermen from the outside. To meet the demands of local labour the Federal Department of Fisheries raised the non-resident fee to $50; and this effectively discouraged the immigration of non-professional fishermen.[1] Non-residents who fish now, therefore, are usually experienced fishermen from Meadow Lake, Saskatchewan, or Lake Winnipeg, Manitoba: many of them return year after year, alternating their fishing locale with the season.

Table I lists the licences taken out for resident fishermen, non-resident fishermen and Indian fishermen during the summer and winter season of 1961-62. It should be noted that a licence is good for one year, and that it expires on March 31, so that some of the fishermen who take out licences in the summer may fish also in the winter. In practice, however, most licencees, particularly non-resident ones, fish in either summer or winter, but not in both seasons.

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1. The fee has since been reduced to $5.00 for resident fishermen, and $10 for non-residents.

TABLE I

GREAT SLAVE LAKE FISHING LICENCES
ISSUED 1961-62

(May-Sept. 1)

Summer	Carter	Menzies	K & T	Alaska	Indep.	Total
Resident ($5.00 fee)	38	8	13	20	9	88
Non-Resident ($10.00 fee)	21	22	24	25	-	92
Indian	16	8	19	12	1	56
TOTAL	75	38	56	57	10	236*

(Sept. -March)

Winter	Carter	Menzies	K & T	Alaska	Glesby	Ind.	Total
Resident ($5.00 fee)	12	16	9	14	5	5	61
Non-Resident ($10.00 fee)	32	21	9	29		2	93
Indian	1	5	16	4	1	2	29
TOTAL	45	42	34	47	6	9	183

Licences Expire at
End of March

* of which 16 were for fishing in lakes other than Great Slave

N.B. Although fishermen took out 1961-62 winter licences registered against Menzies and Alaska Fisheries Ltd., these two firms did not operate on Great Slave Lake during that season. Probably the fishermen simply switched over their sales to Carter Fisheries and to Kutcher and Trefiak.

Although the fishing companies depend year after year upon the many reliable and experienced local fishermen, they often show a preference for non-resident fishermen, whom they regard as more responsible and experienced than either Métis or Indians. The local fishermen, they assert, work for a few days, then cease and go into town to live with their wives and families until their earnings are used up, whereas non-resident fishermen, being far from their homes, reconcile themselves to working out on the lake throughout the entire season. Furthermore, they claim that the local fishermen do not properly maintain the companies' nets, that they neglect their equipment and abuse their boats. Between Indians, Métis and whites, too, there are unsolved difficulties of a cultural nature which the companies do not feel it is their task to settle. Without doubt the companies prefer to use reliable local fishermen if they are available; but non-resident migrant fishermen are often easier to control, and less likely to seek union support or to request supplementary working benefits if their families do not live in Hay River.

The companies themselves, and even their employees, play a less important role in the economy of Hay River than one would expect. About fifty families live over by the west channel for all or varying parts of the year, and from them about fifty children travel by special bus each day to the school in Hay River. The fish companies conduct no banking in the town of Hay River; they operate their own stores at the west channel, ordering directly from the outside and catering to nearly all the needs of their fishermen, who are locally served also by another--a private--store. In consequence, the fishing industry does not stimulate the economy of the town of Hay River at all seasons of the year, but mainly during the short spree periods at the end of winter and of summer when the men are paid off.

A company generally operates in the following way. Through an informal handshake it arranges for exclusive delivery from individual fishermen, who register their affiliations when they obtain their licences. It then provides the men with cash advances, and engages to supply food, clothing, tobacco, etc. when they are out on the lake. All these transactions it notes in its books, in which it records the appropriate deductions as the fishermen send in their catches. Most fishermen begin the season with little savings and rely on their company for initial advances. During the summer season individual crews are paid a flat rate of ten cents and upward per pound for whitefish, twelve cents and upward per pound for trout, delivered to a temporary base where their company has stationed a mother-ship or barge. In winter, when the fish are hauled by "bombardier" (a tracked vehicle) from the fishing station to Hay River, they receive as high as twenty cents per pound for either fish.

The fishermen work in crews under a skipper who is responsible for the equipment, for regular deliveries of the fish, etc.; he receives payment from the company, and normally arranges to pay his assistants in turn a monthly stipend of about $200, plus food allowance. The crew cleans and dresses the fish, removing the heads of trout weighing over eight pounds. Then the fish are washed at the delivery point, weighed and packed on ice in sixty-pound lots ready to be loaded into refrigerated trucks at Hay River.

B. Summer Fishing

About two-thirds of the fish from Great Slave Lake are taken in the summer season from June to the end of September. The lake is divided into four main fishing zones: zones 1 and 2 lie nearest to Hay River, zone 3 covers the north arm of the lake, and zone 4 the northeast arm (See Map). Fishermen usually catch the full quota that the government allots to zone 1, but not the full quotas allotted to the other three zones.

TABLE 2

COMMERCIAL FISHING QUOTAS BY ZONES, GREAT SLAVE LAKE
(as of December, 1963)

Area I[1]		West	East
	Winter Quota	No fishing	800, 000 lbs.
	Summer Quota	400, 000 lbs.	No fishing
Area II			
	Winter Quota	1, 300, 000 lbs.	
	Summer Quota	1, 000, 000 lbs.	
Area III			
	Winter Quota	700, 000 lbs.	
	Summer Quota	2, 300, 000 lbs.	
Area IV			
	Winter Quota	1, 000, 000 lbs.	
	Summer Quota	1, 500, 000 lbs.	

1. Prior to December 1963 no differentiation was made between the eastern and western parts of this area, and the quotas for the entire area were fixed at Winter 300, 000 lbs., Summer 400, 000 lbs.

TABLE 3

TOTAL ANNUAL CATCH, BY AREA, 1959-62

(Round Weight in Pounds)

Area	Whitefish	Lake Trout	Inconnu	Pike
1959				
1	535, 094	253, 527	37, 476	90, 996
2	1, 132, 185	186, 385	82, 224	43, 171
3	979, 704	1, 184, 844	80, 397	45, 808
4	567, 391	57, 678	6, 227	21, 166
TOTAL	3, 437, 472	1, 702, 447	214, 252	210, 445

	Pickerel	Suckers & other	Total Whitefish & Trout	Total All Species
	334	2, 500	788, 621	919, 927
	10, 841		1, 318, 570	1, 454, 806
	904		2, 164, 548	2, 291, 657
	7, 629		625, 069	660, 091
TOTAL	19, 768	2, 500	5, 139, 919	5, 586, 884

Area	Whitefish	Lake Trout	Inconnu	Pike
1960				
1	610, 416	208, 962	17, 371	76, 390
2	1, 358, 440	234, 038	63, 906	40, 972
3	937, 975	515, 803	64, 285	86, 432
4	945, 091	140, 927	7, 461	31, 264
TOTAL	3, 851, 922	1, 099, 730	153, 023	235, 058

	Pickerel	Mullets & Other	Total Whitefish & Trout	Total All Species
	1, 149		819, 378	914, 288
	4, 488	14, 593	1, 592, 478	1, 716, 437
	4, 449		1, 453, 778	1, 608, 944
	2, 232		1, 086, 018	1, 126, 975
	12, 318	14, 593	4, 951, 652	5, 366, 644

TABLE 3 (continued

Area	Whitefish	Lake Trout	Inconnu	Pike
1961				
1	613,404	105,718	42,971	36,123
2	1,723,209	217,204	81,463	47,365
3	1,032,736	600,770	72,293	79,299
4	692,772	115,516	16,991	67,125
TOTAL	4,062,121	1,039,208	213,728	229,915

	Pickerel	Suckers & Other	Total Whitefish & Trout	Total All Species
	1,757	645	719,122	800,692
	4,633	772	1,941,213	2,075,436
	9,023	1,412	1,636,105	1,798,132
	4,892	8,979	813,741	911,731
TOTAL	20,305	11,808	5,110,235	5,585,991

Area *	Whitefish	Lake Trout	Total Whitefish & Trout
1962			
1	1,171,000	135,000	1,306,000
2	1,721,000	93,000	1,814,000
3	1,173,000	992,000	2,165,000
4	686,000	21,000	707,000
TOTAL	4,751,000	1,241,000	5,992,000

* Figures just released for whitefish and lake trout, by area, 1962.

The fishing companies own most of the boats, engines and gill nets, also the large mother-ships and barges which are stationed at central points on the lake and sometimes carry freezing facilities of limited size. They rent to the fishermen their larger boats, valued at $3,000-$4,000, for about $500 per season, the smaller boats for $250; and they supply nets and ancillary equipment free of charge or for a nominal sum. Their officials estimate that cash advances during any one season tie up as much as $40,000 of each company's capital. Cull and coarse fish are normally thrown back into the lake as they are removed from the gill nets, thus leaving, in summer at least, little offal or cull fish for food processing, or to feed to dogs and mink.

The companies operate summer stores either on the mainland close to their fishing grounds or on their delivery ships or barges: from them fishermen restock with food, tobacco and other necessaries without having to return to Hay River or to Yellowknife. There is little doubt that each company makes a fair margin of profit on its store operations. Yet even there most companies exercise restraint; for exorbitant prices might alienate the loyalty of the fishermen, and their own solvency depends on the quantity of fish that are caught and sold. It pays them, therefore, to charge reasonable rates. Not infrequently, indeed, they fail to recover the money and the grub-stakes they have advanced.

Fishermen do not catch nearly their full quota in the deep eastern region of the lake, because they are reluctant to operate in outlying waters far from shore. This is not surprising when one remembers that Great Slave Lake suffers from frequent storms which endanger the fishermen's lives and almost completely destroy whatever fish have been caught in their nets. Constant turbulence and pounding bruise the fish, dragging anchors damage the nets or cause their loss, and in nets that cannot be lifted for several days the fish drown, or become too soft to withstand shipment to market and are accordingly rejected for export by the Department of Fisheries' inspectors. After every storm fishermen must carefully clean and reset their nets before capturing additional fish. Fortunately, few men have been drowned or seriously injured on the lake, for their relatively informal agreements with the companies make no provision for pensions, medical care, workmen's compensation, or other benefits that might protect themselves and their families.

C. Winter Fishing

The winter fishery operates between December 1 and March 31. It yields about half as many fish as the summer fishery, for at very low temperatures the fish are comparatively dormant, and fishermen must constantly change the locations of their nets. It requires much greater effort at that season, therefore, to take the same quantity as in summer, but since prices are about 50% higher the fishermen receive some compensation for the extra effort. Whitefish bring in winter about 15 cents a pound, trout 18 cents, which makes them far too costly to fillet. Only two major companies operated during the winter of 1960-61, Carter Ltd. and Kutcher and Trefiak Limited. The former used aircraft to tap hitherto unfished areas of Great Slave Lake as well as some of the outlying lakes.

Winter fishing is carried on in small "cabooses" (portable cabins) set up at selected points across the breadth of the lake; and the fishermen, most of them non-residents, are of a different breed from their summer rivals. Two or three men usually work together, one hiring the others on the same basis as in summer, i.e. he pays them about $200 per month, plus food, tobacco, etc. As a rule the "skipper" owns the bombardier in which he brings food and supplies to his crew on the lake, returning with boxes of fresh fish to his company's distribution point in Hay River: since fresh fish command about two cents a pound more than frozen fish, the vehicles are generally heated and the fish kept fresh by being packed in ice. The companies do indeed own some of the bombardiers, but they have found operation and maintenance charges so heavy that they prefer the fishermen to own them outright. Wherever fishing occurs close to Indian settlements the natives gather for dog food the cull or coarse fish that are normally discarded on the ice; there is thus not the same wastage as during summer. During the winter, indeed, Hay River or the West Channel site contain an abundance of offal or culls.

II MARKETS, PRICES AND QUANTITIES

Although the market for most varieties of fish has been expanding during the past decade, the average price of whitefish, unit value landed, has dropped since 1949, and sales have shown a general trend away from fresh to the frozen and filleted whitefish. (Mackenzie, 1962: 771). In Chicago, Detroit, New York and other large American cities, Jewish housewives, who comprise the main market for fresh whitefish, have been shifting their preference to its frozen and gefilte forms.[1] In the face of this shrinking market, therefore, most suppliers of fresh whitefish maintain that competition is becoming more and more difficult, especially since the prices offered by U.S. buying firms leave little room for large profits.

The quantity of whitefish taken from the Great Lakes has dropped considerably, and a growing proportion of the fish now comes from more northerly, marginal, freshwater lakes where the landed cost is less but transport and handling costs appreciably higher. U.S. buyers draw a sharp distinction between whitefish from the Great Lakes and whitefish from the freshwater lakes of Manitoba, Saskatchewan, Alberta and the Northwest Territories.[2] Fish from the Great Lakes command a premium price in the U.S. wholesale market; nevertheless, it is in the freshly dressed fish trade that the Great Slave Lake industry finds its greatest economic advantage, because that lake is better able than most prairie lakes to deliver fresh fish of good quality in Chicago and New York. Its producers have avoided the filleting of whitefish because at the price they must pay their fishermen it allows them no profit: frozen fillet blocks weighing 15 pounds delivered in New York or New Jersey bring only about 33 cents per pound, whereas freshly dressed (head-on) whitefish may sell for from two to four times that amount wholesale, or from four to eight times as much in terms of weight. To compete with frozen fillet blocks selling for 34 cents per pound, Great Slave Lake fishing companies would have to pay no more than 5 cents per

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1. Gefilte is a mixed fish-cake or patty made from whitefish, mixed sometimes with northern pike or other species. It is packed in glass jars by the processors, who use frozen blocks of whitefish as their raw material.

2. The species of whitefish caught in Great Slave Lake is Coregonus clupeaformis. However, the commercial-fisheries trade groups under the term "whitefish" a number of species of which Coregonus clupeaformis constitutes only one. In this passage I refer to the group of species.

pound for the landed whitefish. It is true that today's rate of exchange on U.S. funds gives Canadian shippers a somewhat better price in terms of Canadian dollars; nevertheless, they cannot escape the 11-12 cents per fillet pound for filleting and freezing, 10 cents for trucking to Edmonton and expressing by road or rail to New York, $1\frac{1}{2}$ cents U.S. customs duty and an additional 1-2 cents for brokerage or profit. Thus, although the consumer market tends to favour the filleted frozen fish, there seems little likelihood that during the foreseeable future Great Slave Lake producers will attempt to compete in that field. At the present time the companies fillet and freeze their fish only when forced to do so by unusual infestation of the catch or delays in transportation.

The two major companies on Great Slave Lake possess refrigerated storage capacity on their barges and packer-boats, because fresh fish boxed in ice should be kept close to the freezing point. At Hay River, too, the fish is unloaded directly from their boats into refrigerated trucks for the haul to Edmonton, or to railhead at Grimshaw or Peace River. Carter Ltd., and Kutcher and Trefiak, are together installing in Hay River a small cold-storage and freezing plant, 40' by 150', to hold about 100, 000 pounds of fish: a larger plant does not interest them because they operate on fairly short margins and, being paid f.o.b. Edmonton, cannot normally afford to hold back on large supplies of fresh fish; the new small "reefer", as it is called, together with two private cold-storage plants in Edmonton and good freezing facilities in Winnipeg, more than cover their immediate and long-term needs. Less than 20% of the total quantity of fish taken from Great Slave Lake now goes out in frozen form, and that mainly in winter.

The accompanying table (Table 4) shows the trend in the prices paid to fishermen at Great Slave Lake for whitefish and lake trout. Those for whitefish range, on the average, between $10\frac{1}{2}$ cents in summer, paid at the source, and 15 cents in winter. In late March when the market is firm, the traditional Jewish holidays are approaching, and breaking ice begins to churn the northern lakes, the prices fishermen receive for their whitefish may soar to as high as 25 cents per pound. The prices for lake trout show the same seasonal pattern: in summer fishermen usually receive 12 cents per pound, in winter 16-30 cents. In the markets of U.S. cities Canadian lake trout command 60-65 cents wholesale during the winter, 45-50 cents during the summer.

Naturally, the fishermen tend to congregate in the waters adjacent to Hay River. Their second choice seems to be a location southeast of Yellowknife in AREA 3 where the trout gather in greater numbers: indeed, it is not unusual for the fishermen to capture more trout there than whitefish, although the numerical preponderance of whitefish in the lake, as a whole, makes this the exception rather than the rule. The government debars from commercial fishing certain areas close to existing settlements and reserves them for domestic harvesting: thus non-commercial areas extend out for five miles from each side of Hay River, for radii of ten miles from Fort Resolution and Yellowknife, over a fairly extensive area of the North Arm, including Rae and Marion Lakes, and for a radius of ten miles around Snowdrift and Reliance (See Map). Recently, the entire stretch of water in MacLeod Bay was withdrawn from commercial use and designated a sport-fishing area.

The average sizes of Great Slave Lake's whitefish and trout have decreased about 20% since the opening of commercial fishing, and the average catch per net has also decreased appreciably: in 1956 it was estimated that this catch-per-net decline amounted to as much as 45% for trout and 30% for whitefish. However, the drops were not regarded as serious, but simply the natural outcome of intensive commercial exploitation.

TABLE 4

PRICES, IN CENTS, PAID TO GREAT SLAVE LAKE FISHERMEN, 1957-1962

(Based on records of Department of Fisheries, Hay River)

Month & Year	Whitefish	Lake Trout	Inconnu	Pike	Pickerel
Jan) Feb) 1957	16	20			
Mar 1957	(20) *				
Aug) Sept) 1957 Dec) Jan) 1958	15	20	5	7	
Feb) Mar) 1958	18	19½	6	6	13
Increased to:	(21)	(22½)	(8)	(5)	
June 1958	11½	13	5	4 3/4	
July 1958	12	13	5	5½	9
Aug 1958	10½	12½	5	4½	9½
Sept 1958	10½	12	5	4	11
Nov 1958					10
Dec 1958	15	17			
Jan) Feb) 1959	15	17	6	5	14
Increased to:	(17)	(20)			(16)
Mar 1959	15½	20	6	5	18

* Prices included in brackets reflect a change upwards or downwards in this period.

TABLE 4 (Continued)

Month & Year		Whitefish	Lake Trout	Inconnu	Pike	Pickerel
May) June)	1959	11	12	4	3	10
July	1959	10½	11½	3	3	10
Aug) Sept)	1959	10½	11½	3	5	13
Dec	1959	15	17			
Jan) Feb)	1960	15½	17			
March	1960	15	17			
Went up to:		(25)	(25)			
May) June)	1960	11½	14	5	4	12
July	1960	11½	13	5	4	14
Aug) Sept)	1960	11	12	3½	4	13
Nov	1960	15	20			
Mar) Apr)	1961	15	20			
May) June)	1961	11	13	5	5	8
July	1961	12	12½	5	5	9
Aug) Sept)	1961	10½	12½	4½	4½	9½
Dec	1961	15	20	10	5	7½
Feb	1962	16	20			
Jul	1962	10½	13			

The fish companies on Great Slave Lake operate in a freely competitive environment where only the stronger have been able to survive. Five companies have dominated the industry, but several have already moved out and may never return. As was noted earlier, only two operated during the winter of 1961, Kutcher and Trefiak Ltd., and Carter Fisheries Ltd. A third company, Alaska Fisheries, failed to undertake any fishing, although rumours persist that it may transfer its headquarters to Yellowknife, establish there a cold-storage shed, exploit the unused stock of fish in Areas 3 and 4, and move into more northern untapped lakes as they open up. McInnes Products Ltd. has withdrawn its operations to Lake Athabasca; and Menzies Ltd., another old timer on Great Slave Lake, has moved some of its barges, boats, etc., to Lesser Slave Lake, although it continues to fish on Great Slave during the summer. Traditionally, the companies carry out their fishing operations without excessive friction, despite the intense competition. Perhaps the constant pressure imposed on all of them by the fish-buying monopoly has contributed to the creation of an uneasy truce.

Fresh fish are packed on ice in 60-pound lots, and shipping to Edmonton costs 1 1/4 cents per pound, which means a freight cost on the fish themselves of $2\frac{1}{2}$ cents per pound, since a box contains about equal weights of ice and fish. The latter are transferred from the large fish-boats into refrigerator trailer units, and within the space of twelve or fifteen hours carried to Edmonton, where they are transferred to other refrigerated vans and transported to points east. Chicago takes about 90% of the fish exported from Great Slave Lake. At present almost all is sold to one of two American fish-buying concerns which, between them, monopolize virtually the entire freshwater-fish market in the U.S. and exercise also substantial control over frozen and filleted fish. Much rumour, innuendo and controversy surround their operations. While ostensibly they vie with one another for the inland fishery trade, there is little doubt that they co-operate closely in maintaining a tight monopoly on all freshwater-fish purchases. Concerning their inside operations little information exists, but reliable observers are convinced that both companies work through handpicked subsidiary agencies which emerge and disappear at will in order to get fish through customs, obscure gross taxable income, avoid monopoly legislation, etc. Small companies that are truly independent do operate, but largely on sufferance from the larger firms.

Transportation of the fish from Edmonton is carried out largely by M. and P. Trucking Ltd., a relatively new firm in Edmonton which captured most of the freight delivery operation from the railroads over three years ago. It possesses a large holding room where fish are inspected and reloaded into large refrigerated storage. From Edmonton to Chicago freight for fresh fish costs between 4 and 5 cents per pound, and transport from Great Slave Lake to the wholesale fish market in Chicago requires between $3\frac{1}{2}$ and 5 days. According to Mr. C.R. Whitney, Senior Inspector of Fisheries, Department of Fisheries, Edmonton, between ten and twelve car loads of round and dressed whitefish and trout, or their equivalent in truck loads, formerly moved out of Edmonton each day to eastern and central U.S. markets, but now the number has fallen to only four or five car loads.

In the past the two U.S. buying firms confined their interest to the purchase of fish from individual companies in Canada and elsewhere, and did not concern themselves with the actual fishing, although private fishing enterprises might commit to one or other of them the production of an entire season. Occasionally, producers were offered higher prices by outside buyers, but this could lead to distress later when the intrusive buying firms, under-capitalized and unable to cope with their larger competitors, failed to honour their contracts: more than one fishing company has found itself unpaid for car loads delivered in Winnipeg or some other destination. The very perishability of fish renders suppliers vulnerable to manipulation by the two major buyers, who pay on delivery only: for it is the buyers who judge the quality of the fish, and the primary producers have no effective check against any charge that its quality deteriorated in transit. It is true that they can call in the Canadian trade consul, but by the time that official can make his check the fish probably have deteriorated.

Recently there have been indications that the U.S. buyers are contemplating moving more deeply into Canadian fishing, freezing and filleting operations. Some prairie fishing companies already rely heavily on American capital, but hitherto this has not been the case with the Great Slave Lake Fisheries. However, in 1960-61, so it has been reported, Menzies Ltd., suffered a bad year on Lake Athabasca and received an offer of purchase from one of the two U.S. buying firms. Needless to say, the producers are greatly worried about any extension of vertical control into the industry.

Wholesale prices of fish in Chicago vary constantly. Sellers negotiate sales with separate buyers in the early morning, and the prices they offer naturally reflect their knowledge of a market sufficiently unstable to give a decided bargaining advantage to the expert "insider". Inevitably, too, prices drop during the day as the perishable nature of the car-load lots makes it important that they be sold as quickly as possible. Table 5 traces the average Chicago wholesale prices of whitefish and trout in fresh and filleted form. Even if we assume fair competition in wholesaling and considerable loss due to deterioration, a substantial profit still accrues to the buyers and distributors; and that profit is increased by the effective monopoly they exercise, and their frequent practice of deliberately mixing higher-grade with lower-grade fish in order to obtain the maximum prices.

TABLE 5

WHOLESALE PRICES (CENTS PER LB.) FOR LAKE TROUT AND WHITEFISH, CHICAGO MARKET, 1960.

(Freshwater fish prices based on dealer quotation; frozen and filleted prices ex warehouse)

	Whitefish				Lake Trout			
	Fresh		Fillets		Fresh		Fillets	
	Lake Superior (drawn)	Canadian	Canada #1 (skin on)	#5	Native (drawn)	Canadian	#1 (skin on)	Canada #5
Jan.	58-75	32-42	54-56	47	58-75	48-62	55-62	47-54
Feb.	75	35-50	54-56	47	75	53-62	55-62	47-55
Mar.	75-85	47-54	54-56	47	75-85	55-62	55-62	47-55
Apr.	75-$1.00	60-74	54-56	-	65-$1.00	80-85	54-62	47-54
May	48-75	35-65	54-56	45	63-70	-	54-62	47-54
June	50-62	35-40	54-55	45	65-72	45-70	54-62	47-54
July	58-65	32-40	54-55	45	70-72	48-53	60-62	47-49
Aug.	58-68	30-40	54-55	45	70-74	45-54	60-62	47-49
Sept.	55-75	30-55	54-55	45-46	55-85	38-55	60-62	47-49
Oct.	58-75	42-55	54-55	45-46	60-75	48-70	60-62	47-49
Nov.	58-67	28-55	54-55	45-46	75-80	68-70	60-62	47-49
Dec.	40-77	28-55	54-55	45-46	78-80	63-67	60-62	47-49
Jan. - Dec.	40-$1.00	28-74	54-56	45-47	55-$1.00	38-85	54-62	47-55

At present there seems to be no way of breaking the strength of the two major U.S. buyers, which have virtually tied up all the trade in freshwater fish throughout the U.S. and Canada. Should retailers switch allegiance to an independent wholesaler, supplies of other freshwater products, and of ocean products, may disappear from the market. A few frozen-fillet producers and fish processors (e.g. Omstead Fisheries Ltd., Wheatley, Ont.) have been able to by-pass the traditional buyers by selling directly to frozen-food brokers and chain-grocery stores; and producers of frozen blocks of gefilte fish may sell direct to the processors (Manischevitz, Vita foods, Rokeach and others). But it is significant that even Saskatchewan, which successfully organized its fishing industry into a series of producer co-operatives under a central marketing service, has still not been successful in battling with the established wholesale interests in the U.S., but sells the majority of its fish to or through their agents.

An examination of marketing reports prepared by the U.S. Bureau of Commercial Fisheries inspires several observations. First, despite the growing shift of consumer purchases to frozen and filleted fish, the wholesale market for fresh whitefish still far outpaces the market for the processed variety. Moreover, the fresh fish exhibit a much wider price spread than the processed fish, obviously reflecting greater differences in quality and perishability, as well as the fact that under the auction system of marketing the price of fresh whitefish can drop as much as 20-25 cents in one day. In addition to the daily variations in price, also, are the seasonal variations brought about by Jewish holidays, supply shortages and other factors.

Table 6 reveals another important trend, viz., a very substantial decline in the market for both whitefish and lake trout over the ten-year period 1950 to 1960, a decline that for Canadian producers has been offset to some extent by their securing a greater share of the Chicago market.[1] The drop in sales reflects the diminution of the large stocks of these two fish in the Great Lakes, where the trout at least have been depleted by lamprey. The trend may change within the next decade if the Great Lakes Fisheries Commission succeeds in its efforts to rehabilitate the trout.

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1. Chicago is used here because "the Chicago metropolitan area is recognized as having the richest market potential of any region in the nation. The ground work for establishing Chicago as an international trade centre has already been laid and exporting nations view the mid-west as their most promising market" (Albano, 1960: 1).

TABLE 6

LAKE TROUT AND WHITEFISH RECEIPTS AT CHICAGO, 1950-60

(Extract from--Receipts and Prices of Fresh and Frozen Fishery Products at Chicago by G.A. Albano (1960)--Page XII)

		LAKE TROUT *	
Year	Total Receipts	Percentage of Arrivals from:	
	Quantity	U.S.	Canada
	1,000 lbs.	%	%
1960	1,587	19	81
1959	1,926	33	67
1958	2,313	27	73
1957	2,428	20	80
1956	2,934	29	71
1955	3,579	32	68
1954	4,327	41	59
1953	3,580	53	47
1952	4,021	58	42
1951	4,054	52	48
1950	4,072	56	44
10 year Average 1951-60	3,075	-	-

* Includes fresh, frozen, fillets, etc.

TABLE 6 (continued)

LAKE TROUT AND WHITEFISH RECEIPTS AT CHICAGO, 1950-60

(Extract from--Receipts and Prices of Fresh and Frozen Fishery Products at Chicago by G. A. Albano (1960)--Page XII)

WHITEFISH*			
Year	Total Receipts	Percentage of Arrivals from:	
	Quantity	U.S.	Canada
	1, 000 lbs.	%	%
1960	8, 065	11	89
1959	8, 246	14	86
1958	8, 900	14	86
1957	8, 069	14	86
1956	7, 712	23	77
1955	8, 820	21	79
1954	9, 710	29	71
1953	9, 014	37	63
1952	10, 179	35	65
1951	9, 774	29	71
1950	9, 400	38	62
10 year Average 1951-60	8, 849	-	-

* Includes fresh, frozen, fillets, etc.

III THE EXPERIENCE OF SASKATCHEWAN

Shortly after the war the Saskatchewan government set up a fish-marketing board to control, after the manner of grain-marketing boards, the production of, and outlets for, freshwater fish. It guaranteed the fishermen a minimum stipulated price per pound; and, to finance this support scheme, taxed them the small royalties of 1 cent per pound for trout and $\frac{1}{2}$ cent per pound for whitefish. Then in 1944-45 it created three cold-storage and filleting plants, and undertook to buy fish from individual fishermen and private fish companies.

The net result was not a happy one. The board's representatives were relatively inexperienced in fish-marketing, and private companies, buying up the quality fish from the fishermen, were able to sell it directly through their own market outlets. Left thus with fish of poorer quality, and handicapped also by uncertain deliveries, the board and its filleting plants suffered a continual loss of revenue. Accordingly, in 1948, following a report by a Royal Commission on the Fisheries of Saskatchewan, the provincial government abandoned its scheme.

Almost immediately, however, it launched another. It set up the Saskatchewan marketing service--a crown corporation restricted to finding the best market outlets for Saskatchewan fish, and to a programme of co-operative development that would organize métis and other fishermen residing in outlying lakes. The government also built several new filleting, freezing, and cold-storage plants, which it leased directly or indirectly to the co-operatives.

Following these moves, it sent co-operative development personnel into the outlying lakes to work on the spot with the local fishermen, who up to that time had been highly disorganized and rather inpecunious. On those lakes where it had built filleting and storage plants, it imposed compulsory delivery of all commercial fish caught within a radius of 75 miles, and it supplemented the regulation by denying licences to non-resident fishermen. The co-operatives on these lakes thus operated in a protected environment, and with government supervision and instruction soon emerged as viable enterprises. With government encouragement they organized the Northern Co-operative Fisheries, which bought fish direct from outlying co-operatives, ran the filleting and freezing plants, and arranged for packaging, filleting and ultimate marketing through the Saskatchewan marketing service. Today, Northern Co-operative Fisheries, representing all the fishing co-operatives in Saskatchewan, generally sets the prices paid to individual fishermen and refunds profits at the end of each year. It maintains a minimum of staff, and lets out on contract the buying, packing, filleting, etc., to private persons or firms.

The provision that private fish companies within a radius of 75 miles must use resident fishermen has proved highly beneficial to the Saskatchewan Métis, even though it is enforceable only in those fringe areas where a resident population already exists. Initially, commercial fishing in the northern lakes was criticized because it would take local residents away from winter trapping: the trend, however, has been away from fishing during the winter months in favour of trapping, with the Métis supplementing rather than replacing their income from furs. Seventy per cent of Saskatchewan fishing now takes place during the summer months as against only 10% in 1950: of the catch, 45-50% is exported in frozen form, 15-20% filleted, and 30-35% fresh. The Saskatchewan Marketing Service normally sells through the U.S. buying combine which, as one senior official said, "I wouldn't attempt to fight". On the other hand, because much of the fish is non-perishable, the marketing service, by handling virtually all the fish, by spreading deliveries, and by pursuing an aggressive marketing policy, usually obtains higher prices than do the private fish companies that operate out of Great Slave Lake.

Of some interest were the comments of Saskatchewan officials concerning the possibility of processing and canning fish. A small fish-meal industry had been tried on Lake Athabasca, but it could not compete with varieties from east and west coast manufacturers. Canning had been abandoned because of relatively high costs and difficulties in securing whitefish of uniform quality. It was not clear how intensively Saskatchewan officials had carried out these test enterprises, nor whether they had engaged in any forceful marketing campaign using distinctive brand names, promotion techniques, etc. Many lakes, for instance, produce a dark-fleshed variety of whitefish which in taste and quality seems not to differ from the white-fleshed variety, but on account of its colour finds no favour with southern buyers:[1] no serious test has yet been made to discover whether in this case an imaginative marketing and processing programme could make a sales break-through. The Saskatchewan government has experimented with smoking fish, but again officials were rather unenthusiastic concerning the commercial value of this venture.

Worthy of note, perhaps, are the comments of the Royal Commission of 1947 on the canning of whitefish and lake trout:

> "There is little prospect at the present time of successfully canning whitefish, whether as steaks from the whole fish from 'A' lakes or as fillets from 'B' lakes, in view of existing market conditions.............the canning of lake trout would appear to offer considerable prospect from the standpoint of quality, but since there is an excellent market demand at higher prices for the fresh fish and a fair demand for the frozen product there would seem to be no advantage in attempting to can this fish.......to some extent the above statements are applicable also to pickerel".

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1. Black whitefish are usually associated with shallow and inshore conditions.

IV MEASURES TO EXPAND THE FISHING ON GREAT SLAVE LAKE

A. Future Prospects

In terms of productive capacity, the outlook for whitefish in the three prairie provinces is quite favourable. By 1980 the yield from that region's freshwater lakes may well register an increase of 40-50%. Mr. W.E. Ricker, of the Fisheries Research Board of Canada, states:

> "The opening up of additional northern lakes is the principal basis for predicting a yield increase. It is difficult to forecast the Great Lakes production. The whitefish is attacked by sea lampreys to some extent, but there is no evidence that they have done any appreciable damage to whitefish stocks; in fact, the appearance of sea lampreys in Georgian Bay was followed by a remarkable increase in whitefish catches".

The future for lake trout, this authority believes, is less promising:

> "Increased yields are predicted on the opening up of more northern lakes to fishing, and possibly a somewhat greater yield from Great Slave Lake. The lake trout of the Great Lakes are now at a very low ebb, their decline in the upper lakes having been caused or at least greatly accelerated by the invasion of the sea lamprey in the 1930's...... The Great Lakes Fisheries Commission is conducting an all-out campaign to control the sea lamprey. If this is successful, the basis for the return of the trout fishery will be laid, but because of slow growth it is unlikely that any large quantities will be landed by 1980" (Ricker, 1962).

The inland fishing industry, which in the past has provided substantial profits to fishermen and fish-processing companies, is a labour-intensive enterprise which may expect a continuing increase in labour costs. They can be offset to some degree by the introduction of modern equipment, larger vessels and more integrated processing and distribution; but at the present time the limited amount of free capital available to most fishing companies, and the tenuous nature of the market for fresh whitefish and lake trout, work against the introduction of capital-intensive techniques. Inland fishermen are unorganized, and often a marginal element in the labour force, so that it may be possible to keep wages down in the short run. Whether this is socially or economically desirable is, of course, another matter.

An ominous threat would be greater vertical intrusion into the primary industry by U.S. buying firms. While U.S. capital is normally a welcome stimulant to Canada's primary industries, and already plays a prominent role in inland commercial fishing in the provinces, on Great Slave Lake it would reduce competition rather than foster it, and would add to the pressure on the fishermen. Admittedly, to the degree that it permitted a more rational distribution of effort on Canadian lakes, and a more efficient gearing of production to the marketing processes in the U.S., there might be certain economic compensations. Its net effect in a slow-growth industry, however, would be either to displace independent Canadian fishing companies such as Carter Fisheries and Kutcher and Trefiak, or else make them more dependent than ever on the American buyers.

The demand prospects are even less encouraging. In North America generally, the per capita consumption of fish has been declining as consumer incomes rise and families switch to meat and other high protein foods. Ever since the 1930's, indeed, the percentage of family income spent on fish and fish products has been regressing, and this trend shows no sign of abating. Moreover, the downward trend is exceptionally pronounced in the case of whitefish owing to a change in taste, particularly in the Jewish market, where that fish appears to be less of a premium item today than it was formerly; and the growing preference of consumers for frozen and filleted products is aggravating the plight of the whitefish producers on Great Slave Lake. With competitive pressures forcing the companies to depend on a perishable commodity and on present marketing arrangements in the U.S., the overall picture augurs a continuation of the stiff competitive struggle.

Two offsetting demand forces may ease their problem, viz. the continuous growth of the human population in the U.S. and the continuous decline in its native stocks of freshwater fish. They suggest that the Chicago market for Canadian fish should steadily, if somewhat slowly, increase. Canadian producers are already supplying nearly 80% of the whitefish and lake trout sold by Chicago wholesalers, and this proportion may increase within the next twenty years to over 90%. Taking into account the intensified competition from other northern lakes as provinces expand their road net-works, and a continuous decline in the proportion of fish in family diets, the prices of whitefish at the wholesale level will probably remain about what they are today; and to the extent that fish companies are unable to economize through labour-saving techniques or by pooling their efforts, their profit margins will probably continue to shrink. This is not to say, however, that an efficient and imaginative operator, or a number of efficient operators in one area, may not overcome the trend and realize quite high profits over a period of time.

B. Main Problems

Until recently, the Hay River settlement has been the victim of neglect, with many people regarding Pine Point as a much more important outpost in the Northwest Territories. However, with the extension of the Great Slave Railway to Hay River, and the establishment there of good docking facilities serving the entire Mackenzie waterway, the permanence and growth of Hay River seem assured. Already both its commerce and its population are growing, and the latter should continue to grow as government and private agencies expand, making possible a more diversified and attractive settlement.

In this context it may be useful now to summarize various comments on its fishing industry as voiced from time to time by local interests, casual observers, government officials and others. They are:

(a) Resident fishermen are inadequately used in the fishing operations on Great Slave Lake.

(b) Excessive use is made of transient fishermen, who spend their earnings outside the Territories, although they exploit the area's resources.

(c) The fish companies take little interest in the development of either Hay River or the Northwest Territories. They deposit their money in outside banks, and operate in the Territories solely to extract profits from it.

(d) Prices paid to the fishermen on the lake are low in relation to the wholesale prices of fish on the Chicago market.

(e) The fishing companies make inadequate use of the fish stocks in the lake. They are under-exploiting not only its whitefish and its lake trout, but its coarse fish also, of which they could probably utilize an equal amount for industrial and other purposes. Such utilization would then permit a greater yield of trout and whitefish.

(f) Large quantities of coarse fish now taken from the lake are wasted. Coarse fish are being used to a much greater extent for mink ranching, etc. on other lakes, e.g. Lesser Slave Lake.

(g) The marketing difficulties of the fish companies on Great Slave Lake are aggravated by Hay River's lack of cold storage or freezing and filleting facilities. The companies operate in a competitive environment of feast and famine: when summer prices reach their nadir on the Chicago market they lack the facilities to store the fish until demand catches up with supply.

It is not easy for an outsider to weigh dispassionately the merits of these various comments. Officials of the Department of Fisheries who have read the list express skepticism on several items. They dispute the opinions given in paragraphs (a), (b) and (c); and they believe it would be difficult to document paragraph (d) because wide fluctuations in wholesale and retail prices, and the many grades or classifications of whitefish, make it almost impossible to follow a shipment from source to consumer. Wholesalers probably take a large margin for their services and risk: in other words, they charge the risk back to the producer. Coming then to items (e) and (f), the officials point out that because production under a private enterprise system requires a market for landed fish if the fishermen are to be paid for their work, the question of under-utilizing the coarse fish of Great Slave Lake is inextricably linked with the use of those fish for mink and dog food, or for specialized filleting and canning. This topic will be examined later. Here we may merely note that the quantity of ground-fish offal and herring available for cat food in the Maritimes, and in British Columbia, at 1 cent per pound or less, runs into millions of pounds; and it is very difficult to foresee any similar exploitation of the coarse fish in Great Slave Lake, where the volume of fish is low, costs relatively high, and no major markets lie near at hand. Coming finally to paragraph (g), which also is discussed later, the department's officials declare that for several reasons the fishing companies find it advantageous to sell their fish fresh, head-on, to U.S. markets direct, and consequently do not require the support of large public cold-storage facilities, or facilities for freezing and filleting, at least not at this time.

C. Alternative Courses of Government Action

In expressing concern over the fishing industry of Great Slave Lake many observers have coupled their remarks with recommendations that the Territorial or Federal governments exert great control and initiative in the area. The recommendations most frequently heard are:

(1) Residency regulations;
(2) Food processing;
(3) A government-assisted filleting or cold-storage and freezing plant in Hay River;
(4) Price supports and royalties;
(5) Encouragement of a local fishing co-operative.

Let us consider these recommendations in turn, beginning with

(1) Residency Regulations

Hitherto the Department of Fisheries has avoided strict residency regulations in the Great Slave Lake area. In 1948 there were few persons with commercial fishing experience, and the incoming companies had to rely on veteran fishermen from the Provinces. With the completion of the highway to Hay River outside fishermen came in for the winter fishing: some have settled permanently, while others continue to migrate seasonally. Most of these non-resident fishermen are proven professionals.

Had strict residency regulations been applied from the beginning there would probably now be a pool of qualified fishermen living in the area who would contribute substantially to the local economy. On the other hand, the entry of fishing companies would undoubtedly have been more gradual, and the tempo of their operations slower. Locals who now want to fish are free to sign on with fishing companies, and the companies, as a rule, stand ready to buy all fish delivered, whether by fishermen using company equipment or by independent fishermen. The real problem is that there are still not enough qualified fishermen in the region. In this situation it would seem impractical to enforce residency regulations, which would eventually increase the companies' already high costs. A more promising long-term alternative would be to conduct for local residents a fairly intensive training program that would enable them to compete effectively with non-resident fishermen. How many men would be interested in this training, however, is not clear.[1]

It may be argued, of course, that it is inconsistent to encourage northern development and settlement through public expenditures on the one hand, and then acquiesce in undermining this process by allowing non-residents to extract the area's resources without contributing much themselves. Moreover, there is precedent in other provinces for residency regulations which deliberately give preference or protection to local fishermen. Nonetheless, the Department of Fisheries takes the view, not without merit, that it would be unfair arbitrarily to prohibit fishing by non-resident fishermen in a lake as large as Great Slave. It regards the fish of that lake as a resource for all Canada, not exclusively for people living in the area; and until the territorial or federal governments can ensure enough qualified local fishermen to supply the industry's needs, the imposition of residency regulations might prove disastrous to the operating companies and the fishermen, who are facing increasingly stiff competition from other trout and whitefish suppliers in the provinces.

(2) Food Processing

In their present operations the fishing companies do not attempt to use or market cull or coarse fish. The value per pound is simply not worth the additional man-unit effort, or the space in the fishing boats. Were the cull fish discarded centrally, say at the West Channel site, or at the main dock, there might be some economic prospect for a plant to process fish meal, dog food or mink food: but with the fishermen simply throwing the

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1. Some years ago the Department of Fisheries offered to establish a training school for Indian and Metis fishermen in the Great Slave Lake area, giving licensed fishermen first priority, if the Indian Affairs Branch of the Department of Citizenship and Immigration would assume the expense. That Branch, however, went ahead with its own limited program, which did not prove a success.

fish away as they take them from their nets, a processing industry does not seem feasible. Moreover, as Department of Fisheries officials have pointed out, the high unit cost of catching and processing freshwater fish in comparison with the cost in ocean fisheries makes processing for animal food a very doubtful financial proposition.

The Department of Fisheries has also commented,

> "There are limited possibilities for use (of cull and coarse fish) as mink feed, but suckers have to be cooked to prevent a form of paralysis from afflicting the mink, and there might be added costs of freezing and storing fish to provide an adequate supply during the peak feeding period in late fall and early winter. Present methods of disposing of coarse fish and offal on the lake would make it difficult for the mink rancher to obtain supplies. Immediate freezing is almost a necessity for much of the supply; the fish must be in good condition when fed to the mink; otherwise the mink sicken or refuse to eat it.
>
> "Should mink ranchers become established on the shores of Great Slave Lake, there would also be agitation to allow the use of nets of smaller mesh than those now permitted in the commercial fishery, and the Department of Fisheries would be faced with a most difficult administrative or policing problem in preventing the catch of illegal sizes of commercial species".

The economics of processing for human use, i.e. of specialized food delicacies, etc., is also doubtful, and one should not ignore the Saskatchewan experience. On the other hand, a small processing shop producing specialty items from suckers and other coarse species on a limited scale might merit investigation as a possible source of employment for local Indian and Métis women. If the venture did prove viable it might ultimately be expanded to include smoking, canning, etc. for wider sale. It would require, however, a fair amount of capital, organization, and at least one expert provided by Government. High unit costs and extensive market research and promotion might be involved. Moreover, it would require co-operation by several government agencies and a willingness to lose money, if necessary, in order to foster new experimental industries in the Northwest Territories.

(3) Filleting, Cold-Storage and Freezing Plants

None of the operating fish companies on Great Slave Lake consider filleting an economical proposition. The initial cost of a filleting plant on the east coast is estimated at $40, 000 for a unit of 1, 000, 000 pound capacity and $60, 000 for one with a capacity of 3, 000, 000 pounds; one may assume that costs at Hay River would be at least 25% greater. No company is prepared to put up this amount of money at the present time, since fillets of whitefish from Great Slave Lake are simply not competitive with fillets processed from more southerly lakes closer to market; and while filleted lake trout at landed prices of twelve cents per pound or less might be marketed, no single company takes enough lake trout from Great Slave Lake in summer to justify a filleting operation.

Much more gain per unit accrues from selling fresh trout in the round. Accordingly, the fishing companies are more interested in their own cold-storage and freezing facilities than in a central private or government-owned plant. Moreover, each is naturally jealous of its own brand name, and prefers not to sell to an independent freezing or processing firm which would market the fish under its own label.

The question of a municipally owned or operated cold-storage and freezing plant serving the fish companies and the settlement was taken up with municipal officials and a representative from fishing companies in the summer of 1962. At that time it was evident that the municipality itself was not prepared to make any large contribution, directly or on a fee basis, towards the cost of the plant, and that it expected either the Federal or the Territorial government to bear whatever running subsidies were required. In the absence of interest by the major fishing companies Government authorities accordingly abandoned the idea as impractical.

There are also larger considerations. With declining fresh fish markets throughout the United States and Canada, a Government cold-storage shed for fresh fish might well prove a losing proposition at a time when fishing companies are being forced to switch to the frozen or processed article, or lose out in the competitive struggle against suppliers from the Provinces. Moreover, about sixteen to eighteen million pounds of fish of all kinds, including rough fish, are exported from Alberta annually, in addition to the 5. 5 million pounds from Great Slave Lake: of the Alberta total, between 2. 5 and 4 million pounds are whitefish. Although there are two private cold-storage firms in Edmonton, there are no large public facilities, and fresh fish has to move expeditiously to Chicago, Detroit or New York to avoid deterioration. Economically, therefore, there would seem to be a much better case for installing a Government controlled cold-storage plant, not at Hay River, but at Edmonton, in order to handle the greater quantities of fish, to lower overhead costs, permit easy Government inspection, and allow distribution to points outside the traditional market area.

(4) Price Supports and Royalties

The idea of price supports and royalties was mooted by one of the private companies at Great Slave Lake, prompted undoubtedly by tightening markets for fresh fish in the United States. Government-sponsored price-support schemes presuppose the existence of a marketing board with powers to buy, store and sell fish. Such a board was not successful in Saskatchewan, for reasons I have already outlined. By itself, the Saskatchewan fish marketing board was not strong enough to circumvent the established wholesale buying monopoly in the United States. It assumed all the risks and distribution head-aches normally carried by private enterprise, and in three years' operation is estimated to have lost $300, 000, despite a small royalty exacted from the fishermen.

In my view a price support system sponsored by the Territorial Government would create more problems than it would solve. It would do little for the fishermen, and merely underwrite the operating fish companies. It would, of course, bolster any co-operative fishing enterprise established, but to the extent that it paid the co-operative a higher price than the venture could get on its own it would create a false economy. Since the roots of the existing companies lie in the Provinces, and many of the fishermen come from outside the Northwest Territories, one cannot make a strong case for price supports on grounds of contributing to the economic and social development of the area.

Even were a marketing board established, I see no economic merit in exacting royalties from the producers. The Northwest Territories government itself is not financially viable, and it would seem questionable to tax fishermen for the purpose of keeping a marketing board self-sufficient when Federal grants are needed to support most other operations and services in the Territories. More important, however, the incidence of a royalty tax would almost invariably be transferred to the fishermen: it would create no difficulty for fish companies benefiting from the price support scheme, but would bring instead lower prices to the fishermen.

(5) Fishing Co-operatives

It has also been suggested that a fishing co-operative using resident Metis and Indian fishermen might be organized on Great Slave Lake to take up the slack between the established 9 million pound quota and the 5.5 million pounds which the fishing companies are currently taking. Since it is the eastern part of the lake that is always fished to less than the established quota, the co-operative would presumably include fishermen from Resolution, Snowdrift, Rae and Yellowknife, and fish almost exclusively in Areas 3 and 4.

This suggestion, however poses several serious problems. To be competitive the venture would have to be well capitalized with fishing equipment, boats, warehousing, cold storage, etc., to a value exceeding several hundred thousand dollars, made available presumably by the Federal or the Territorial Government. To have any chance of success the venture would also have to be exceedingly well organized. It would require several co-operative experts, mechanics, specialists in commercial fisheries and instructors to show the local people how to use fishing boats and nets properly, how to handle the fish, etc. It would require someone with market experience who could arrange sales and know when and how the fish should be shipped.

The lack of skilled residents who could participate in the enterprise is no less a problem. As already indicated, those local residents who do not regularly sign on with the fish companies tend to be the inferior or unreliable fishermen. Reputedly they either prefer alternative employment, or tend to live from day to day, demonstrating little interest in fishing for long periods of time. Much work would then be necessary simply to encourage the people to continue fishing throughout the season. In these circumstances the sponsoring Government Department would have to devote time, manpower and capital towards the operation, and, if necessary, be prepared to write off the entire project. Half-way measures would almost certainly ensure failure; and it is not evident that the Departments of Northern Affairs and of Citizenship and Immigration possess either the staff or the funds to do the job adequately at this time.

On the other hand, in 1962 the Indian Affairs Branch of the Department of Citizenship and Immigration succeeded to some extent in encouraging the Indians and Métis of Resolution and Snowdrift to fish more intensively in waters just off shore by making it quite clear to them that they would have to sell to the fishing companies, and to meet the standards imposed by those companies. This system had the advantage of using existing commercial channels. It forced the Indian and Métis participants to fish regularly, and to handle the fish properly and efficiently.

The difficulties that a larger co-operative fishing enterprise would face in marketing its product should already be apparent. Chicago buyers have shown no disposition to accept new independent enterprises on the lake, and have discouraged catches beyond the 5 to 6 million pounds taken annually in recent years. With declining markets for fresh whitefish, and the uncertain economies in filleting at this distance from the market, a co-operative would be in serious trouble right from the start unless it had iron-clad alternative marketing arrangements. One may be sure that nothing would give more pleasure to the U.S. buyers, or to the competitive fish companies, than to see a Government-sponsored co-operative embarrassed, politically or financially, by having its carload shipments of fresh fish destroyed or sold at a loss.

Officials of the Department of Fisheries remark that while

> "co-operative action is itself an educational process and for this reason may be a desirable object...no early success should be anticipated".

V. SUMMARY AND CONCLUSIONS

We have now reviewed the major difficulties that face the fishing companies and the fishermen of Great Slave Lake, and the suggestions that have been put forward to ease their plight. I myself believe that the companies are operating about as efficiently as can be expected, given the declining market for whitefish, the control by a limited number of buyers, and accelerating competition from northern lakes in the provinces. Indeed, in the circumstances, they are probably fishing to a maximum of their market. While much of the cash earnings of the companies and the fishermen go outside the Territories, the application of residency regulations of one sort or another would merely result in higher costs to a local industry already reputedly struggling under conditions of declining profits: it would also mean financial distress among the better fishermen who have returned to Great Slave Lake year after year. There is little likelihood that a price support or marketing scheme introduced by the Territorial Government would benefit anyone: probably, like the Saskatchewan experiment, it would merely compound the losses of the Territorial Government and prove administratively burdensome as well.

We have seen that in two fishing areas on the lake there is a wide gap between the amounts taken by the fishing companies and the quota set by the Department of Fisheries. In addition to whitefish and trout, an equal amount (i.e. 9 million pounds) of coarse fish could also be taken from the lake each year. Some of it might be suitable for industrial use and processed for dog, cat or mink food, or even for human consumption; but the companies now operating on the lake are not interested in food processing, because high unit costs would make it impossible to compete in the south with east or west coast suppliers of the same products. The main market for the processed fish would probably be the north, where the cost of transporting canned food into the Territories offers some protection; but improved transport services to Great Slave Lake and beyond are fast reducing any natural advantage that a local fish-processing firm might count upon.

The picture might change slightly were the Territorial Government willing to "grub-stake" mink ranchers along the south shore.[1]

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1. A small ranch requires at least $10,000 capital and a ready supply of cheap mink food.

However, territorial initiative in this field would create difficulties for officials, who would have trouble controlling the use of small nets by the ranchers. There might be some scope for a small food-processing plant in Hay River or Yellowknife, which would buy and manufacture into specialty foods the coarse or cull fish either in the north, or to gourmet markets in the south. Such a venture would have to be explored very carefully. If undertaken at all, it should be on a small scale, using Métis and Indian women closely supervised to ensure hygienic and efficient operation.

Despite local opinions, there appears to be no pressing need for storage, freezing or filleting facilities in Hay River to serve the fishing companies. The Great Slave Lake industry finds its greatest economic advantage in producing quality fresh-fish for delivery in New York, Detroit, and Chicago; it cannot compete in the filleted product with suppliers from more southerly regions. The fishing companies on their own initiative are providing their own cold storage and freezing facilities.

The organization of a co-operative fishing venture in Great Slave Lake to compete with the existing fishing companies presupposes very extensive contributions in time, staff and money by the Federal and Territorial Governments. Furthermore, it would almost surely require a marketing outlet for the fish other than regular U.S. channels. A possibility here is to work through the Saskatchewan Northern Co-operative Fisheries, which might treat it as an extension to their present services: but one should note that the Saskatchewan agency itself still depends for most of its sales on the existing buying monopoly in the United States. Another possibility would be to market through independent processors, who are now buying fish from western sources to augment the dwindling supplies of whitefish and lake trout from Great Slave Lake. These independents, however, specialize largely in filleted and frozen blocks, and it appears doubtful that, with the present F.O.B. prices, Great Slave Lake fish could compete successfully with fish from other sources.

For the immediate future, the Federal and Territorial Governments could probably best serve the Great Slave Lake industry by providing greater technical assistance to those local residents who are either inadequately trained or poorly motivated. A program of this type should be open to all persons regardless of ethnic origin, and probably would be most effective if organized by the Federal Department of Fisheries with the assistance of the Territorial Government. Recent efforts of Indian Affairs in Areas 3 and 4 are encouraging. Fishing co-operatives organized among the Indians and Métis of the smaller outlying communities should not attempt to market separately but, initially at least, should work out an arrangement with the major fishing companies on the lake. This would force the co-operatives' members to meet competitive business practices and to learn to handle the fish efficiently and expeditiously. It would also avoid direct Federal or Territorial involvement in an enterprise competitive with private fishing firms--a course of action which might arouse some political criticism.

Department of Fisheries officials pertinently observe that,

> "The 'opportunity costs' of fishing in Great Slave Lake and in the Prairie Provinces generally are low because the fishermen have few alternative job opportunities available to them; labour mobility is limited. Capital investment in more efficient equipment is likely to be unprofitable in such circumstances. In an industrial area such as the Great Lakes, fishermen tend to leave the industry unless they can obtain incomes more or less equivalent to those obtainable with equal education and skill in other industries, and their fishing productivity must, therefore, be increased by investment in modern equipment if there is to be a fishery. As a corollary, a policy directed towards increasing the welfare of Great Slave fishermen should aim at improving their qualifications for other possible employment as well as for fishing, combined with economic development of resource and other industries in the area."

In the long term the prosperity of the Great Slave Lake industry may require closer co-operation between the Territorial and adjacent provincial Governments in developing and marketing both whitefish and lake trout. This co-operation would be particularly desirable if it led to a stronger bargaining position collectively vis-a-vis the U.S. buying firms. Individually the Provinces have not been able to break this monopoly, but increasing demand for Canadian fish in the U.S. market, together with a planned program of commercial fishing in the Provinces and Territories, could pave the way for better prices, improved techniques, and less cut-throat competition at the producer level. A co-ordinated approach could result, for instance, in a marketing service not for Saskatchewan alone, but for all the Prairie Provinces and the Northwest Territories. Such an agency, or an ancillary one, might make loans to co-operative or other private fishing enterprises; and with Provincial and Federal aid it might also undertake research into various methods of catching, processing, marketing and handling fish, thereby enhancing the competitiveness of the Canadian freshwater fisheries and raising both the productivity and the incomes of the fishermen.

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