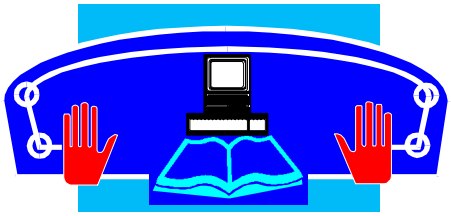

The Freshwater Fishery: Great Slave Lake Fisheries, Great Slave Lake Fishery

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THE FRESHWATER FISHERY:

GREAT SLAVE LAKE

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THE FRESHWATER FISHERY:
GREAT SLAVE LAKE

INTRODUCTION

Great Slave Lake and the many lakes and rivers associated with it have **been a major source of fish products for many years.**

Great Slave Lake has supportad a large commercial fishery for more than four decades. The 1950's and 1960's saw high levels of production and associated high levels of employment related to fishing. Since 1968, there has been a more or less steady decline in the production of the fishery. There have been good years in the past twenty five but most definitely they have been out numbered by years of low production and low prices.

In order to understand the current status of the Freshwater Fishery at Great Slave Lake, it is necessary to determine the fish products currently being extracted, not only in terms of product being sold but also by how much product is being wasted due to cullage, processing or **lack** of market for the species.

FACTORS AFFECTING THE CATCH

Generally speaking, the reduction in fish products over the years seems to be more related to dwindling prices rather than dwindling fish stocks, however some species have definitely suffered from the commercial fishing activity. Several areas on the lake no longer have regular large catches of lake trout due to depleted stocks. Other areas have been closed to commercial fishing completely and are reserved for sport fishing only. Most recently, there has been an all-party agreement to reduce the number of inconnu taken from certain areas because of an apparent change in population characteristics.

The strongest product from the lake in terms of population is whitefish. Discussions with technicians from the Department of Fisheries and Oceans Canada indicate that at the current level of allowed catch under their quota system they would expect no danger to whitefish populations in the lake.

It is important to note that in recent years, the full quota of fish is not usually taken from the lake. There are two main reasons for this. First, because prices are depressed, fishing in some of the more remote areas of the lake is not always viable, therefore there is little activity. Second, there is a product reduction policy in place which is designed to control prices on whitefish, the idea being that by reducing the supply, prices will increase. Fishermen get paid a bonus for keeping production low,

The overall effectiveness of this plan will be hard to measure. In the short term, it may affect the price of whitefish but given that Great Slave fish make up such a small part of the world's fish supply in general, it would not seem that price manipulation would be effective or necessary. Another effect that may or may not have been considered is how the reduction of fishing for whitefish has in turn reduced the overall catch of other species. Because the nets used are not selective in what they keep the only possible way to reduce the whitefish catch is by setting fewer nets which means fewer fish of all species.

According to management at The Freshwater Fish Marketing Corporation (F, F. M. C.) located in Hay River, Northwest Territories, this move was caused, at least in part, by a shift in attitudes by a large piece of the North American Jewish population. For many years, the main and in fact almost exclusive market for export grade whitefish was the

Jewish community of the eastern United States. The marketers at F.F.M.C. feel that there has been a swing in traditional values in the past few years and that, in general, there is now less attention paid to kosher food. This has apparently had a serious negative af feet on the whitefish market. Whitefish has traditionally been a low cost good quality product that could fulfil the needs of the customs related to Jewish foods. With fewer kosher consumers, F. F.M.C. is making an attempt to match the size of the supply specifically to the size of this market. They are doing this with the fish reduction program.

It would seem that if this policy continued, it would eventually lead to the elimination of the whitefish fishery. As the market shrinks and the product becomes more price sensitive, certainly the most remote fisheries will be the first to suffer. Finding new markets for this good quality product is essential to the survival of the industry in the North,

THE FISH PRODUCTS

There are several different species of fish that are part of the regular commercial production of Great Slave Lake. Lake whitefish are the most common fish in the lake. Lake trout, walleye, northern pike, inconnu and mariah (also know as ling or burbot) are all part of the commercial harvest. Ciscoe and tulabee are also quite common but they are not considered a marketable product. These are simply dumped back into the lake when they are pulled in with nets.

There are five main fishing areas on the lake which are simply designated as areas ■ 1" through '5". Area 1 is divided into Area 1 East and Araa 1 West. The fishery is spread out over an area of approximately 16,000 square kilometers (6000 square miles). The summer and winter fisheries can be as far away as 240 kilometers (150 miles) from the plant at Hay River.

For the season beginning November 1, 1992 and ending October 31, 1993 a total of 1,477,214 kilograms [3,249,870 pounds) of commercial fish were delivered to the plant at Hay River. This weight refers to dressed fish, meaning that only the guts and the gills have been removed. An exception to this would be large trout which are delivered headless. By weight, large trout would make Up approximately 5% of the total trout catch.

Of the total fish catch of 1,477,214 kilograms during the season, 1,208,722 kilograms (81 .8%) were whitefish. Approximately 90% of these whitefish weighed between 0.7 and 1.4 kilograms, 3% weighed less than 0.7 kilograms, 3% weighed between 1.4 and 1.8 kilograms end the balance weighed over 1.8 kilograms.

The next largest catch was northern pike at 143,319 kilograms of the total catch (9.7%). There was no specific size information on this species but F. F.M.C. Indicated that around 2.5 kilograms would be a good average.

Lake trout accounted for 61,531 kilograms of the fish taken (4,2%). Over 90°A of this species weighed between 1.8 and 3.6 kilograms; the balance ranged in size from 3.6 to over 25 kilograms.

The 1992/93 catch for inconnu was 43,784 kilograms (2.9%). There is no specific size information available on inconnu but they will be quite large; 4 kilograms would be a reasonable estimate. Inconnu is a species closely related to whitefish but they tend to be considerably larger. They are also quite oily and are generally prepared as a smoked product. The catch for inconnu will probably be a lot lower in 1993/94 than in previous years due to the closing of one of the small areas where inconnu are abundant.

Mariah, which are also known as ling or burbot, accounted for only 15,178 kilograms (1%) of last year's catch. Again, there is no specific size information available but an estimate of 2 kilograms would be a reasonable average. Mariah have only recently become a marketable fish from Great Slave Lake. They are without scales and therefore previously did not have a market in the kosher consumer market. There is apparently now a small market for this fish in some other areas.

The most valued fish taken from Great Slave Lake is the walleye. This species, although very valuable by unit of weight, makes up a very small portion of the total dollar production on the lake. Only 4,680 kilograms (0,3% of the total) of walleye were taken in 1992/93. 95% of the walleye delivered to the plant weighed between 0.6 and 1.6 kilograms. The balance ranged in size from over 1.6 kilograms to 3.5 kilograms.

PROCESSING

Information supplied by F.F.M.C. suggests that it is not practical to involve value-added activities in the North. Currently, most of the product is shipped to Winnipeg, Manitoba, where it is filleted, smoked or processed in some other manner. This is apparently because F.F.M.C. has better processing equipment in Winnipeg and it can be done more cost effectively there.

I have not been abie to easily find any material that would show a true analysis of the overall difference in costs of production between Winnipeg and Hay River, however Winnipeg would have to be A LOT MORE EFFICIENT in order to justify the transportation of dressed fish approximately 2400 kilometers before it goes through the final preparation stages. It is hard to see how this can be cost effective or how it could possibly improve the product. When the entire time from catch to final preparation is considered, the product must be getting close to the end of its shelf life before it even gets to market. The extra time in shipping must contribute in some way to the level of cullage.

Given that this is a co-operative process, it may well be that the fishermen are not aware of any problem that may exist in the area of after-delivery cullage but still may be paying the price. There are two pay streams that affect the fishermen: one, the direct payment for his product arid two, his share of the overall profit earned by the F.F.M.C. If corporate profits are reduced by spoilage after the product leaves Hay River, he might never know of it.

Perhaps the most important point in all of the above information is the fact that even after being pulled from Great Slave Lake, transported to Hay River (this procedure sometimes takes several days), processed partially in Hay River, shipped 2400 kilometers to Winnipeg, processed for market and shipped to market, the product is still edible! Obviously this is a very durable food product.

WASTE, ROUGH FISH AND CULLAGE

The concept of using fish waste and products normally dumped back into the lake or otherwise disposed of has been suggested. The question is whether this practice would be profitable or even practical.

There are no accurate figures or even reasonable guesses with regards to how much fish waste and by-product is returned to the lake by way of dumping. Interestingly, almost everyone 1 spoke to about utilizing this waste material thought it was a good idea although no one believed that there was much of a chance of actually making such a procedure viable. An official comment made by an officer at Fisheries and Oceans Canada stated that an attempt to salvage this material and bring it in for processing might actually endanger the viability of the whole fishery due to the added costs invoked. These judgments, however, have all been made without any accurate information on how much material is involved.

Estimates were available of how much of the fish weight is lost to dressing prior to delivery at the plant: of the total catch, approximately 17% of the weight is thought to be guts and gills. On the 1992/93 catch this would amount to a wet weight of about 261,1 2S kilograms.

There are no numbers available on the amount of rough fish (not marketable species) thrown away nor are there any numbers on the amount of commercial fish lost to spoilage and consequently thrown away.

Rough fish ratios are only monitored on occasion and vary widely according to location. Of the examples given to me, the highest ratio of rough fish to total catch in a specific series of nets was about one rough to three-and-one-half market fish. Other examples were far below that; more in the order of one to ten. Because these fish are also generally very small there would be a reduced ratio if measured by weight.

According to the people I spoke with from Fisheries and Oceans Canada, The Great Slave Lake Fishermen's Federation, the Freshwater Fish Marketing Corporation and fishermen themselves, one of the major causes of cullage to normally marketable fish is the

occurrence of windstorms on Great Slave Lake during the summer season. The common boat used for commercial fishing on the lake is a steel hulled single purpose boat usually under 15 meters in length. A boat this size will set and manage a large number of nets (often over one hundred nets) each over 90 meters in length. From time to time, strong winds will prevent the boat from getting back to the nets before fish begin to spoil. According to a Fisheries technician I spoke to it is not unusual for up to 70°A of the fish in nets to be lost during windy periods, The number of fish in a net will change for a variety of reasons but for reference sake, examples of net monitoring showed that in one case a fisherman pulled 2005 fish of various species from 36 nets; in another case, 1536 fish of various species were pulled from the same number of nets. A single boat losing over 70% of the nets would mean a substantial loss of product. If this happens to 10 or 20 boats and occurs several times a season, the loss is dramatic.

The loss of product due to weather varies from year to year but everyone agrees it is always a very serious problem. Not only is there a waste of fish there is also a waste of very valuable fishing time. Bringing in the spoiled fish is not considered a realistic , possibility unless it generates the same revenue as market fish. Much needed space on boats would be taken up by this low grade product and more trips to the packing facilities would be required,

The current situation is such that if fish is judged not marketable it is simply dumped over the side. Some considerations for solving this problem are the utilization of more seaworthy boats that could handle tougher weather (which may also dictate a change in techniques) or the elimination of the summer fishery altogether.

The winter fishery normally takes place between mid and iate December and the end of March. The summer fishery normally takes place between mid June and mid October. In all of my conversations regarding cullage and by-product, no one even made reference to winter cullage. By comparison to summer, it seems to be a very minor problem.

There is no question that if commercial fishing took place only in winter there would be a far lower percentage of waste. Quite likely it would also be much easier to recover by-product in the winter. Transportation times are far less critical since the product could be

stored frozen at a single site until adequate quantities accumulated to justify transportation.

There seems to be little chance of making a fish by-product recovery system work during summer months, In purely practical terms it appears that a winter fishery is a better bet to reduce the total amount of waste while at the same time being able to make use of what waste product there is.

SUMMARY

There seems to be a need for some outside individual or agency to assess the value added possibilities for the Freshwater Fishery on Great Slave Lake. The current setup has N.W.T. fishermen working for very low returns and the province of Manitoba enjoying the real economic benefits of the whole process.

If the lake was converted to e winter fishery only and if quotas and production remained more or less the same, the amount of normal wastes from cleaning would stay around 260,000 kilograms per year. There would be little lost due to spoilage in the net. It is difficult to say how much rough fish could be salvaged for secondary products but based on the very small sample section presented to me I would estimate that it would be approximately 10% of the weight of the marketable catch on the lake, which would amount to about 165,600 kilograms (10% x 1,415,683 x 1.17}. This would bring the estimated total recoverable wet weight on waste and rough fish to 415,000 kilograms per year.

The estimated production of market fish would be expected to remain near 1,400,000 kilograms dressed.