

**MAKE
HISTORY.**

Preserve Manitoba's Past.

Economic History Theme Study

A HISTORY OF MANITOBA'S COMMERCIAL FISHERY

1872 - 2005



Whiskey Jack fishing station on Lake Winnipegosis, c. 1912. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p.32.)

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INTRODUCTION

At the beginning of the 19th Century, it was widely believed, and touted by the Winnipeg Board of Trade, that Manitoba's freshwater fisheries had the potential to become the greatest freshwater fishery in the world.¹ Unlike the Great Lakes of Ontario, which are shared with another country, all Manitoba's lakes lay within Canadian territory. Since earliest times, the western region's waterways had provided a valuable subsistence fishery. In the 1880s, after some transportation facilities were in place, commercial fishing became an economic undertaking. But it soon became apparent that all was not well with the new industry, which became the subject of numerous inquiries, beginning with a 1909 Royal Commission. Similar investigations, carried out by a Manitoba Government Commission in 1934, the Manitoba Economic Survey Board in 1938, a Manitoba Legislative Committee in 1954, and the Committee on Manitoba's Economic Future in 1963, all dealt with the blatant economic disparity associated with the commercial fishery. Finally, in 1965, a Royal Commission, which became known as the McIvor Commission, concluded that "*the fishery suffered from serious marketing problems, over-capitalization, and over-participation, which combined to result in a general reduction in returns for fishermen.*"²

The creation of the Freshwater Fish Marketing Board in 1969 was aimed at correcting these problems. While marketing improved, there still remained the problem of freshwater fish stocks which continued to decline in certain species. Two further commissions, a Federal-Provincial Task Force in 1975 and the Standing Committee on Fisheries in 1986, addressed various concerns, including the effects of hydro-electric development on water levels and fish stocks, and changes in the Unemployment Insurance Benefits which affected the incomes of fishermen.

These developments dealt with the economic impact of the fishing industry, but the fishery also had important cultural connections. Two major ethnic groups in Manitoba's society have been

strongly connected with the commercial fishing industry throughout its 125 years. Both had roots in fishing long before it became a viable economic endeavour in our province. The First Nations people had fished in Manitoba's waters long before there was a Manitoba and after 1870 they had retained reserve lands near important waterways. It was natural then, that fishing should become a means of earning a living for them. The other group, immigrants from Iceland, had dwelt by the sea and lived off its bounty for centuries before they resettled on the Canadian prairies. They had naturally chosen land along the "great inland sea", Lake Winnipeg, which could provide the same bounty for them. How the subsistence activities of these two cultural groups were transformed into a major industry worth millions of dollars, and their fight to have a fair share in that wealth will be discussed in this report.

GEOGRAPHY

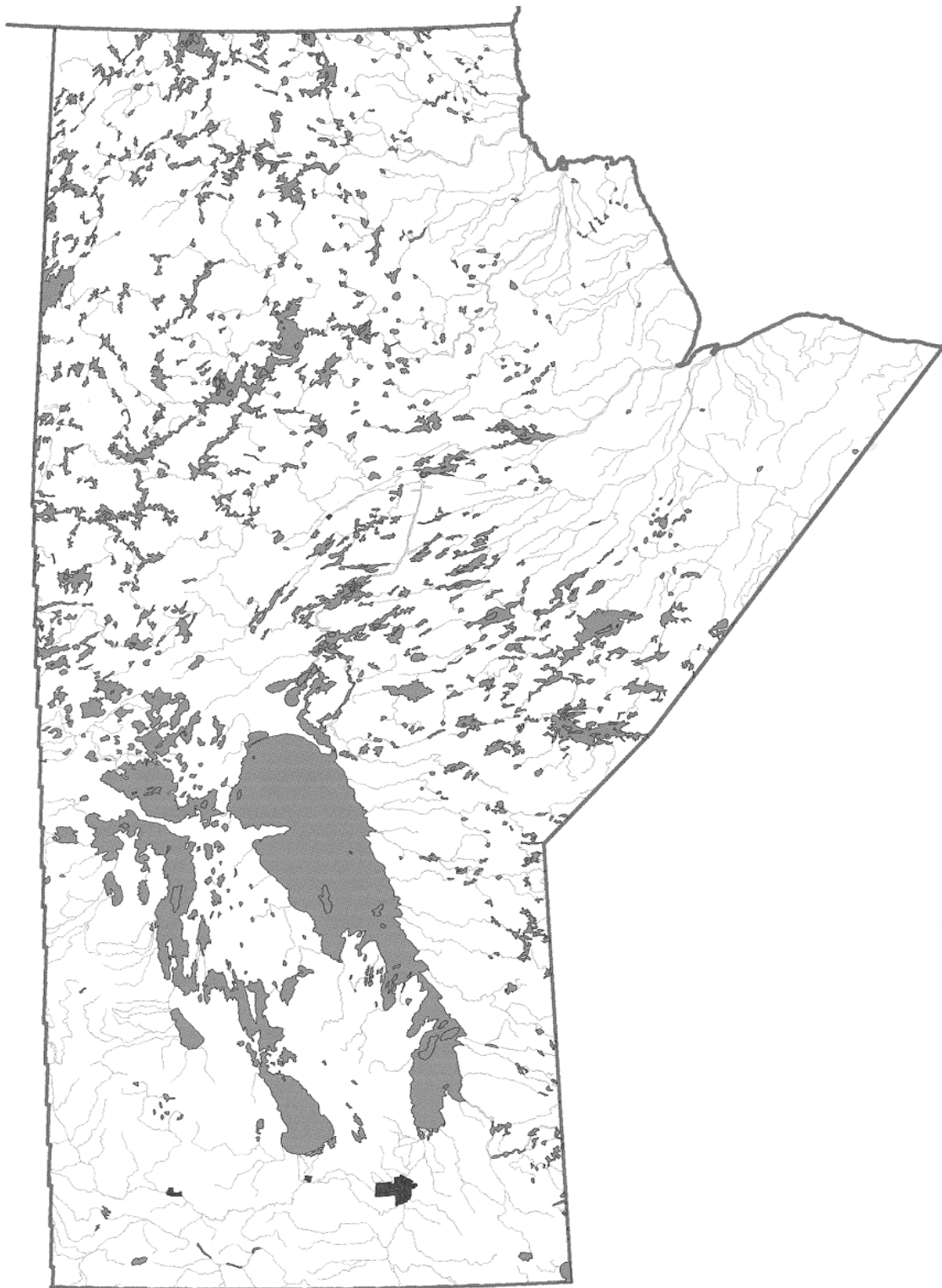
With the exception of Ontario, Manitoba has the largest inland water area in Canada, as well as an ocean coastline of approximately 600 miles. The inland waters can be divided into two categories: those larger waters where commercial fisheries have developed and the many rivers and smaller lakes which support a sport-fishing industry. The larger lakes include lakes Winnipeg, Winnipegosis, Manitoba, Moose, Cedar, Dauphin, and St. Martin. All these lakes once supported commercial fisheries to some degree. All told, Manitoba's lakes cover 94,241 square kilometres, or 14.5% of the province's surface area. One third of this area is contained within lakes Winnipeg, Winnipegosis, and Manitoba, which are sometimes referred to as Manitoba's "Great Lakes". These lakes are fed by many major rivers.

Lake Winnipeg alone covers an area vast enough to rank it among the great lakes of the continent. It is nearly 300 miles long and 70 miles across. The principal rivers running into Lake Winnipeg are the Winnipeg, Saskatchewan, Red, Little Saskatchewan (now known as Dauphin River), Brokenhead, Bear, Pigeon, Berens, Black, Bloodvein, Beaver, Catfish, Bad Throat, Icelandic, and Pelican. Many of these rivers are joined by others during their courses. The Assiniboine, which flows into the Red, also contains the waters of the Qu'Appelle, Souris, Little Saskatchewan and Birdtail. The Winnipeg River, before it enters Manitoba, has been joined by the English and Rainy rivers, which themselves have many tributaries. In fact, the Hudson Bay drainage region, which covers the area north of the Mississippi, and west of Lake Superior, centres on Lake Winnipeg, from which the Nelson River carries waters to the Bay. A body of water like Lake Winnipeg, receiving drainage from such an immense area, provides all the conditions for an abundant fish supply.

Besides these major bodies of water, Manitoba's north is covered with numerous smaller lakes which have become part of both the commercial and sport-fishing industries. Smaller lakes in southern Manitoba, predominantly in the Riding, Duck and Porcupine mountains, have never been used for anything but subsistence and sport fishing.



Armstrong Fishing station at Whiskey Jack on Lake Winnipegosis, c. 1920. The primitive conditions of the station contrast with the well-dressed visitors. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 30.)



A map of Manitoba showing the vast number of water bodies which host fish populations.



Fishing boats on Lake Winnipeg when it was too rough to fish. 1924. (Source: Fisheries Branch Collection, #554.)

MANITOBA'S FRESHWATER FOOD FISH SPECIES

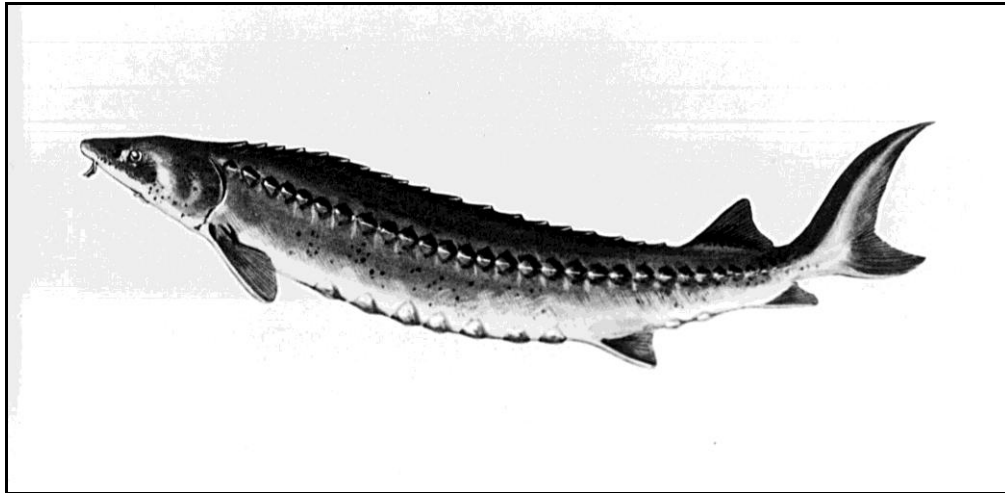
There are 95 freshwater fish species in Manitoba's lakes and rivers. Not all of these are sought for their food value. Below are those species which have importance either to the commercial or sport-fishing industries.

LAKE STURGEON (*ACIPENSER FULVESCENS*)

Lake Sturgeon was once found in all the larger lakes and rivers of Manitoba, north and south. They have since become rare in Manitoba's great lakes and in the Winnipeg, Red and Assiniboine rivers, although, since 1997, they have been planted in the Red and Assiniboine.

Spawning takes place from late May to mid-June when water temperatures reach 11 degrees C. The fish migrate to spawn in fast water, such as rapids or the base of impassable falls. Their eggs are deposited on boulders and bedrock and adhere to the bottom. Many of Manitoba's dam projects have prevented sturgeon from reaching their spawning grounds, causing them to begin spawning in the tailrace of hydro-electric dams. This leaves their eggs exposed when water levels drop abruptly during periods of electric power consumption. After the St. Andrew's Dam was placed on the Red River in 1911, an important spawning ground was lost for the sturgeon. Hydro-electric dams in northern Manitoba have similarly affected sturgeon spawning grounds.

The sturgeon has a *"shark-like tail, rows of plates down the back and sides, the mouth on the underside of a long snout, and a row of four barbels across the snout in front of the mouth."*³ Lake sturgeon grows slowly, requiring as many as 25 years to reach sexual maturity. After maturity the females do not spawn every year. The fish live to be 50 to 80 years of age, and grow to a length of 1200-1400 mm. The largest sturgeon ever caught in Manitoba was about three metres long and weighed 184.57 kg.⁴



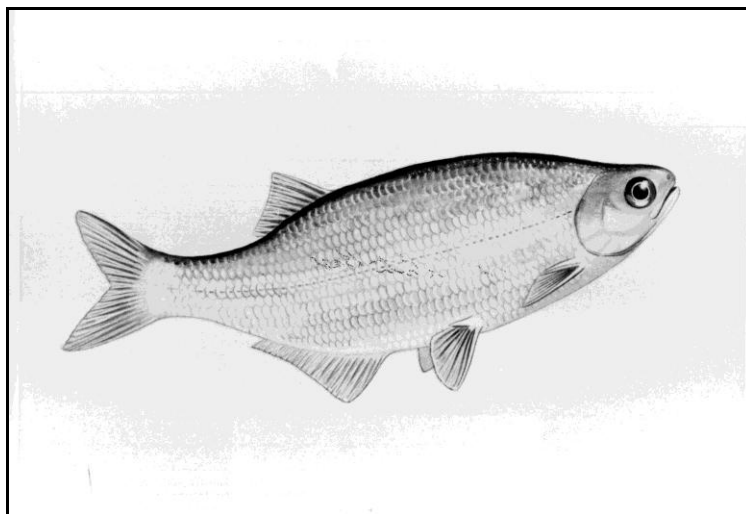
Sturgeon. (Source: Water Stewardship, Fisheries Branch Collection EX3111.)

GOLDEYE (HIDON ALASOIDES)

Goldeye are found in all medium and larger rivers from southern Manitoba to the Churchill River. It is found in lakes Winnipeg and Winnipegosis, but is entirely absent from Lake Manitoba. ⁵They spawn in mid-water in large turbid rivers. Their eggs are buoyant. In the Red River spawning occurs during spring run off.

The goldeye has a dorsal fin in a line vertically from the anal fin. It has a fleshy keel which is not covered by scales. Its back is olive or brown and its eyes are yellow. Goldeye can grow to 400 mm long and weigh about 700 g.

The goldeye is an important food fish when smoked. It grew in popularity as a specialty in Canada in the 1920s and came to be regarded as a unique prairie food. The species is commercially and sport fished, but most often provides food for channel catfish and walleye in southern Manitoba waters.

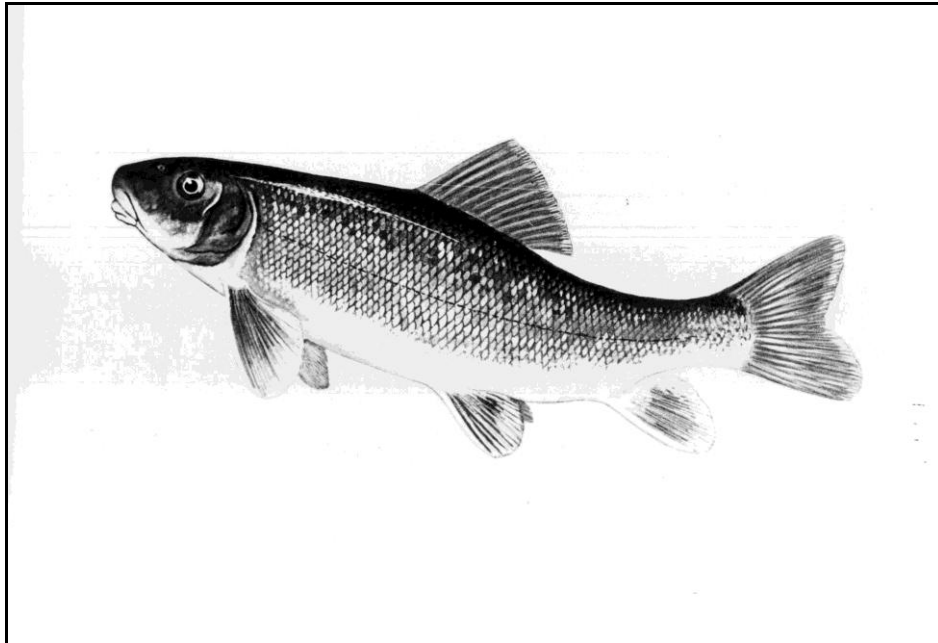


Goldeye. (Source: Water Stewardship, Fisheries Branch Collection EX3076.)

SUCKERS (FAMILY COTOSTOMIDAE)

Suckers are medium to large fish closely related to minnows. Suckers have toothless mouths, processing food with their pharyngeal teeth located on arches at the rear of the gill chamber. Three types of suckers found in Manitoba's waters are used as food fish. The longnose, white, and redborse suckers are marketed as "mullet". Spawning fish are dip netted and canned. Their flesh is firm, white, flaky, and of good flavour. The inter-muscular bones are mostly from the anal fin rearward, making it possible to extract a bone-free fillet.

Spawning takes place between mid-April and mid-May and is usually in streams, lakes, or large rivers in places with gravel or sand bottoms. White suckers are the most common in the commercial fishery and are marketed as mullets with the other sucker species. Since 1960, the white sucker has also been an important commercial fish in Lake Winnipegosis. The catch is ground and turned into fish cakes.⁶

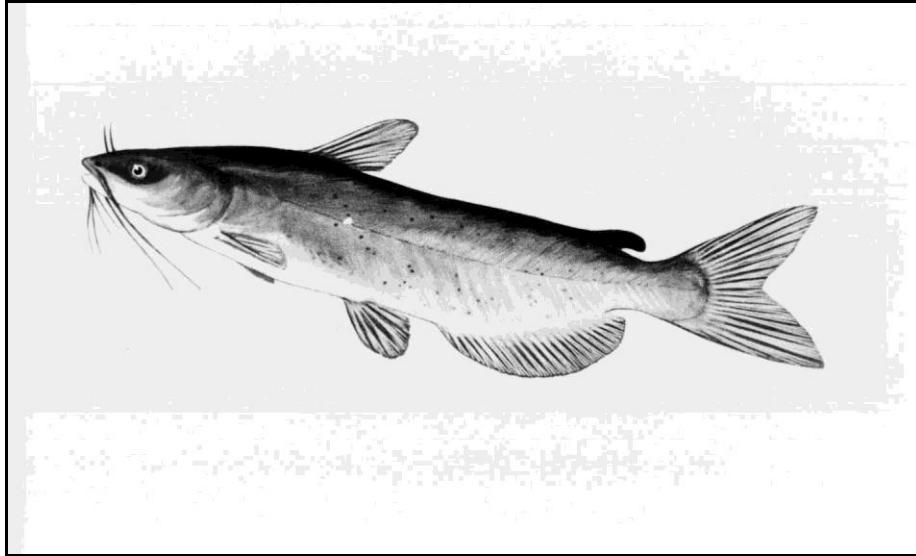


White Sucker. (Source: Water Stewardship, Fisheries Branch EX3120.)

CATFISH (FAMILY ICATALURIDAE)

The freshwater catfish is one of the most distinctive fish in Manitoba. They lack scales and have a strong spine at the leading edge of the dorsal fin and each pectoral fin. There are four pairs of barbels around the mouth; one pair of nasal barbels on top of the snout; a pair of maxillary barbels at the corners of the mouth; two pairs of mental barbels on the chin. These fish are good sport fish and an excellent food fish, although Manitobans usually do not eat them.

Manitoba has four main species of catfish: the black bullhead, the brown bullhead, the channel catfish, and the smaller stonecat. These fish are predominantly found in the Assiniboine and Red rivers and their tributaries, and some have been found in Lake Manitoba. The channel catfish lives in Lake Winnipeg as well.

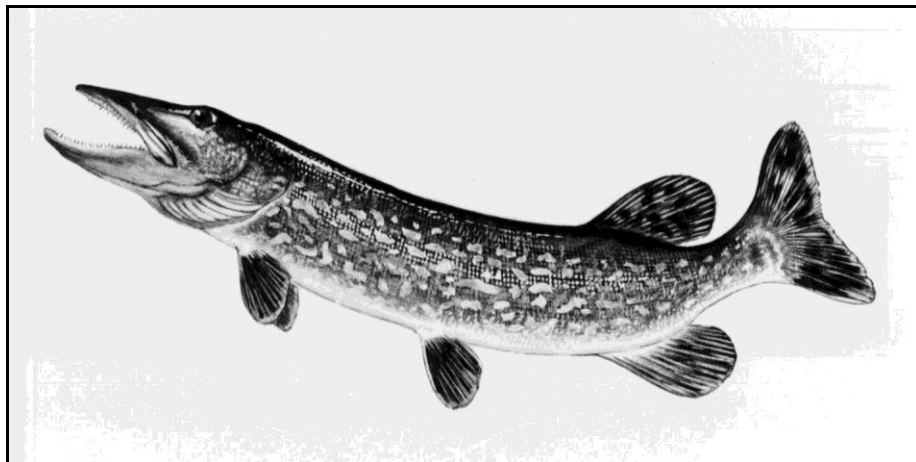


Channel Catfish. (Source: Water Stewardship, Fisheries Branch Collection EX3096.)

Spawning takes place in mid to late June, in holes along the banks of rivers, streams or ponds. Both types of bullheads grow to around 300-350 mm but the channel catfish is much bigger, in the vicinity of 800-1000 mm, and weighing 8-12 kg. All catfish consume smaller fish, especially suckers. The catfish's reputation as a bottom feeder makes it unpopular as human food. They are, however, a highly priced angling species. In the lower Red River region, especially, there is a recreational fishery for channel catfish, and for many young anglers the catfish is their first catch.⁷

NORTHERN PIKE (ESOX LUCIUS)

One of the three most widely distributed species in Manitoba, the northern pike is found in all waters which support fish populations. In southern Manitoba, the northern pike spawn in early April. They leave the ice-covered lakes and move upstream on rivers with vegetation, on which the eggs are broadcast. The pike can reach 150 cm in size and weigh as much as 17 kg. The fish range in colour from brownish olive with yellow spots to greenish blue with silver sides.



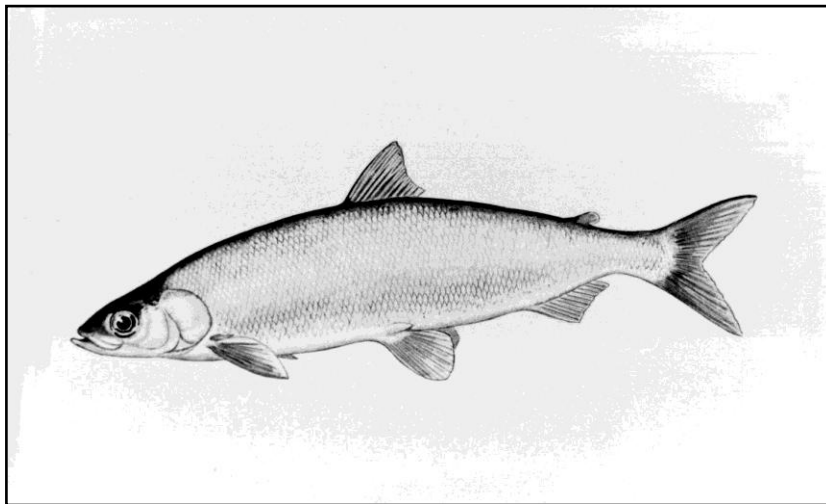
Northern Pike (Source: Water Stewardship, Fisheries Branch Collection EX5091.)

CISCO (CORIGONUS ARTEDI)

The cisco and shortjaw cisco are related to lake whitefish but differ from them in that they have a terminal mouth and a maxillary reaching to below the pupil of the eye. The cisco grows to a larger size than the shortjaw cisco, and is found in mid-water or on the bottom in shallow water. Ciscos and whitefish will hybridize. Ciscos are found in all lakes in Manitoba and will enter the lower reaches of streams to feed. They are also found in the salt waters off the Hudson Bay coast.

Ciscos spawn in fall, usually on reefs in lakes, at water temperatures below 5 degrees C. Much of the spawning takes place under ice. Their maximum size is 350-400 mm and they can reach 10 years of age. They prefer shallower waters, such as the south basin of Lake Winnipeg. The ciscos are prey for larger fish, and carry parasites which are then transported to the larger fish.

Ciscos are important commercial fish and are smoked and marketed as tullibee. They are often caught by anglers who are ice fishing or fishing for goldeye.⁸



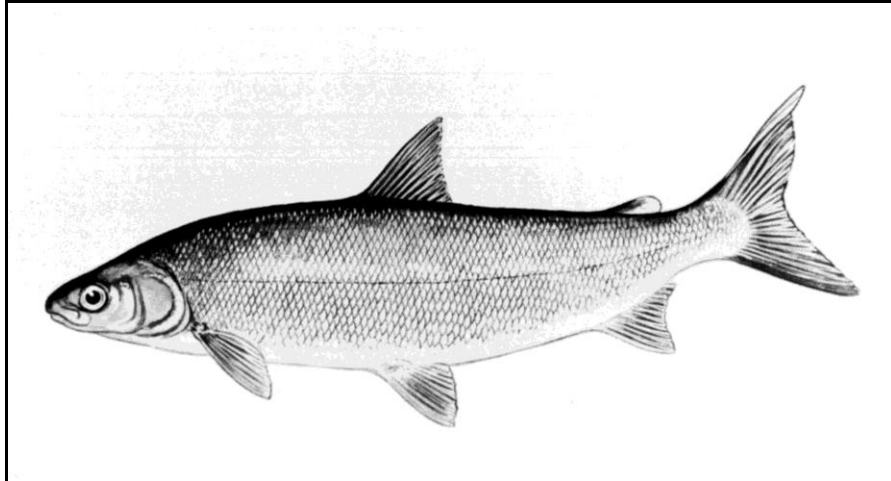
Tullibee. (Source: Water Stewardship, Fisheries Branch Collection EX3115.)

LAKE WHITEFISH (COREGONUS CLUPEAFORMIS)

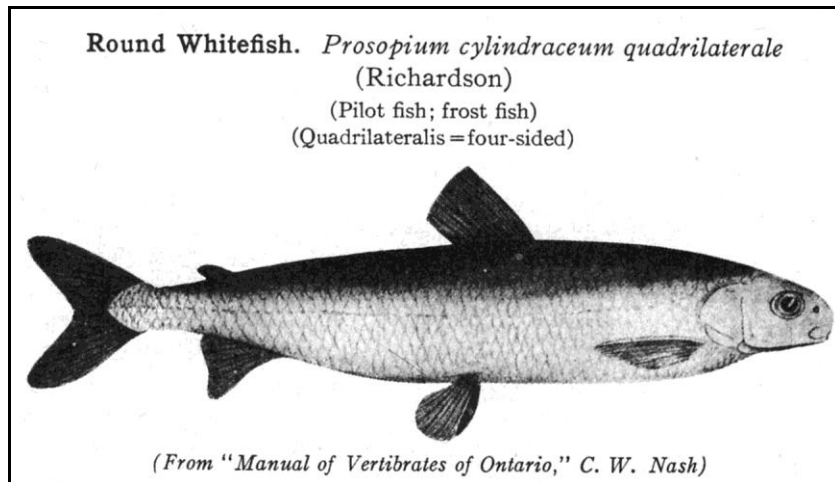
The lake whitefish is distinguishable by its inferior mouth, which does not reach to below the pupil of the eye, by the double flap which separates the anterior and posterior nostrils, and by having more than 25 gill rakers on the first arch. Since ciscos and whitefish will hybridize, they exhibit many variations. The lake whitefish is found in all lakes and streams throughout the Canadian Shield portion of Manitoba, and in all the great lakes except Lake Dauphin.

Spawning takes place between October 5-15, in water temperatures of 5.5-9.4 degrees C. Spawning takes place in 1-3 metres of water over a mud, clay, sand or gravel bottom. In Lake Winnipeg, whitefish attain 17 years of age and weigh as much as 10.9 kg. They are usually bottom feeders and may eat plankton as well as smaller fish and insects. They themselves are eaten by pike, walleye and lake trout.

The whitefish is one of the three most important commercial catches in Manitoba, after the walleye and sauger. Their flesh has an excellent flavour and texture, but the species are often infected with tapeworms, rendering the flesh unacceptable for eating.⁹



Whitefish. (Source: Water Stewardship, Fisheries Branch Collection EX3117.)



ARCTIC CHAR (SALVELINUS ALPINUS)

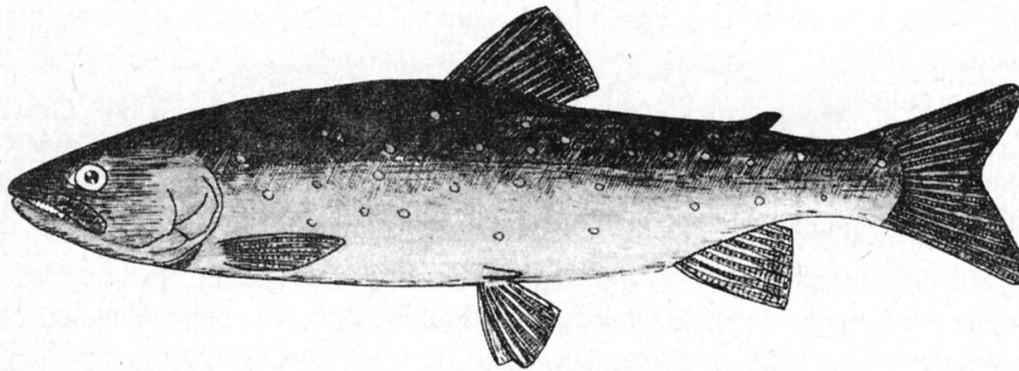
Arctic char is native to northern Manitoba, and has been found as far south as the Churchill River. It is distinguishable by its pale and/or pink spots against a darker background colour. They spawn either on reefs in lakes or in deep pools in rivers in the fall, under ice cover. It is an excellent food fish. Arctic char is an important food source for the Inuit people and today is fished for export. It is also a sport fish for anglers.

LAKE TROUT (SALVELINUS NAMAYCUSH)

Lake trout has a profusion of yellowish spots on an olive background, and has a deeply forked tail. It is found in deep cold lakes throughout the shield area. It spawns during October and November over bedrock, boulder or rubble on reefs in lakes. Growth rates of lake trout vary, being slower in the north. Age varies from 6-12 years. Lake trout may weigh 4-6 kg.

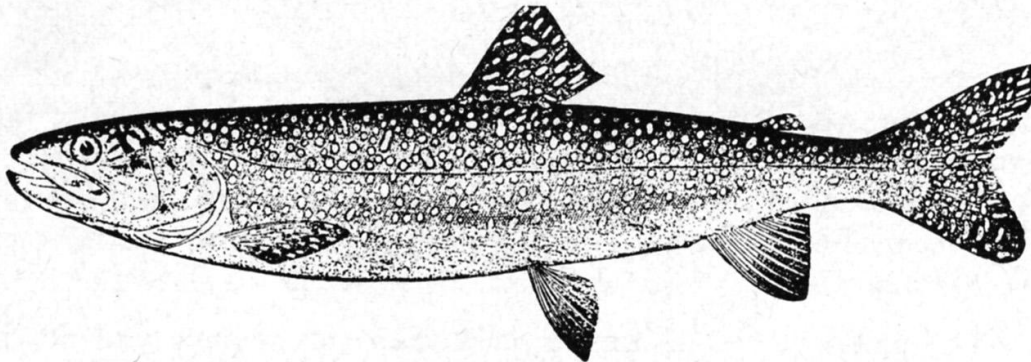
Lake trout is valuable as a commercial and game fish. Its flesh is firm and flavourable, varying in colour from white to reddish orange. The sport fishery for lake trout is very valuable to northern Manitoba.

Arctic Charr. *Salvelinus alpinus* (Linnaeus)
(Trout, Hudson Bay salmon)



(Original drawing, A. D. Bajkov)

Lake Trout. *Cristivomer namaycush* (Walbaum)
(Togue, salmon-trout)
(Namaycush—Indian name for trout)

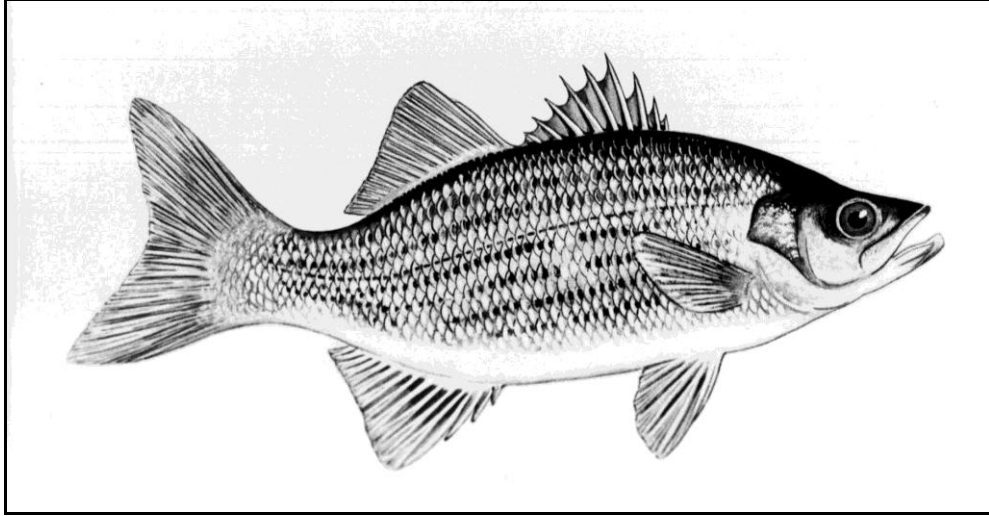


(From Jordan and Evermann)

WHITE BASS (MORONE CHRYSOPS)

This striped fish made its way into Manitoba's waters from North Dakota around 1963. By 1996 they were the most numerous perch-like fish in the south part of Lake Winnipeg. They are also found in the Red, Assiniboine, and Winnipeg rivers.

The white bass spawns in early to mid- June in the Red and Winnipeg rivers as well as tributaries to Lake Winnipeg. These fish grow to 49 cm, and their flesh is firm, white and flavourable. Bass have become important as game fish because they put up a good fight. Anglers have discovered their spawning runs in the south basin of Lake Winnipeg. White bass are of only minor importance to the commercial fishery.

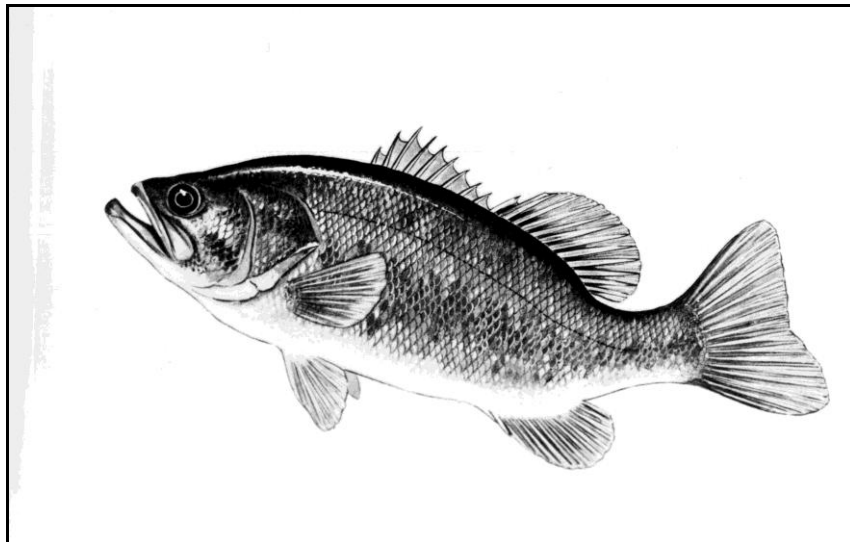


White Bass. (Source: Water Stewardship, Fisheries Branch Collection EX3086.)

SMALLMOUTH BASS (MICROPTERUS DOLOMIEU)

These bass are less deep-bodied than others of this species and have three radiating dark bands behind the eye, as well as indistinct vertical stripes on their bodies. The specie was introduced to Manitoba in 1900 and has become widespread in the Winnipeg River system, Lake Winnipeg tributaries, Lake Dauphin, and the Saskatchewan River watershed. They live to age 13 and can grow as large as 56 cm. They spawn in 16-18 degrees C water on rocky bottoms.

The smallmouth bass is a highly valued game fish everywhere it is found. It is less popular than the walleye but its popularity has increased as its abundance and distribution has spread. It is an excellent food fish.

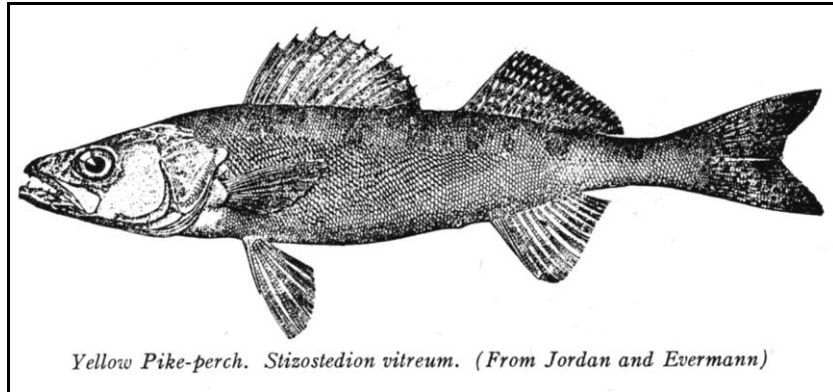


Large Mouth Bass. (Source: Water Stewardship, Fisheries Branch Collection EX3140.)

YELLOW PERCH (PERCCA FLAVESCENS)

The yellow perch has a deep compressed body which is oval in cross section. It has six or seven bars on its sides which narrow towards the lower part of the body. Perch are found in streams, rivers, and lakes as far north as the Churchill watershed. They spawn in May or early June in waters above six degrees C. The largest yellow perch can be 41 cm in length. Perch prefer slow waters with no current, and take cover under vegetation, structures, or logs.

Yellow perch are valued as food fish by commercial fishermen and anglers. Their abundance around man-made structures makes them a common first catch for young anglers.



SAUGER (SANDER CANADENSIS)

The sauger and walleye are the only two spiny-rayed fish in Manitoba with large fang-like teeth. The sauger differs from the walleye because it has three or four rows of black spots on its spiny dorsal fin, scales on its cheeks, a white streak along the anterior edge of the anal fin and lower edge of the caudal fin, and brownish coloration. Hybrids between the sauger and walleye are seen frequently, being more yellowish in colour with rows of spots on the dorsal fin.

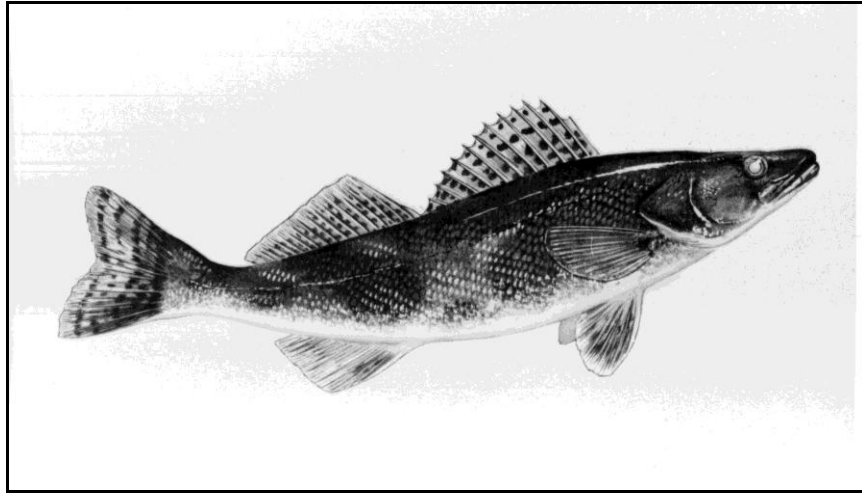
Sauger is found in lakes, rivers and streams throughout Manitoba. It spawns in late May to early June in streams and lakes, preferring more turbulent water. Although smaller than the walleye, the sauger can grow to 350 – 500 mm in length and live up to seven years. They are most commonly caught in the mainstreams of the Red and Assiniboine, while the walleye are more common in lakes and reservoirs.

The sauger is a top-level consumer, eating smaller fish but also serving as food itself for catfish. It is an important commercial and game fish, being marketed as pickerel along with the walleye. It is the second most valuable commercial fish species in Manitoba, after the walleye.

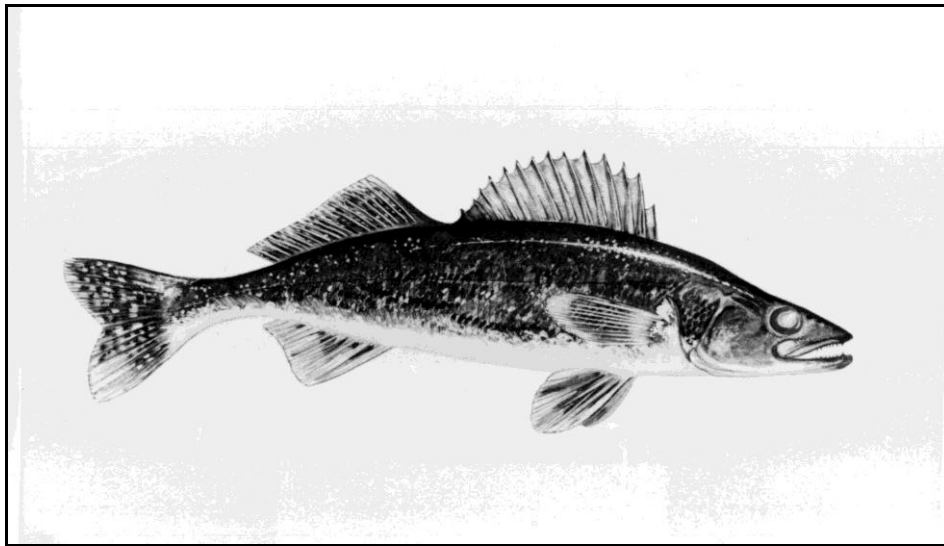
WALLEYE (SANDER VITREUS)

Like the sauger, the walleye has large fang-like teeth but the two differ because the walleye has no black spots on its dorsal fin, its cheeks are nearly scaleless, the lower corners of its anal and caudal fins are white, and the walleye is olive green with indistinct broad darker bars on its sides. The walleye is found throughout Manitoba, and as far north as the Seal River watershed. Walleye spawn in lakes and streams shortly after ice break up, in mid-late April. The walleye is found in deeper, less turbid waters than the sauger, and is more common to the Winnipeg River, rivers and streams of the Canadian Shield, and in Manitoba's great lakes.

The walleye is the most valuable and extensively utilized fishery resource in Manitoba. Its fishery on Manitoba's great lakes is the second largest and most valuable fishery in Canada. It is also the most important subsistence fishery and the premier game fish in Manitoba.



Sauger. (Source: Water Stewardship, Fisheries Branch Collection EX3101.)



Walleye. (Source: Water Stewardship, Fisheries Branch Collection EX3097.)

(All information on Manitoba's native fish species is taken from Kenneth W. Stewart, Douglas A. Watkinson, *The Freshwater Fishes of Manitoba*, University of Manitoba Press, Winnipeg, 2004.)

THE FISHERMEN

Before commercial fishing became a major industry in Manitoba's lakes and rivers, there was a domestic fishery which sustained several groups of people. First, the Native population on the plains and parklands had always depended upon fish as a part of their diet, spending a portion

of the spring and fall seasons harvesting this food. It was an easy adjustment for them to trade this food at fur posts once European traders arrived in western Canada. Fish soon became a staple to maintain the food supply of fur posts.

The first European settlement group in the region, the Selkirk settlers, also depended on fish caught in the Red River as part of their food supply. In 1874, a group of settlers arrived who had chosen their new home precisely because of the expectant fishery to be found there. These immigrants from Iceland settled along the shores of Lake Winnipeg. This group, more than any other, was to play an important role in the development of a commercial fishery. Together with Natives in northern regions, it is the Icelanders who have continued to participate in Manitoba's commercial fishery for over one hundred years.

Over time, as the commercial fishery took form in Manitoba's waters, three types of fishermen evolved. The best off were the owner-operators, who owned their own equipment. The second group were renters who rented equipment from the fish companies, but who made day-to-day decisions about where to fish, whom to employ, and when to empty their nets, etc. The third group was the fishing labourers who were paid wages to work either for the fish companies and the owner-operators. Generally the fish companies were most active in summer and fall while most winter fishermen were owner-operators.¹⁰

THE NATIVE FISHERY

The Plains Cree ate fish as a change from a steady diet of meat. When poor hunting reduced the meat supply, fresh fish were important, but according to explorer, David Thompson, the Cree "...looked on fish as an inferior food and catching them beneath a hunter."¹¹ Perhaps then, the women and children were responsible for catching fish, because archaeological research, carried out in the Qu'Appelle Valley in 1986, found that fish remnants made up between 20 and 50 percent of all faunal remains recovered from a site dating to 1000 B.C.¹² The faunal remains leave little doubt that the Plains Natives did consider fish a valued food source. They evidently returned annually to good fishing locations, a pattern repeated over hundreds of years. Although predominantly reliant on bison for food, when the bison was not readily available, fish did become their staple food. It is important to remember that while traditionally not thought of as good fishing areas, in the historic period, the southern lakes and rivers produced larger fish which multiplied at a faster rate than in the rivers and lakes of the parkland.¹³ If there was an ample supply of fish, fairly large groups of Natives would gather during a season when they generally dispersed across the countryside in search of game, thus providing social opportunities for the tribes.

David Thompson's comment that the Cree did not know how to fish probably referred to lake fisheries.¹⁴ In general, Plains Cree kept away from lakes, rarely camping on lake shores and never fishing in lakes. Practically all fishing was done in winter and early spring. In summer, sturgeon might be targeted if their fins were spotted on the surface. In winter, fishing was through open places on the river produced by flowing springs. Holes were not chopped in the ice. The spear used was a five-foot willow or saskatoon stick, with two sharpened forks. The open spaces on the river were for communal use, and several men might gather at any one time. The catch was dried, pounded, and mixed with berries and fat to produce a type of pemmican.

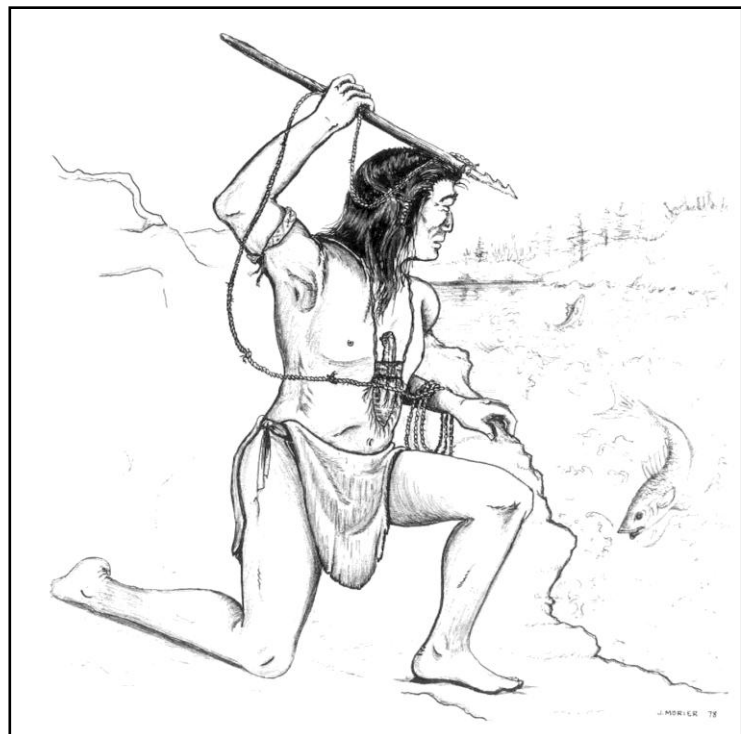
In spring, the Cree constructed weirs to catch the fish as they ran downstream. Two converging barriers of poles and stones were laid across the stream. At the apex, four interlocking legs formed a tripod from which was suspended a trough-like basket made of poles. The current

swept the fish up on the poles while the water escaped through the gaps in the poles. The fish were pushed higher and higher up the trough where a man was stationed with a netted scoop. The weir was usually operated at night. One man was stationed where the fish entered the trough and, at a signal from him, a second man swept the fish higher in the trough so a third man could club them. Then the catch was divided. *“No matter who made the weir, all camped around it got an equal share of the fish. The first night after the weir was built, three or four men were chosen to work it through the night. They hauled the fish to the shore and also passed them out. They were allowed to keep the best fish for themselves, but the men chosen were generally not stingy and gave everyone a fair share. All of the first catch had to be eaten. After that anybody could go and take fish from the weir.”*¹⁵

The Ojibwa moved westward to southern Manitoba from a region along the Great Lakes, so they would have been used to fishing. Laura Peers in her study of the Ojibwa in western Canada found consistent references in HBC journals to the Ojibwa harvesting fish. She found that at Pembina, the Red River may have yielded sturgeon which was as important as the bison to the Ojibwa. She concluded that *“fish was an important food in the summer, and that major fisheries existed at Netley Creek/Red River, on the Assiniboine River near Brandon House, and the mouths of rivers emptying into Lake Manitoba”*, all contributing to making fish a major part of the Ojibwa diet.¹⁶

To Natives living in the parklands, fish were the equivalent of bison to the plains tribes. Natives chose the location of their villages according to the availability of fish for themselves and their dogs. Accumulation methods used were spear fishing, damming streams and using birch bark or scoop nets, fish traps and gill nets. The traps were often fabricated from local materials such as bark, willows or cedar roots. This subsistence fishery faced little competition until Natives began supplying the needs of the fur trade. Then it became necessary to trek to more and more remote fishing spots.

For centuries Native fishing parties had harvested abundant supplies of sturgeon at Grand Rapids. They stood on the rocks beside the deep pools at O Nika pik (The Carrying Place),



Native spear fishing. (Source: Historic Resources Branch.)

moved a pole slowly downstream through the deep water until they felt the sturgeon's ridged back-bone, and then made another pass through the water with their scoop to catch the fish. Quantities of fish oil were made from the catch. The whitefish were also caught at the Rapids in scoop nets. They were smoked and dried, and then pounded over rocks to create fish pemmican, suitable for winter and trail use.¹⁷

Dr. Richardson, who spent a winter at Cumberland House, wrote: *"The most esteemed fish is the coregonus albus, the attihawmeg of the Crees, and the whitefish of the Americans. The usual weight is between three and four pounds. Three fish of ordinary size is the daily allowance to each man at the fort, and is considered as equivalent to two geese or eight pounds of solid moose meat. The fishery for the attihawmeg lasts the whole year, but is most productive in the spawning season, from the middle of September to the middle of October.....picarral or doré, is common, but not so much esteemed, as the attihawmeg. It attains the length of twenty inches in these lakes.*

The pike is also plentiful, and being readily caught in the wintertime by hook, is so much prized on that account by the natives, as to receive from them the name of eithinyoo-cannoo-shoeoo, or Indian fish. The common trout, or nammoeous, grows here to enormous size, being caught in particular lakes, weighing upwards of sixty pounds; thirty pounds is no uncommon size at Beaver Lake, from whence Cumberland House is supplied. The hieden clodalis oweepeetcheeses, or goldeye, is a beautiful small fish, which resembles the trout in its habits.

The sturgeon is also taken in the Saskatchewan and lakes communicating with it, and furnishes an excellent, but rather rich article of food."¹⁸

Fishing Methods: Indian traps on rivers consisted of "V" shaped walls of stones with a terminal pocket which trapped the fish. The traps were usually left after the fishing was completed, resulting in waste.

The fur traders introduced the concept of gill nets to the Natives. Their homemade nets of twine were never more than 300 yards long, usually shallow, and marred with large knots. Net care was poor, with little mending or drying. The common practice was to set nets, with blocks of wood for floats and stones for sinkers, near the shore of a Native encampment, but the shore was crowded with the nets and the catch was generally poor, with mostly coarse fish.

Fish Processing: The Lake Winnipeg method started with a cut in the fish's tail into which a stick was inserted. The stick was then placed horizontally above the height of dogs and children. A slit in the gills allowed the blood to drain. Freezing produced a hard excellent food product. But warm weather would render the fish inedible.

The second method was to gut the fish immediately and then hang them. By freezing at night, thawing during the day, the fish gradually dehydrated and cured over a ten-day period. If the fish were too spoilt for human consumption, they could still be fed to the dogs.

In the third method, the fish was split down the back, the two fillets remaining joined along the belly. Viscera and roe were removed. The fillets were then detached from the sides but not tail. The clean fillets and belly were scored at one to two inch intervals. These were then thrown over a stage consisting of four-inch poles, again erected out of reach of dogs and children. The fillets were left two to three days and then removed to a smokehouse/tent, with a poplar fire smouldering on the floor. The fish were then tied in bunches by the tails and left on outdoor stages until baled. The guts and viscera were also smoked for dog food.

Sturgeon Fishing Methods: The sturgeon stocks were most at risk during spawning season, as they ascended the rivers from the lakes in May and June. In spawning season the sturgeon congregated near the rapids in the thousands, often rising to the surface. They were easily caught there by traditional Native fishing methods. Their fat content was also at its height in spawning season. The sturgeon was speared from platforms built to extend over the rapids or falls. After spawning season the sturgeon kept close to the bottom of river in deep pools where they avoided nets and spears. For five or six weeks in summer they could not be caught in a drag net because they kept their heads down while following the current.¹⁹ Autumn found the sturgeon moving downstream and into the lakes but they were never as plentiful, concentrated or predictable as in the spring. But they did swim close to the surface and could be taken by nets and spears. It was difficult to catch them with nets during the winter freeze up because they were in deep water, inaccessible by net. It was also difficult to catch them in periods of high water.



Aboriginal woman fixing gill nets, with fish drying behind her. (Source: Water Stewardship, Fisheries Branch Collection C2795.)



Native campsite, near Birch River. (Source: Archives of Manitoba, #311.)

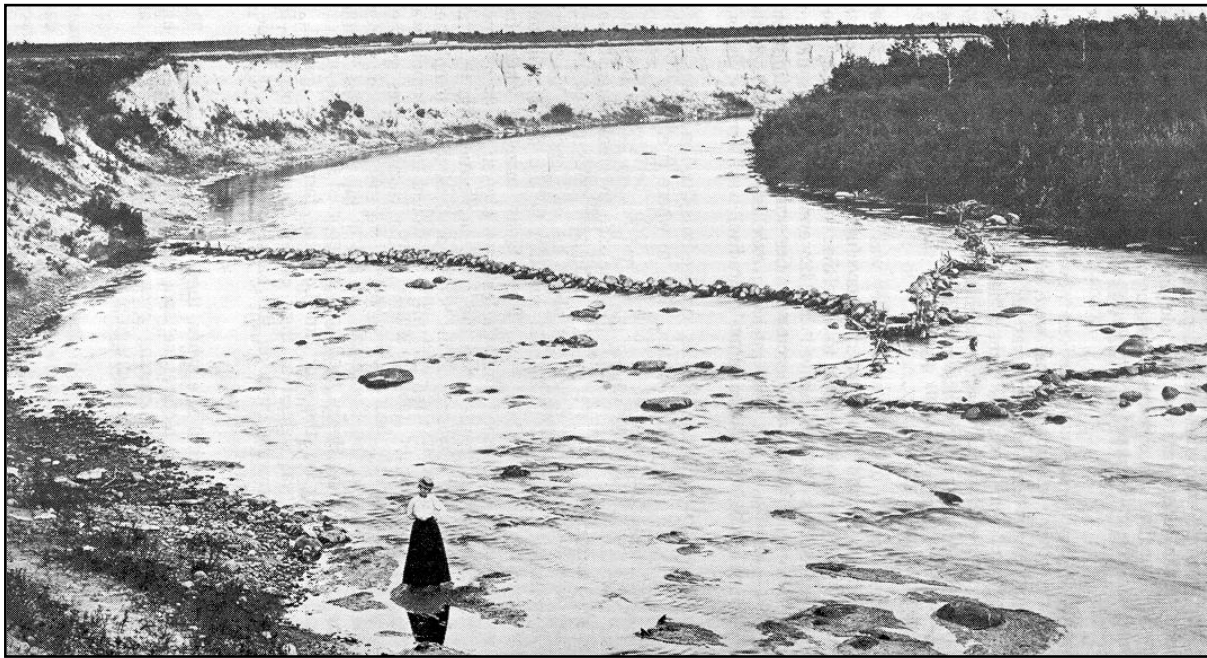


Dogsleds at Fort Alexander. (Source: Archives of Manitoba, # 019.)

Use of hooks and lines to catch sturgeon was very difficult because of their size, strength and feeding habits. Spears were successful when the sturgeon was close to the water's surface. Night fishing with spears worked when torches were attached to canoes to attract the sturgeon to the surface. The fur companies began trading the Natives for iron spear tips in the late 18th century and these were highly prized. The Ojibwa used platforms which were built to stretch twenty feet from shore over the rapids. Here the Natives sat silently and motionless until some sturgeon came within range of their spears. If too many fish were caught on any given day,

these were tethered through the mouth and gill and confined in the water near the bank for up to two weeks without harming their food value.²⁰

Weirs were constructed of stones and wooden stakes at some locations. The following is a description of a weir built by the Ojibwa in the Rainy River region: *“Their weir or sturgeon dam isbuilt with poles stuck in the mud of the bottom, so close together as to prevent the sturgeons passing between them, inclined a little down stream, and kept in place at top by transverse poles, to which they are bound with bark, the transverse poles being supported by forked braces, placed below and inclined upstream. The Indians stand upon supports attached to the weir, and catch the fish with hooks, fastened to long poles, which they move about in the water at the base of the weir till they feel the fish against them, when the fish is hooked up by a sudden jerk of the pole. The weir is placed at the foot of the first rapid, and when the fish are ascending, has an opening made in it to allow them to go up, but which is closed when the fish are descending, and it is at this season that most of them are taken. The water of the river is turbid and of a dark brown colour, which prevents fishermen from seeing the fish, or being seen by them. The fish taken here are from two to four feet in length, and are as abundant now as they ever were.”*²¹



Remains of an ancient fish weir placed on Roseau River in southern Manitoba, 1900. Every spring, Natives gathered here to catch and smoke pike, sturgeon and catfish. (Source: James Kercher Waddell, *Dominion City Facts, Fiction and Hyperbole*, p. 14.)

Another indigenous method of catching sturgeon was with dip nets, large seines, or drag nets. A North West Company trader wrote in 1804: *“They fish with nets, hooks, lines and spears, but they have a method of taking sturgeon with a kind of drag-net or seine, which I believe, is peculiar to themselves. The net used for this purpose is about 20 feet long by 6 feet deep, when shut double. It is dragged between two small canoes, having two men in each; while the bowmen paddle gently down the stream, the men in the sterns hold the seines by means of long cords, fixed to each end and which can be shortened or lengthened according to the depth of the water and the wishes of the seineurs. Two stones are suspended from the lower ends of the seine by which the nature of the bottom and the soundings are ascertained, a very necessary*

precaution to keep the whole clear of foul bottom. The course of the canoe must form an obtuse angle with the middle of the seine.

*These nets are mounted like the English drag nets, with small knobs of cedar fixed to the upper border instead of cork. When by the vibrations of the cords, they perceive that fish is taken, they instantly haul up and paddle with all their might to bring the canoes together and, thereby, shut up the fish in the seine. This method of fishing is, of course, practical only in rivers, narrow channels and small bays, where the bottom is clear.*²²

Storage of Sturgeon: The sturgeon fishery produced large catches and much of the flesh was processed by the Aboriginals for later use. J.D. Cameron observed their practice of packing the processed fish into sturgeon skin bags in 1826. The fish were *“cut up in their flakes and dry over a slow fire, after which they pound the dried flakes between stones until it becomes like a kind of sponge, this with the oil they gather[;] affords them a rich and substantial food of which they are very fond.*²³

Sturgeon and whitefish were also rendered into oil, which was used in preparing pemmican or sold for lubrication. Sturgeon also yielded a non-food product which was important for domestic and commercial use. Isinglass, a gelatinous substance, was derived from the inner membrane of the air bladder (swimbladder). Oil was rendered from the sturgeon by boiling it, and skimming the oil from the top of the water. A fifty-pound sturgeon could yield a gallon of oil. The oil was stored in a jar or skin of a sturgeon, called “numaywayan”.²⁴ These jars were nearly indestructible and easily transported because of their lightness. All parts of the sturgeon were used. The roe was eaten and the swim bladder was valued by the Ojibwa as a binding agent in the manufacture of paint. The Ojibwa of eastern Manitoba and the Rainy River region were considered to be independent from the fur trade by Sir John Richardson in 1849, because *“they have an abundance of sturgeon and great quantities of wild rice.”*²⁵

Natives fished predominantly in fall spawning season and consumed the product in winter. The inefficient fishing methods employed at other times of the year were balanced by the ease of fishing during spawning season. Given the inefficient fishing methods used at other times of the year, there was an element of truth in the contention of the missionaries and fur traders *“that the Indians would starve unless they fished in the spawning season.”*²⁶ The fall fishery traditionally began in September, when the Natives would go to the river and set up traps, weirs or gill nets to capture whitefish coming up the river to spawn. These traps, constructed in the river, remained in the water after the Natives departed.

In 1870, the Natives at Fort Alexander consumed 30,000 whitefish. Dogs used in the fur trade consumed 2/3 of the fish caught, although less in summer. The dogs were fed mullets, pickerel and pike rather than whitefish.²⁷ With the depletion of game and fur-bearing animals from the region, the Natives gradually became more dependent on fish as a staple food supply. Fish had become a crucial part of the Aboriginal economy by the 1870s and 1880s. While the fish stocks represented a food supply to the Aboriginals and their dogs, they would soon represent a considerable source of potential profit for white fishermen and fish buyers as well.

FUR TRADE FISHERIES

Fur posts were often established in good fishing areas. In winter 1733-34, La Verendrye sent part of his force to winter at Fort Maurepas (mouth of Red River) where fishing was good. Isaac Cowie, writing about the establishment of Norway House, said it was *“more convenient to move the fort to the fishery.”*²⁸ In fishing areas, the daily ration for fur traders was “three large

whitefish".²⁹ Good fishing hauls became more essential after the disappearance of the buffalo. Most trading posts did their own fishing, employing someone for this purpose. But some purchased fish from Natives. Both traders and Natives used the same fishing methods. They started the season about October 1, working at river mouths, with traps, weirs and gill nets, which easily captured the spawning whitefish. A summer fishery was carried out along the shores of lakes.

The sturgeon fishery was very important to the fur trade. Fur traders were amazed at the number of sturgeon taken and noted the importance of this fishery to the Natives. The isinglass, derived from the air bladder of the sturgeon, was highly prized on the European market, and the HBC spent efforts accumulating it through Native trade.

Lake Winnipeg and its tributaries were noted as rich sturgeon waters during the fur-trade era. Each year thousands of sturgeon ascended the rivers to spawn shortly after the ice cleared. Alexander Henry the Younger reported that 775 sturgeons, weighing from fifty to 150 pounds, were brought into his post at the mouth of the Pembina River during the period April 8 to May 20, 1808. Sturgeon may have surpassed bison as a stock of provisions at the trading post that year.³⁰ Along the Assiniboine River, where the fur trade peaked in 1795 with 23 posts, competition was as strong for sturgeon as it later was for bison. Competing fur traders actually attempted to starve out their rivals by destroying sturgeon weirs on the river.³¹ Sturgeon was also abundant near the mouth of the Saskatchewan River, but the richest sturgeon water in the Hudson Bay basin was the Winnipeg River basin. In years when provisions were sparse, many fur-trade posts were at the mercy of the Ojibwa fishermen, causing a rise in the price of dried sturgeon.

Examination of the HBC journals of the various posts provides information about the importance of fish to the diets of the fur traders. For example, during August - September 1802, the HBC traders at Nelson House reported fish catches of less than four per day. At the end of October they reported an improvement in the catch but commented that the "*Canadians (Northwest Company traders) [were] almost starving getting no fish, some of them eating Rockweed.*"³² The fish scarcity continued, although the HBC men seemed to cope better than the Nor'Westers. In February, the Canadians borrowed a net from the HBC fort to go "*fishing nine miles away.*" After a few days, "*the Canadian man came and returned his net. Said he would have to go down to the factory in spring.*"³³ In June, the HBC men also went to York Factory to avoid starvation. The fishery had not sustained them.³⁴ In 1809, the trader reported that fishing had been good since July.³⁵ In June 1810, the post recorded; "*Our fishery very bad but also the Canadians taking the fish out of our nets in the night. Am under the necessity of keeping two men to watch our nets in the lake all night. They deny ...but I do not believe a word that they say ...*"³⁶ That same month, thankfully, the trader reported that "*the Indians and their families brought 15 sturgeon*" to trade.³⁷

The Berens River post records for 1872 showed a noticeable improvement in the fishing conditions, most likely because the Natives were now more actively involved in the fishery. They appeared to be hired to fish for the company. In November 1872, the trader reported: "*The fishermen came home with all their things, left 300 fish on the stage which makes altogether from Pigeon River fishery this year 8800 fish.*"³⁸ The winter fishery seemed to be adequate, with the post putting "*100 fresh fish in the snow for spring use, 700 fresh fish still remaining*", in March 1873.³⁹ The sturgeon fishery in May seemed pretty scant, ranging from one to 14 sturgeons per day from ten nets.⁴⁰

In Norway House, dog sleds were used to haul the fish catch across the ice to the post. In October 1863, the fishermen were taking from 70 to 390 fish per day during whitefish spawning season.⁴¹ At a fishery referred to as Henry's fishery, massive amounts of fish were taken during November and hauled to the post. In one of these hauling expeditions, one of the fishermen, Henry Curleyhead, fell through the ice with his sled. His companion, Edward Paupanakiss, following close behind and seeing his companion and sleigh fall through the ice, threw himself off the sled which, with his dogs, ran into the hole made by Henry. *"Edward tried by means of his belt and capote to get Henry out of the hole but could not venture near enough as the ice was so bad. He then had to return to the fishing house for a line whilst Henry supported himself by clinging to the ice which however gave way very often. When Edward returned with the net line Henry was about to give up. His hands were so benumbed by the cold water that he could not grasp the line. He managed however to get a hold of it by his teeth and with difficulty Edward and two women that came with him from the house pulled Henry out of the hole onto sound ice. One of Henry's dogs has drowned."*⁴²

Fishing on Lake Manitoba, as reflected in the journal of Lake Manitoba post in 1818, was no more prosperous, with catches recorded as 250 whitefish in spawning season.⁴³

Generally the catches for the fur traders did not appear to reflect the abundance of fish which must have existed in the waters at that period of Manitoba's history. One can assume that the limited numbers of their catch is a reflection of the rudimentary type of equipment which they and their Native employees used. The fur-trade fishery also seemed to be along rivers or mouths of rivers, rather than on the open or frozen lakes.

Fishing for the fur trade posts continued in the north well into the 20th century. Post journals for Norway House related the need for 6000 fish for the winter food supply in 1939. They also show that the Native fishermen were able to supply the post with this number.⁴⁴

RED RIVER SETTLEMENT

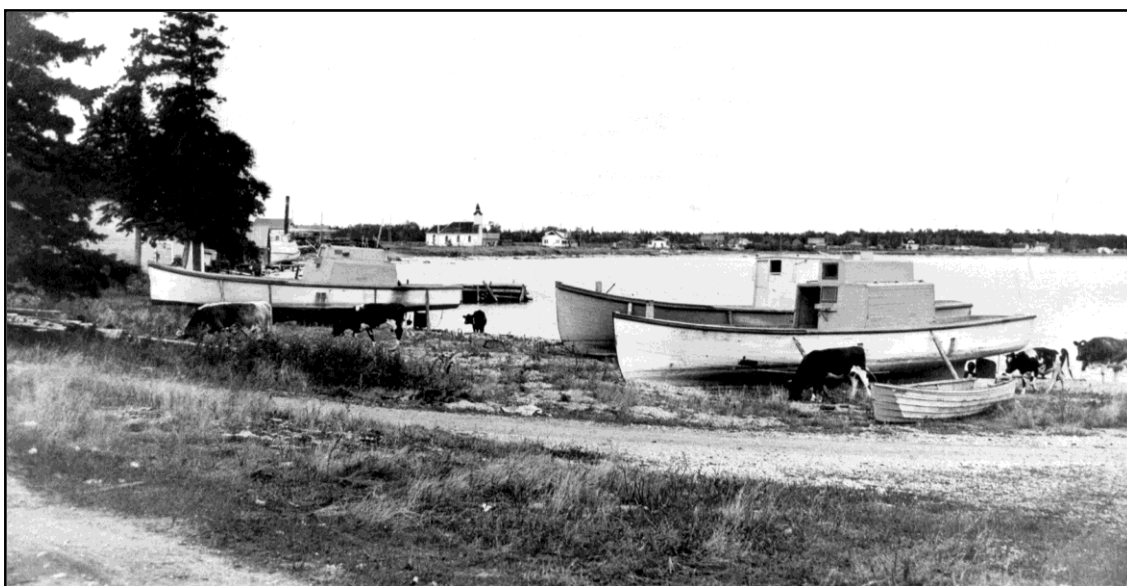
The first regulations concerning fishing were issued by Lord Selkirk for his colonists, but there must have continued to be a problem with fish resources, because in 1865, the Council of Assiniboia, which then administered the laws for the settlement, declared: *"It is unlawful to erect any weirs or barriers, in any part of the Red or Assiniboine and on receiving information of the existence of weirs or barriers, any magistrate shall be empowered after July 1, to order any constable to remove the same."*⁴⁵ Alexander Ross, in his book on the Red River Settlement, reported occasions when fish were scarce. In 1822, a Swiss settler, almost starving, reportedly paid five shillings for six small goldeyes, *"fish little bigger than a sprat."*⁴⁶ When Captain Palliser's expedition arrived at Fort Alexander on July 8, 1857, one of its members, Dr. Hector reported: *"The catfish as plentiful here, the liver of which abounds with an oil which might be successfully substituted for cod liver oil in the treatment of consumption, cases of which are very frequent among the half-breed population."*⁴⁷ The benefits of this oil were likely known to other inhabitants of the colony as well. J.J. Hargrave, in his book, *Red River*, remarked on the importance of the Lake Winnipeg and Lake Manitoba fisheries to the settlement. They yielded whitefish and sturgeon while the Red River yielded catfish, goldeye and occasionally, sturgeon.

The Métis and other settlers engaged in fishing for consumption and for commercial purposes for many years. Sturgeon bladders had been a hot commercial commodity, when exported to England. In the 1870s, the whitefish became such a highly desirable commodity that: *"In the latter end of September numbers of fishermen leave Red River for Lake Winnipeg, some in birch canoes, others in skiffs....A few of them try their fortune within the province, others pass to the southeast corner of the Lake; part of them remain on Elk Island, the rest pitch their tents*

around the bay into which the River Winnipeg empties its waters, some proceed as far north as Blackwater River.”⁴⁸ Approximately 80,000 whitefish were taken from Lake Winnipeg alone during the 1873 spawning season. Lake Manitoba was another whitefishery, and many Red River settlers descended on the St. Laurent region each fall to join the two large Métis communities there in the fall whitefish harvest. Here, the Métis alone harvested amounts near 20,000 whitefish.⁴⁹ Large amounts of fish were also taken by Native fishermen at major sites along the northern shores of Lake Winnipeg.

THE ICELANDERS

Fish was an important part of the Icelandic diet in Iceland so it was not surprising that when Icelandic delegates arrived here in 1874 to locate a tract of land for Icelandic settlement, they chose land along the shores of Lake Winnipeg. The settlers who arrived in Manitoba in 1875 brought with them a strong seafaring tradition. In Iceland, they had been cod fishermen and the nets they had used in their former homeland proved too large-meshed for Lake Winnipeg. It was the Cree and Ojibwa who taught the Icelanders how to net whitefish and how to catch jackfish on baited hooks. Whitefish were hung to dry to make “hardfish” to meet the settlement’s needs. Fish were eaten fresh, or salted, smoked or dried for winter use. At first the new settlers tried to grow crops, but their lack of success caused them to turn to “the sea” for their livelihood. Using smaller mesh nets, the Icelanders actively entered the commercial fishery.



Fishing boats at Hecla, 1930s. (Source: Archives of Manitoba #592.)

The first fishing was out of Gimli and Hnausa and was mostly for food supplements. The arrival of an additional 1000 settlers in fall 1876 increased the settlement’s dependency on the fishery. The fish were cleaned, salted, and dry cured, smoked or pickled. Boat construction increased and within four years, the settlement had a fleet of 129 fishing craft.⁵⁰

Gradually the need to preserve and market the fish developed and the first fish buyers were Hanneson Brothers of Gimli. They put up an icehouse and paid the fishermen one cent per pound for pickerel. By 1892, the Sigurdson Brothers of Hnausa had started a fish-packing plant and were paying three and one-half cents per pound. Their example was followed by Magnus Magnusson and Thomas Bjornson at Hnausa and Kristjon Finnson at Riverton. Now, most Icelandic settlers saw the winter-fishing cycle as a way to make cash money to pay their

taxes and supplement their home-grown food supply.⁵¹ In 1890, an Icelandic newspaper reported that there were about 3000 Icelanders fishing on Lake Winnipeg.⁵² The method of winter fishing was to prove a challenging and arduous way of life for them and their descendants.

By the 1890s the fishermen had started traveling north along the shore to Grindstone and Bull Head. As the crews moved farther and farther north, a problem with transporting the fish catch arose. Teams of oxen carried the fish from Hnaua to Selkirk to Booth Fisheries, but the trip could take as long as seven days. Gradually the slow oxen were replaced by horses. The fish were stacked in boxes which were stacked in rows, covered with canvas and sent to points along the shoreline where they were packed in larger boxes and put on a freight train pulled by horses. In 1892, a snowplow was devised to clear a path for the fish trains. The lead team pulled the snow plow followed by the caboose, a traveling home where the men could eat and sleep and which had extendable canvas sides under which the horses could shelter at night.

Many fishermen used dog teams to move their supplies off to camp and to retrieve their catch from the lake. The dog teams resembled huskies and were able to travel long distances.

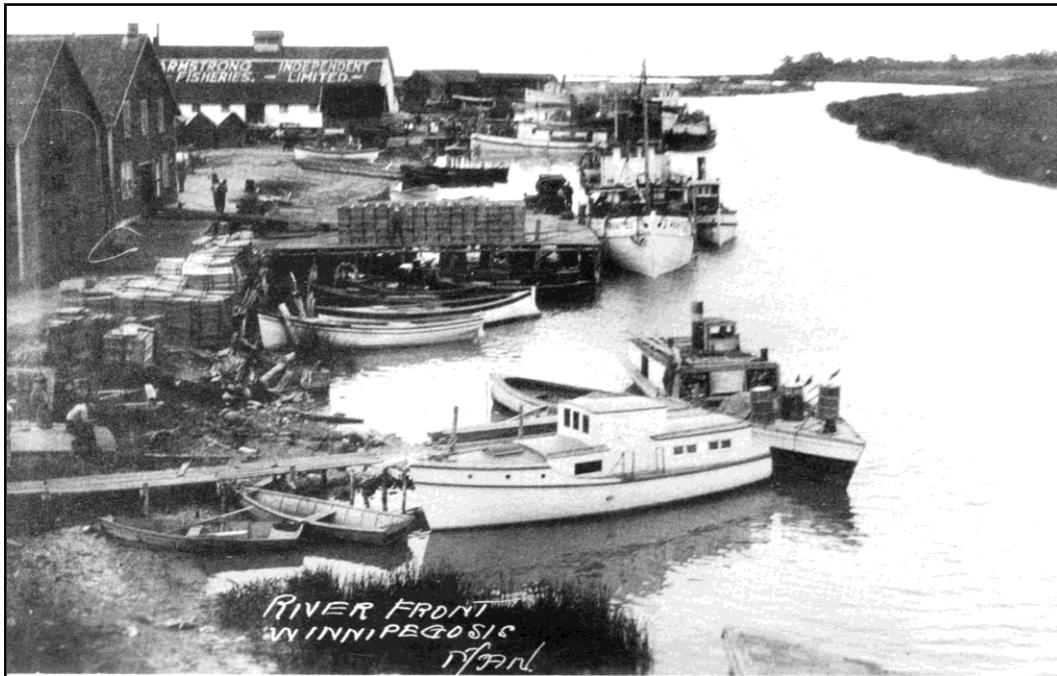


Fish train loaded with fish boxes, headed for Riverton. (Source: Archives of Manitoba, #269.)

The fishermen created temporary canvas tent camps along the shore but these soon gave way to log cabins, erected if the same camp was to be used for a number of years. For those going straight east on the lake, the camp was usually a caboose on a sleigh, set directly on the lake, surrounded by barren white snow. Here, the freighters came to pick up their catch and leave empty boxes for refilling with fish. In January 1934, Steini Sigmundson set out from Riverton to Little Georges Island with a tractor and snow plow to set up his winter fish camp. He was probably the first fisherman on Lake Winnipeg to mechanize.

From the parent colony at Gimli, the Icelanders moved to establish other settlements near water. Settlement at Selkirk began in 1880, on the shores of Lake Manitoba in 1885, and at the

Narrows of Lake Manitoba in 1890. The first Icelander to arrive on the shores of Lake Winnipegosis to check out the rumours of a rich fishery was Thordur Jonasson from Foss in Kjos in the Kjosar district of Iceland. His first fishing season was 1897-98. By winter 1899, fourteen Icelanders owned their own equipment on the lake. The first winter their catch had to



Winnipegosis river front, 1920s. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 25.)



A fisherman with his dog team on the Mossey River. (Source: Winnipegosis History Committee, *Reflections from Little Muddy River*, p. 27.)

be transported to the railway at Sifton, 45 km away. The completion of the railway to Winnipegosis in 1897 was a boon to both the fishing and lumber industries. Icelandic fishermen

began to arrive from the northern United States, and the arrival of so many new fishermen resulted in a call for a limited number of licences to be issued for Lake Winnipegosis. The Grenon Fish Company was the first buyer to set up operations in Winnipegosis but it was quickly followed by Armstrong Trading Co, who bought Grenon's business, and the North West Fish Company. There were smaller companies as well. Their number included the Icelandic Fishing Cooperative, and the Mindy Jonasson Company, both of which were short-lived because of the intense competition from the bigger players.

While they began fishing in a subsistence economy, the Icelanders became the labour force of the commercial fishing industry. Over the years, the phrase, "skilled fishermen" became synonymous with Icelanders.

NATIVE FISHERY, POST 1870

Native lifestyle included a dependency on fish. Their sled dogs represented a major use for subsistence fish harvests, possibly more than for human consumption. Alex McQueen, Inspector of Fisheries for Manitoba, stated in 1885: *"I would strongly urge that the exportation of all fish, other than pike and catfish, be prohibited...for the following reasons:...Our supply, at ample remunerative prices, will be consumed by domestic requirements...that a great source of food supply for our present inhabitants and in-coming settlers would be practically destroyed. The importance of the fisheries, as a source for food supply for the Indian population, can hardly be anticipated."*⁵³ The 1886 Annual Report for Fisheries stated that *"Indian consumption for Manitoba and the Northwest Territories as a whole is estimated at 1,500,000 lbs."*⁵⁴ Subsistence fishing on Lake Winnipeg was *"predicted at 200,000 pounds of fish (all whitefish) for home consumption by Indians and approximately 250,000 lbs. of other kinds of fish for home consumption."*⁵⁵ It is not known if this included all Natives in the Lake Winnipeg area or just in the areas of Fisher River, Berens River, Jack Head and Dog's Head.

While the natives became suppliers of fish for fur-trade activities, they did not consider this as commercial fishing, but rather the selling of their surplus product. Every expansion of the fur trade, however, increased food needs and dependence on the fish stocks, especially during the fall fishery. Consequently, as the fur trade was extended, food needs did put a strain on the fish take. While it was argued that the Natives alone would never deplete the fish stocks, the traders and trappers might. Most of the fish used by the fur traders was purchased from Native fishermen. For example, while complaining that the white man was depleting their fishery, the Natives sold \$3000 worth of fish to the Hudson's Bay Company at Fort Alexander in 1886.⁵⁶

In the northern part of Manitoba, fish supplied an important part of the Natives' diets, but the only market for surplus fish was the fur trade. In the south, however, fishing could provide additional income for Natives who could sell their excess fish to settlers. For example, a fishermen on the Red River could catch 50-250 pike in a day and sell them for \$1-\$2 a hundred.⁵⁷ The first record of Natives fishing for exchange value was witnessed by Inspector of Indian Agencies, E. McColl in 1881 at Lake St. Martin. He reported: *"The reckless and improvident destruction of fish by Indians during the spawning season, more especially for the manufacture of oil for traffic, is gradually exhausting the supply, and will eventually deprive them of their principal source of subsistence."*⁵⁸ Previously they had processed the oil for lighting and food but now they saw a market for their home-made product and in 1882, it was reported that they manufactured 1000 gallons, which were sold to traders.⁵⁹ The Natives had obviously recognized the importance of the fish as a source of income. The Indian agent at Berens River in 1884 reported the resentment the Natives felt towards the commercial fishing companies who *"if allowed to continue the destruction of whitefish and sturgeon at the present rate, will eventually*

*exhaust its supply and deprive them of their principal source of subsistence.*⁶⁰ Two years later, the agent would report that the Natives themselves were taking great numbers of whitefish and selling them to traders, thus helping to destroy their fisheries and means of existence.⁶¹

Although the Natives had begun to use boats and nets to fish by the late 1880s, they were facing stiff competition from commercial fishing companies. As the supply of fish dropped in the lakes, the Natives complained to the Indian agents.⁶² Suffering from a decline in fishing incomes after 1881, at the same time that incomes from furs also declined, some Native groups asked for a fishing reserve with exclusive fishing rights for Natives. The request was denied.⁶³ A few years later the federal government introduced fishing regulations aimed at conserving the fish supply. These restricted commercial fishing to the northern half of Lake Winnipeg, but applied the restriction to everyone, including Natives. The Natives believed their treaty rights were therefore violated. To add insult to injury, the Natives were required to obtain fishing licences even to catch fish for home consumption.⁶⁴ An 1887 report stated that *“Indians can now dispose of their fresh fish, and obtain such requisites as pork, beef, flour etc., and do not require so large a number of fall fish to carry them over during the winter months.”*⁶⁵ The 1886 report on Natives at the mouth of the Dauphin River stated: *“There were upwards of one hundred Indians engaged [in] fishing who traded their fish for flour, bacon, tea, tobacco, twine, clothing, &c., supplied from two stores.”*⁶⁶ The availability of other foodstuffs reduced their reliance on fish. The acquisition of goods promoted Native participation in the commercial fishery. Just as they had traded their furs, they now were able to exchange their fish for profit. At Brokenhead, at the south end of Lake Winnipeg, trade was vigorous in 1884 as *“men from Winnipeg came and bought the fish from them (Natives) at their doors giving good prices, they were therefore comparatively comfortable throughout the year.”*⁶⁷ Perhaps the Native engagement in fishing for profit rather than food was forced upon them by the realization that the white fishermen were going to take the fish exclusively if they did not participate in the fish commerce.

For centuries, Natives in the Berens River region had spread out each summer to fishing camps. These included sites at Lake Pikangikum, Poplar Narrows, Duck Lake, Pauingassi, and Little Grand Rapids.⁶⁸ Here, family members met and lived together for the summer, in groupings of dome-like dwellings. It was a very social time for the Natives, with many ceremonies taking place, as well as the renewal of kinship ties. It was important for younger family members to be present in the fishing camps in order to learn the history of their people. This was one reason why Native parents resisted sending their children to residential schools.

Sturgeon fishing provided a significant income for Natives, especially around the fur posts of the north. Historian Frank Tough’s research revealed that between 1825-1891 the Hudson’s Bay Company traded 52,134 pounds of islinglass annually, taken from sturgeon brought to them by Native fishermen.⁶⁹ Commercial sturgeon fishing peaked during the period from 1900-1906, with 600,000 pounds caught each year, mostly in the north basin of Lake Winnipeg and in northern lakes. After 1910, the amount of sturgeon continued to fall, and along with it the incomes of Native fishermen.⁷⁰

The Natives at Grand Rapids, at the junction of the Saskatchewan River and Lake Winnipeg, were able to find employment in the Dominion Fish Company operated by Captain William Robinson of Selkirk. In 1886, about 100 Natives were employed in fishing, as well as others cutting the 1000 cords of wood required for Robinson’s steamers, and cutting 3000 tons of ice for his freezers.⁷¹ While the amount of fish taken by Robinson’s and two other companies provided employment for the Natives, it also aroused their fears that their subsistence would soon be destroyed. By the turn of the century, five fishing companies were operating out of nearby Horse (Selkirk) Island, and over 1000 people, mostly from Grand Rapids, gathered on

the island for fishing season. Whole families moved to the Island for the summer, a move which demoralized the Indian agent because it kept the children out of school. The women worked along side the men, boiling the whitefish intestines until the oil floated to the top. It was skimmed, bottled, and sold as far away as The Pas. Tents dotted the island and dances were held nearly every night.⁷²

The 1887 Fisheries Annual Report stated: *"The quantity of fish used for home consumption he[the guardian] estimates at 200,000 lbs; caught principally by Indians during the close season, and 200,000 lbs. more may be added, used in feeding dogs, - all whitefish. No correct estimate can be given of other kinds of fish, but an approximate one places the catch at about 250,000."*⁷³ That totals 650,000 lbs of fish harvested in one district, Bull's Head district of Lake Winnipeg. In another district of Lake Winnipeg, John Wood reported: *"100,000 lbs of a total 314,000 was sold to the trade. That leaves 214,000 lbs to be used for local use."*⁷⁴ This probably did not include the catch of those who were not licensed for commercial fishing, but fished for family needs. The 780 people from Berens River harvested 7510 kg; Brokenhead with 190 people harvested 2450 kg; 430 people from Hollow River caught 3120 kg. Annual fish consumption per capita ranged from 7.3-12.9 kg/yr.⁷⁵

Detailed reports of Guardians (early versions of Fisheries officers) shed light on subsistence fishing. Guardian John Helgason, Gimli, reported 651,800 lbs of fish caught, with 461,000 lbs for local use, by 30-40 fishermen employed at fishing stations and 100 settlers fishing year round for own use. Guardian J.B. Johnson, Berens River district, reported five bands in his area caught 200,000 lbs. John Wood, Fort Alexander estimated 144,000 pounds, all species used for subsistence by Indians.⁷⁶ Again, these figures probably do not include fish caught by non-licensed fishermen.

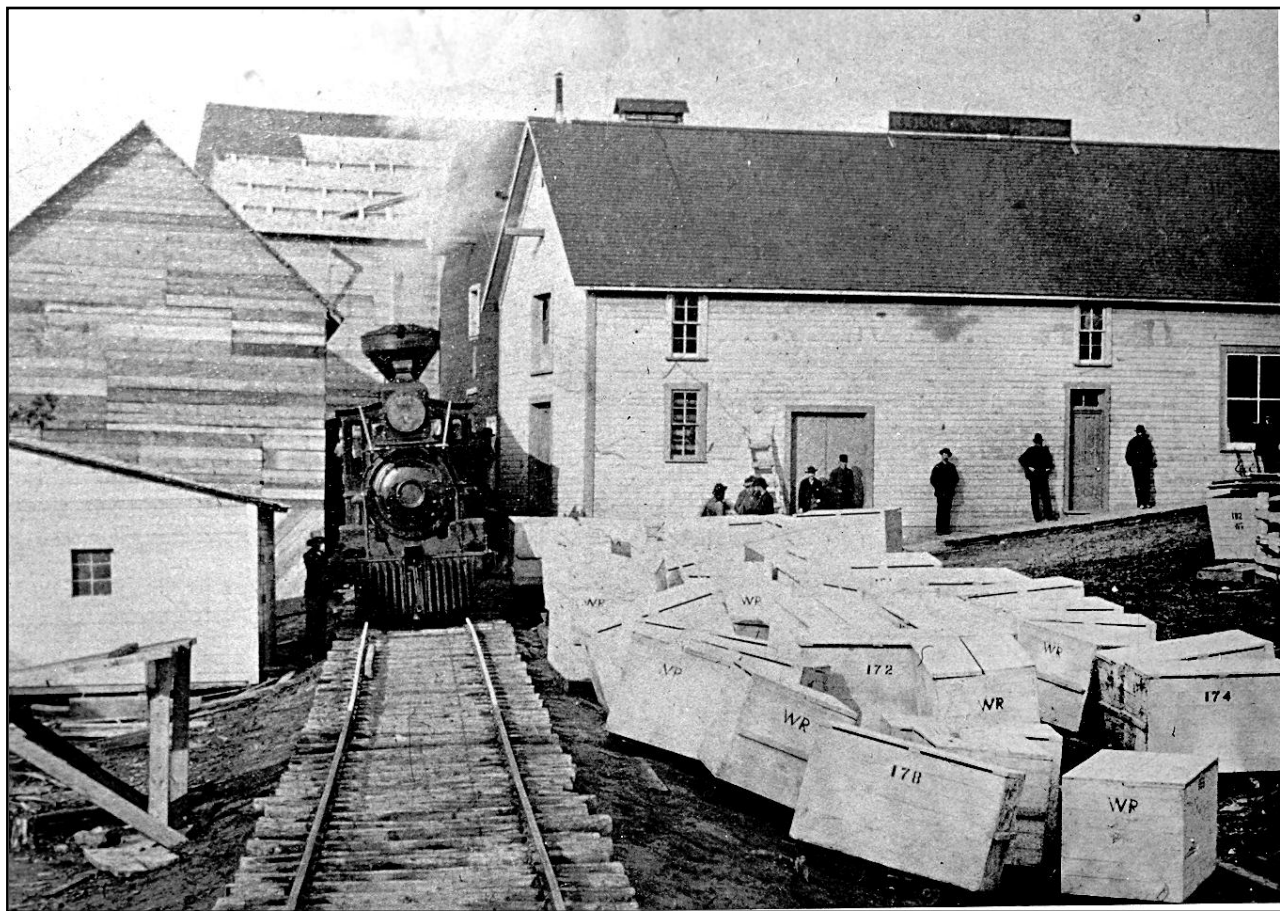
Although twine nets were used by Natives from an early period, they were generally ineffective. Homemade, and never more than 300 yards long, the nets consisted of irregular mesh with many knots. Sometimes the nets were dyed, but not necessarily to camouflage them. Neither were the nets properly cared for; they often were left in the water to rot. The common practice was to set nets with wooden block floats or stone sinkers near home and crowd them together near the shore, often with one end anchored to the beach. These procedures contributed to a low yield of mostly coarse fish. The nets needed to be spread more widely and sunk deeper, and tended more carefully.

Native fishermen lacked the capital to become competitive with commercial fish companies or even fish traders. As early as 1886, the Department of Indian Affairs had begun supplying twine and small boats to assist the Natives in pursuing fishing endeavours.⁷⁷ In 1890, senior officials of the Department of Fisheries studied the issue of supplying subsidies to Natives so they could invest in larger boats which would allow them to fish in the open waters of Lake Winnipeg. In the end, the decision was made not to provide such assistance. However, without larger boats, it was difficult for the Native population to catch the 1.5 million pounds of fish they needed for home consumption from their tiny in-shore fisheries. With their reserve stocks depleted, they were forced to plead for treaty rights to fish anytime of the year. This would allow them to survive, not prosper.

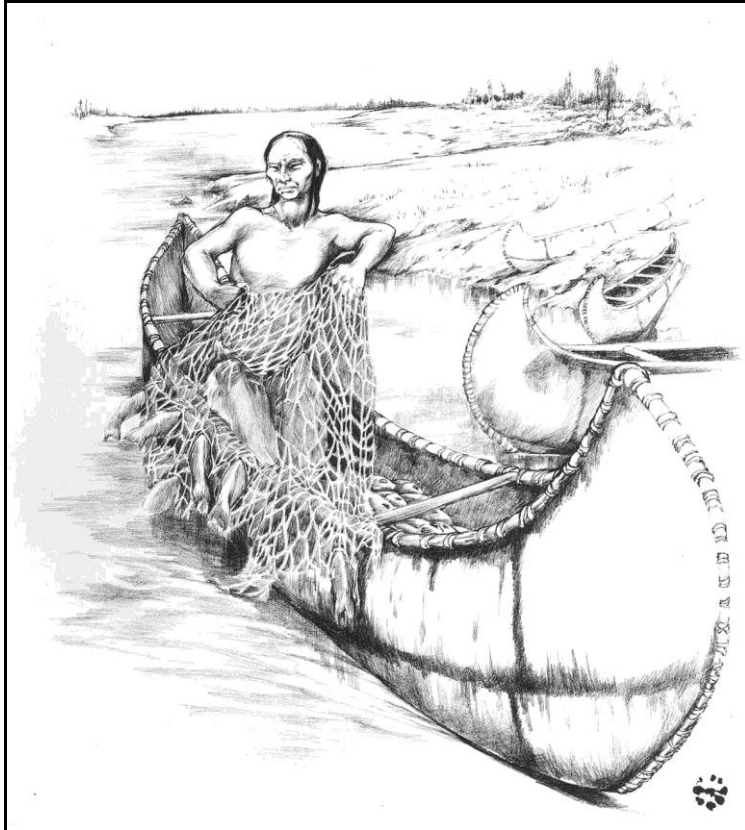
In 1891, the Indian agent at Berens River reported that: *"The opportune and judicious restrictions placed upon fishermen by recent regulations of the Fishery Department, in limiting their operations for commercial purposes to the northern part of Lake Winnipeg, where they carry on immense traffic in the finest whitefish without interfering with the fisheries of the Indians in other parts of the lake have largely protected the interests of the Indians without diminishing*

those of fishermen, who I am credibly informed, have exported more whitefish during the present season than in any previous one, and the Government is to be congratulated on having admirably succeeded in effecting an amicable solution of this intricate question which seriously threatened the most disastrous consequences to our impoverished Indian populations who were apprehensive of starvation if this unrestricted traffic continued much longer, unless they were supported out of the public treasury.⁷⁸

With more and more commercial companies entering the commercial fishery, it was only a matter of time before the supply of whitefish, the staple food of the Lake Winnipeg Natives, became scarce. The Natives became alarmed about the depletion of the whitefish which by 1889 were “numerous north of Berens River but southward there were very few taken.”⁷⁹ Concerning the reserves on the south side of the lake, the Indian agent reported : “Last year, during the fall fisheries, although some of the Indians had as many as twelve nets of thirty fathoms each in length, they only caught from one hundred to eight hundred apiece of small whitefish; whereas, the previous year they caught with two nets of equal length from ten thousand to twenty thousand each for their winter’s supply, and during my inspection of the



Robinson’s Warehouse, Selkirk, 1890. (Source: Archives of Manitoba #391.)



Net Fishing from a canoe. (Source: HRB)

reserves in the first week of October last scarcely any whitefish were caught in the southern part of the lake.”⁸⁰ These serious declines in whitefish showed that the commercial fishery was species specific. The Natives were still able to catch other smaller species, such as pickerel, but it was the whitefish and its oil which they relied on primarily as a food source.

At a council meeting with Fisheries Commissioner, Samuel Wilmot in 1890 at Little Saskatchewan (Dauphin) River, the Natives attempted to make him aware of the social disruption caused by the loss of the Native fishery. One chief stated: *[We] can't catch enough whitefish for our families up river anymore; all caught in mouth of river and in bay by white men traders for freezers. In old time plenty fish go up river and into St. Martin's; could then catch plenty fish for families all along banks of river with small scoop nets, easy, but now can't get fish that way anyhow – fish too scarce...but white men must be stopped killing all fish with big nets at mouth of river and bay. Some young Indians want to work for freezer men to get money and spend it;.....but old Indians, squaws and children get no good, no work, no fish. Indians want big fish traders kept away from mouth river and bay with big steamboat fishing; let traders fish in big water out in lake, where Indians can't go with small canoe. Young men and boy Indians get some good but old men and families get nothing to make up for great loss of winter food, which came up river very plenty old time before. Not much whitefish caught any time before September; very plenty after that in old time, before white man kill so many thousands at mouth of river in September and October. Indians can't get fish plenty anymore through ice; got too scarce.*⁸¹

This Native interpretation of the problem was confirmed by Department of Indian Affairs' agents who were reporting the continual decline of economic conditions on the reserves, relating it to the loss of the fisheries. Inspector McColl wrote in 1889: *“Instead of the Indians being benefited*

*by the fisheries, I find the very opposite to be invariably the case, for not only is the supply of fish, upon which they primarily depend for subsistence being rapidly exhausted, but also the general condition of the Indians within this agency is getting apparently worse every year. Since the commencement of those fisheries their reserves are not properly cultivated, their gardens are frequently neglected and their houses deserted. At the approach of winter, when the fishing season is over, they return to their homes empty-handed and heavy hearted, to wander about in search of food to keep themselves and families from starving.*⁸²

It was inevitable, then, that young Native men, living along the lake, would evolve into the work force for commercial companies. When fishing inspector McQueen reported in 1889 that 2000 people had found employment in the fishing industry, people who had formerly fished for subsistence, no doubt many of these were Natives.⁸³ And for the young men who went to work in the commercial fisheries, the pay, while appearing lucrative, was really not as great as it seemed because it was often paid in goods rather than cash. In 1889, missionary J. Butler from Berens River reported that *“Indians employed at C.W. Gauthier’s sturgeon fishery received \$1.25 per day but that the actual cash value of a day’s work, as represented in goods, only amounted to fifty cents.*⁸⁴

DEVELOPMENT OF A COMMERCIAL FISHING INDUSTRY

INTEGRATING THE NATIVE FISHERY AND THE COMMERCIAL FISHING INDUSTRY

When the Natives began to sign treaties with the Canadian government, they believed that their traditional rights to hunt, trap and fish on unoccupied lands were guaranteed. Treaties 1 and 2, negotiated in 1871 and covering most of southern Manitoba, did not contain a term preserving these rights but both treaties promised twine and traps, implying to the Natives that fishing, trapping and hunting rights were preserved under the Treaties. They were also given “outside promises”, assurances that they could continue these activities. Later, they were required by an 1873 Memorandum to abandon all claims to “outside promises” not included in the Memorandum, which in fact made no mention of hunting, fishing, or trapping.⁸⁵

Treaty 3, signed in 1873 and covering southeastern Manitoba, included the following provision, which was repeated in Treaty 5 and, with minor variations, in Treaty 4:

*“Her majesty further agrees with her said Indians, that they, the said Indians, shall have right to pursue their avocations of hunting and fishing throughout the tract surrendered as herein before described, subject to such regulations as may from time to time be made by her Government of her Dominion of Canada, and saving and excepting such tracts as may from time to time be required or taken up for settlement, mining, lumbering, or other purposes, by her said Government of the Dominion of Canada, or by any of the subjects thereof duly authorized therefore by the said Government.”*⁸⁶

It appears that the treaty negotiators had promised the Natives that their traditional livelihood, which included trapping, hunting and fishing, would be undisturbed on the lands surrendered by the treaties. When white settlers appeared in a region, the Natives began to complain that these people were depleting the fish stocks. The inefficient methods of the Natives exacerbated the poor yields. When the Natives complained, the missionaries and traders generally prevailed on the white settlers to discontinue fishing.

As other food sources disappeared, the Native dependence on the fishery led to more complaints that the Europeans were depleting it. Ebenezer McColl, Manitoba Indian Inspector, reported in 1888: *“The destruction of their fisheries by the white men was the burden of their*

speeches and the eternal nightmare of their councils how the buffalo, the principal source of subsistence of their kindred on the plains was destroyed by the effective weapons of destruction furnished hunters by white men, and[they] implored me to use my influence with the Government to have their fisheries protected from being irretrievably ruined before it is too late."

⁸⁷ McColl termed the fishing practices then current in western Canada as a "wholesale slaughter by speculators," and predicted dire consequences if it was not stopped. Clearly the Natives believed they had a special claim on the fishing reserve. As commercial fishing increased, the complaints became more common. In 1887, the Department of Justice decided that the Natives must obey fishing regulations, but Indian Affairs insisted that the fall fishery be reserved for Native peoples. Violent arguments led to a fishery investigation in 1890, and another Commission in 1910.⁸⁸

Commissioner Samuel Wilmot reported in 1890: "*The Indian tribes under the control of the Department of the Interior claim that many parts of the lake which formerly supplied them with the requisite abundance of fish-food are now showing depletion by reason of the excessive and wholesale fishing carried on by certain large fishing corporations.*"⁸⁹ The Department of Fisheries decided that under the treaty stipulations, the Natives were bound by fishery regulations the same as other Canadians, but because they had enjoyed continuous fishing for such a long period, rigidly enforcing the regulations would lead to hardship, so Natives should be given licences to permit fishing for their own immediate use. An effort was made to give them total control over the fall fishery.

In 1891, following the fishery investigation, commercial operations were limited to the northern portion of Lake Winnipeg, where the whitefish were taken in great numbers. But the Native fisheries in other parts of the Lake were largely protected. The Natives continued to consider themselves exempt from regulations concerning the fishery. According to Samuel Wilmot's advice, no financial help was given by the Department of Indian Affairs to allow Natives to purchase the larger boats they would have needed to participate in the lake fishery. Without these boats, the Natives were left to procure the estimated 1.5 million pounds of fish they needed annually for home consumption from the tiny inland fishing resources within the reserves which they were eventually granted.

By 1912, the Natives on the east side of Lake Winnipeg were employed by the fish companies on Lake Winnipeg, as well as fishing for their own use. During World War I, as the value of fish and fur doubled, the Native economy in the north greatly improved. The Natives around Lake Winnipeg were working on company boats for a straight wage, or in other instances, the companies supplied them with boats and nets, paying them \$1.00 cash or \$2.00 in trade goods for 100 whitefish. These fish were then resold for 50 times that amount and exported to the United States.⁹⁰ By 1921, the Natives of Berens River, like other communities, had become part of the commercial fishery as fishing became "*a more and more important factor during the past four or five years, and considerable income has been derived from it.*"⁹¹ The Department of Fisheries annual report for 1914-15 stated: "*At the mouth of the Winnipeg River we have the Indian reservation of Fort Alexander, with a population of about 700 Indians. These Indians catch fish during the whole year, using nets of about 100 yards. In September, 1915, nine fishermen were granted licenses and caught 24,671 pounds of pickerel, 1,137 pounds of jackfish and 318 pounds of catfish. In November, 12 fishermen were granted licenses and caught 11,000 pounds of pickerel and 10,125 pounds of tullibee.*"⁹² This shows 700 people caught 21,478 kg of fish in two months, but the whitefish, on which their diet had depended, was absent.



The largest sturgeon ever caught in Manitoba was over 15 feet long and weighed over 400 pounds. It was caught in the Roseau River in southern Manitoba in 1903. (Source: James Waddell, *Dominion City Facts Fiction and Hyperbole*, p.70.)

A Native was not a natural commercial fisherman. He had to learn to tend his nets and use correct procedures. Although dependent on the domestic fishery for food for dog and man, the Natives, especially in the North, did enter the commercial fishery and by the 1960s, some had an income above average, especially in fisheries which required little overhead costs, such as the Lake Winnipeg pickerel fishery, and the fall fishery. But Natives involved in fishing received relatively little assistance from Indian Affairs and were therefore at the mercy of the private dealers.⁹³ An Icelandic fishing family, the Kristjansons intentionally built their station at Poplar Point, near enough to the Poplar River reserve so that the Natives could work for them. The Natives had almost no motor boats so they would camp close to the Kristjansons' station each summer to work with them rather than the large fish companies. Ted Kristjanson, a fisherman on Lake Winnipeg all his life, related the following story about Native fishermen's prospects in 1927: *"Not all the native fishermen possessed nets that could be used to catch pickerel. Fortunately Stein and Dad had brought some 4 ½ inch mesh nets suitable for catching pickerel. These they rented to the native fishermen with the agreement that they work on a 50/50 basis; half the fish caught went to the natives and half to Stein and Dad. Hannes and I, who had some 4 ¼ inch mesh nets stored at home (Gimli), recognized a good deal and lost no time in having the nets shipped to us. In a very short time we had two natives fishing on a 50/50 basis, a total of 4 skiff fishermen."*⁹⁴

In 1930, when the Natural Resources Transfer Agreement gave control of Public lands and natural resources to western provincial governments, Manitoba's provincial government assumed legislative control over proprietary interests in public and private fisheries within their boundaries. Jurisdiction over those aspects of fishing which did not relate to proprietary interests remained with the federal government. To protect Native fishing and hunting rights the following was part of the agreement:

*In order to secure to the Indians of the Province the continuance of the supply of game and fish for their support and subsistence, Canada agrees that the laws respecting game in force in the Province from time to time shall apply to the Indians within the boundaries thereof, provided, however, that the said Indians shall have the right, which the Province hereby assures to them, of hunting, trapping and fishing game and fish for food at all seasons of the year on all unoccupied Crown lands and on any other lands to which the said Indians may have a right of access.*⁹⁵



Native fishermen delivering fish to airplane for freighting. The tripod is being used to weigh the fish. Suwanee Lake, 1954 (Source: Gord Emberley.)

The Fisheries Act, passed in 1932 and amended in 1970, regulated all Native fishing rights, but the Natives were also subject to the legislation of the provincial government. A later 1981 Supreme Court decision would rule that a status Indian who was fishing for food in Manitoba, on land to which he had a right of access, was rightfully convicted of fishing out of season under the Manitoba Fishery Regulation.⁹⁶

During World War II, Native fishermen once again made a good living, either as hired help or as independent fishermen. After World War II, as more northern lakes were opened to commercial fishing due to improved transportation methods, commercial fishing became an increasingly important part of the Native economy. Some effort was made by Indian agents to help Natives become fishermen, as at South Indian Lake in fall 1946. Here, Indian Affairs Branch equipped families with clothing, food, corks, leads, jiggers etc. worth \$35,000. Because of the guidance provided, this equipment only depreciated by 50% in the first year, (quite good). Fish sales were handled by the agent and sold to a private firm at The Pas. The second year, the buyer broke



Fish packing shed at Grand Rapids, with fish waiting to be sorted. (Source: Water Stewardship, Fisheries Branch Collection C10573.)

his verbal contract, reduced prices and Indian Affairs accepted them, resulting in a loss and dampened enthusiasm, so the program was dropped.⁹⁷ In 1948, reserves adjacent to lakes in the Clandeboye agency (west side of Lake Winnipeg) enjoyed revenue of approximately \$62,000 while in the northern agency of Norway House, the earnings from fishing were estimated at \$45,000; Natives in the Portage la Prairie agency earned \$3660 from fishing.⁹⁸

In 1959, the Island Lake summer operations, in connection with a privately owned filleting plant, returned \$80,000 to the local Natives. Representations made to the provincial government resulted in the opening date of winter fishing on God's Lake being changed so that trapping and fishing in the area could be integrated to greatest advantage. The government even offered a program to help the Natives purchase fishing equipment. In 1960, with the new lakes being opened, the loan program, and the development at Island Lake, the Natives in the region, for

the first time, derived more income from fishing than from trapping. Throughout the region, 730 Native fishermen fished commercially, and earned roughly \$433,000.⁹⁹ This progress in one area was offset by the closing of pickerel pockets on Lake Winnipeg as a conservation measure the same year. To cope with the problem, Fisheries Branch furnished trap nets to the Natives and instructions on how to use these new methods of fishing. One instructor and five Native fishermen operated out of Berens River. Another fish freezer was brought into operation at God's Lake and at least half a million pounds of fish were taken in the region in 1963.

With the formation of the Freshwater Fish Marketing Corporation, Native fishermen were in a better position. In 1970, 1,863 Native fishermen in the Western Canadian freshwater region (Alberta, Saskatchewan, Manitoba, Northern Ontario), produced over nine million pounds of fish, worth \$1,669,752.¹⁰⁰ In 1972, there were only 1,539 Native fishermen working for the FFMC, but their production had increased to almost 11 million pounds, worth \$1,863,911.¹⁰¹



Northern fishermen at Suwannee Lake holding Lake Trout, part of their abundant catch in 1955. (Source: Gord Emberley.)

A 1970-74 survey found that in southern Manitoba approximately 60% of the commercial operators on Lakes Manitoba and Winnipegosis were non-Native, while 40% were Native or Métis. On Lake Manitoba, approximately 41% of the hired men were non-Native while 59% were Native or Métis. On Lake Winnipegosis 31% of the hired men were non-Native while 69% were Native or Métis. On Lake Winnipeg 55% of operators and 87% of the hired men were Native or Métis, while 45% of the operators and 13% of the hired men were non-Native (primarily Icelanders).¹⁰²

A survey undertaken in 1984 of fish consumption among Native peoples living along Lake Winnipeg showed that fish, especially whitefish, were still a major staple food in remote Native

communities.¹⁰³ This was an interesting fact, given the depletion of the whitefish stocks in Lake Winnipeg between the years 1883-1968. The reduction of whitefish quotas in 1972, however, has led to increased harvests since 1980.¹⁰⁴

BEGINNING OF COMMERCIAL FISHERY

Commercial fishing first began in Manitoba in 1872 when a few enterprising men “*built a half decked boat of some tonnage and with drag seines and other nets, made several trip from Winnipeg to the Little Saskatchewan River where they established a fishing station.*”¹⁰⁵ Their objective was to supply Winnipeg with fish, fresh and salted. The venture was unsuccessful because the market was still very limited.

In January 1872, W.T. Urquhart, clerk of the North West Council of Winnipeg, estimated that 70,000 - 80,000 whitefish were taken from Lake Winnipeg, 30,000 fish annually were taken at Fort Alexander, 40,000-50,000 fish were taken from Lake Manitoba by Métis, and the extra were sold in Winnipeg. Whitefish were selling for about four cents per fish.¹⁰⁶ Urquhart also referred to sturgeon taken near Grand Rapids as well as at Fort Garry. These were used for extracting sturgeon oil which was used for machines. A 50-pound sturgeon yielded about one gallon of oil.

In spite of the burgeoning new industry, the federal Department of Marine and Fisheries was reluctant to regulate fisheries in the inland waters of western Canada. As late as 1878, the Department had not yet extended federal fishing laws to the western interior. The only representative of the Department was Donald Gunn. He died in 1878, and was replaced a year later by a Crown Timber Agent, who was already over-extended by duties and territory. By 1880, the fishery was valued at \$300,000 but there was still no attempt to properly control it. Finally, in 1882, two part-time guardians were appointed. By this time, years of high water levels, followed by years of drought, had had a deleterious effect on shallow lakes like Lake Winnipeg. These problems were compounded by the appearance of white fishermen, mostly Icelanders, and by fish buyers who acted as intermediaries for the emerging American companies.

Local people and Indian agents had been asking for effective regulations for years. Finally the government appointed a fishery officer for lakes Manitoba and Winnipeg. The officer, H. Martineau was also an Indian Agent so he was familiar with the fishing sites around Lake Manitoba. His efforts to close the fall spawning grounds of Little Saskatchewan River, while successful against Natives, were less so against whites, who “*scooped and dragged whitefish by thousands daily during the fall.*”¹⁰⁷ When Martineau attempted to stop this illegal fishing by confiscating whitefish in the possession of a buyer, the Superintendent of Fisheries in Winnipeg released the catch and gave the man, David Clarke, the authority to engage in the fishery for 1883. Even protests from the Inspector of Indian Agencies did not bring a retraction. By 1884, due to the alarm over depleting stocks of whitefish, some semblance of control had to be exerted, and a full-time fisheries inspector for Manitoba, Alex McQueen was appointed. McQueen would demonstrate concern for the Aboriginal plight and protection of the fishery.

This protection was especially needed during the spawning season. In 1883, 72,867 pounds of whitefish were exported, at four cents per pound; by 1884 this amount had risen to 359,000 pounds, exported at less than four cents per pound. Winnipeg’s North West Council clerk, W.L. Urquhart, concerned about the effect of such sales on fish supplies for Winnipeg residents, strongly urged that such exportation be disallowed. Whitefish sold in Winnipeg for eight cents; sturgeon for 10 cents, and pickerel or pike for three cents each.¹⁰⁸ Inspector McQueen asked for a licensing policy, stating: “*To supply the foreign markets from our by no means inexhaustible*

lakes, would in a few years so deplete them and a great source of food supply for our present inhabitants and incoming settlers would become practically destroyed."¹⁰⁹



Basket of whitefish. (Source: Water Stewardship, Fisheries Branch Collection C56.)

ARRIVAL OF COMMERCIAL FISH COMPANIES

The inhabitants along the shores of Lake Winnipeg were able to obtain large quantities of whitefish from the lake and sell them on the Winnipeg market. But in 1881, as soon as railways were in place, large commercial interests, which had already depleted the fish stocks in Ontario, began to exploit the fish stocks in Lake Winnipeg. Daniel F. Reid and David Clark of Collingwood set up the first commercial operations at the south end of the lake in 1881. These men brought with them experience on the Great Lakes and shipping to American markets. They started operations with a 32-foot sailboat, and supplemented their catch with fish purchased from Icelanders. Six years later, the two men owned two steam tugboats, two barges and six sailboats. They operated two freezing plants and two icehouses at West Selkirk, plus one each at East Selkirk, Swampy Island, and at the mouth of the Little Saskatchewan. In 1887, Inspector McQueen estimated their investment at \$24,450.¹¹⁰

Clarke and Reid were not the only fish buyers in Manitoba. Hugh Armstrong began buying fish from his trading post at Poplar Point. In 1886, he exported 200,000 pounds of whitefish, pickerel and jackfish taken from Lake Manitoba. With favourable prices and the successful marketing of western Canadian freshwater fish on American markets, American firms wanted to assure themselves of an adequate supply. The firm of C.W. Gauthier Co., out of Windsor, Ontario and with strong American connections, began operations on Lake Winnipeg in 1886 with three sailboats. They sent 50,000 pounds of fish to Windsor and on to American markets. In 1887, they expanded operations with a large steam tug, a barge, 10 sailboats, four freezing plants and

icehouses at Selkirk, Swampy Island, and another at the mouth of Little Saskatchewan River. By 1889, they had added a second steam tug, three sailboats, two small boats and pound nets for catching sturgeon, giving them an investment of \$40,000.¹¹¹ Gauthier's also went into whitefish oil production and sturgeon canning, even producing caviar at Pigeon Lake and Grand Marais. This was marketed in New York for 60 cents per pound.¹¹² Gauthier's produce was shipped to Kansas City, Chicago, Minneapolis, Detroit, New York and Buffalo. Gauthier's employed 40 white fishermen, 30 Métis, and 100 Natives, operating at Swampy Island and the Little Saskatchewan River.¹¹³



Fishing Fleet, Selkirk, 1930. (Source: Archives of Manitoba #384.)

A local Selkirk man, but with strong American connections, Captain William Robinson entered the industry in 1887, when he purchased Reid and Clarke's vessels and stations, and began tapping the waters of Grand Rapids as well as the Little Saskatchewan. Robinson also had lumber, transportation and trading interests along Lake Winnipeg and fishing was a natural addition to his commercial empire.

Daniel Reid, after the death of his partner in 1887 and the sale of their company's assets, continued operations under the company name, Reid and Co. With these commercial companies all tapping the resources of Lake Winnipeg, exports to the United States rose steadily to 2,000,000 pounds in 1888.¹¹⁴ A growing portion of the catch from independent fishermen was sold to the commercial companies and sent southward. No ban on exports was implemented. In fact, the amount of exports to Ontario and United States quadrupled between 1884 and 1890.¹¹⁵ Of the whitefish catch, two million pounds were shipped to the United States while 80,000 pounds remained in Canada.

The fishing methods of these early companies were decidedly wasteful, based on the assumption that the fish supply was limitless. The company boats left their nets down too long and often wasted their catch because of a lack of refrigeration in the proper places. Indian

Agent Mackay estimated that one third of the catch was wasted, and found this waste unconscionable, given that Native fishermen were receiving so little for their catch. There was suspicion that a cartel was formed by the two large companies to prevent small fishermen from reaping the benefits of their catch. Dr. George Orton, a health inspector for Department of Indian Affairs wrote in 1889: *“These large fishing firms....control the price paid by the people of the province for fish, and while only giving 2 cents a piece for the finest whitefish to the poor Indians and others who catch for them, it is said they have a combination with the vendors by which the price is kept up.”*¹¹⁶

Control of Manitoba’s fishery did not lie with the Manitoba commercial companies, but rather with large American interests who were co-owners. Americans were not allowed to hold licences to fish in Canadian waters and hence the formation of behind-the-scenes partnerships. On the American side, all Canadian fish imports were subject to a tariff. American companies avoided this tax by claiming that the fish were caught in American nets.¹¹⁷ There seems little doubt that by 1889 Manitoba’s fisheries were considerably controlled by American interests, who exhibited little concern for the long term stability of the resource. For example, Gauthier’s was controlled by Windsor and Detroit businessmen and Robinson’s was a subsidiary of Booth Fisheries in Chicago. By 1890 some important changes had occurred in company ownership which gave total control of Manitoba’s fisheries to American interests. The owners of Gauthier Co. engineered a bankruptcy so a new firm could take over the company’s assets without assuming the debts owed to workers and suppliers. Investigations revealed unscrupulous dealings but this altered nothing. The assets of Gauthier were transferred to the Manitoba Fish Company, whose incorporation was not blocked. Booth Fisheries purchased the Selkirk Fish Company and increased its fleet worth from \$800 to \$22,000. Robinson’s company (backed by Booth) was reformed in 1887 as the Dominion Fish Co. which began to buy up smaller local companies. Gradually all the smaller companies on lakes Winnipeg, Manitoba, and Winnipegosis were purchased by the Booth/Dominion Fish Co. who had reached an agreement concerning independent fishermen and the ultimate distribution of fish.

In 1890, the Lake Winnipeg fishery was centered midway up the lake, and on Selkirk Island at the head of the lake, the southern parts having been somewhat fished out. The principal headquarters of the commercial companies were at Berens Island, Reindeer Island, and at the mouth of the Little Saskatchewan River. At Berens Island, with a natural harbour on the southern side, two firms owned extensive icehouses and freezing houses, as well as landing piers for their steam tugs and barges. Similar works existed at Reindeer and Selkirk Islands. The most extensive works were located at the mouth of the Little Saskatchewan River where two companies had large icehouses, freezers, and piers on either side of the river. The most important whitefishery was at the mouth of the Little Saskatchewan where the fish congregated before going up the river to St. Martin’s Lake, their natural breeding ground. The fishing companies took one-third of their catch in the narrow confines of the bay where they had their nets stretched. The residents of a small Native reserve at this point complained to Samuel Wilmot in 1891 that due to the huge catches made by the fish companies’ nets, there were no longer enough fish to feed their families.¹¹⁸

At the turn of the century there were at least two non-American controlled firms. J.K. McKenzie Fish Co. Ltd., which later became the Imperial Fish Company, was formed in 1901. The Northern Fish Company was also founded that year by William Guest, a fish retailer who had battled the Dominion Fish Co. which had tried to drive him out of business. By 1912, the Northern Fish Company had grown to include 36 sailboats, two tugs, one freighter, a passenger steamer, freezing plants and icehouses.¹¹⁹ But the majority of its stocks were eventually owned by Buck Eye Fish Company, a subsidiary of Booths.



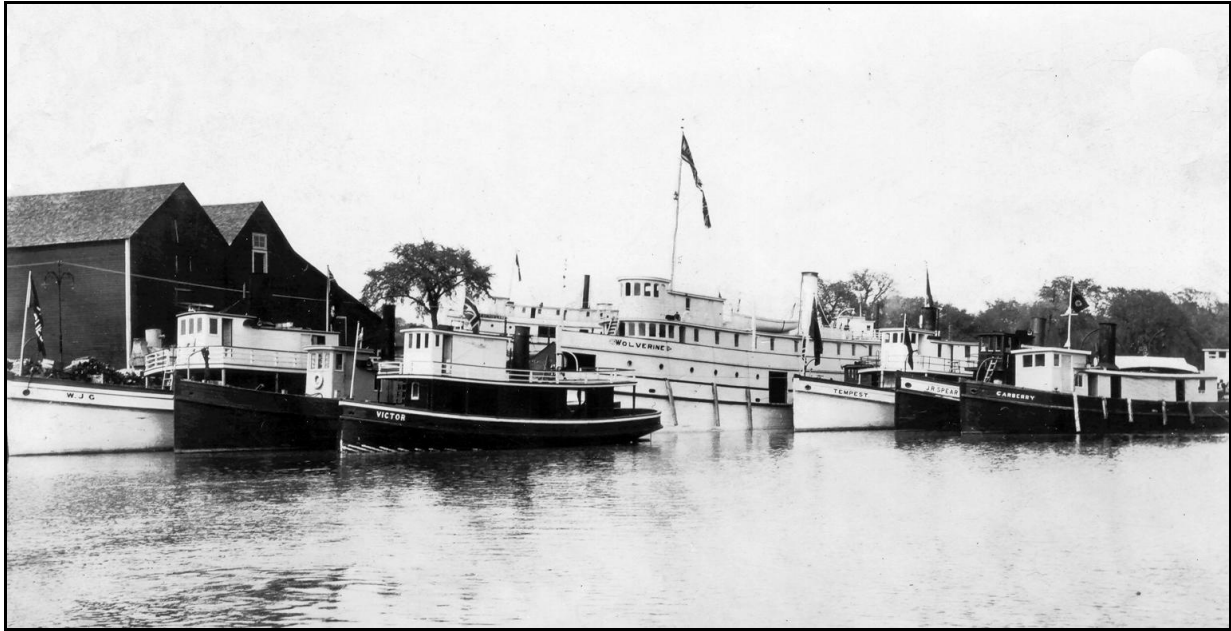
Selkirk Wharf, 1921. (Source: Archives of Manitoba #341.)

As the fish stocks disappeared, little heed was paid to men such as Samuel Wilmot, the Dominion Commissioner of Fish who warned that fish stocks were being jeopardized by increasing the annual catch to over three million pounds.¹²⁰ A new commissioner, appointed in 1895, was more optimistic. The local Member of Parliament for Selkirk, George Bradbury classified Commissioner E.E. Prince's loyalties by saying: *"If he had been a paid official of that great American combine he could not have done more to assist in the destruction of the fisheries of Lake Winnipeg than he did."*¹²¹ In 1898, Selkirk resident, F.W. Colcleugh was appointed Inspector of Fisheries for Manitoba. His warnings of depleted stocks in the south end of Lake Winnipeg were also ignored by the federal authorities. Another inspector, W.S. Young, a close associate of Robinson's, saw no problem with the fish stocks in 1900. That same year individual fishermen formed the Fisherman's Protective Union in an attempt to get a fair deal for Manitoba's fishermen.

Sturgeon Fishery: While the emphasis in this time period was on whitefish, after 1900 the sturgeon fishery was also pressed vigorously, and as the price of sturgeon doubled, so did the fishing effort. Whitefish and sturgeon from Manitoba's waters were considered to be of almost unparalleled quality. In the 1920s, Manitoba's sturgeon was even considered superior to Russian sturgeon on the American market.¹²² Sturgeon fishing on Lake Winnipeg was conducted mainly in the vicinity of Berens, Pigeon, and Bloodvein rivers. The season ran from June 15th to October 15th. Nets were used almost entirely, a legal mesh being 12 inches extension measure.¹²³

Catches on the major lakes and rivers quickly fell off, but Manitoba still had great expanses of virgin waters teeming with sturgeon. One of these fisheries was at Lac du Bonnet, which opened up in 1910 and was exploited to the extent of 173,000 pounds in one year.¹²⁴ The trend towards stock depletion continued so drastically that the sturgeon fishery was closed from 1910-1916, when it was reopened as a war measure. There were good catches for three years but the catch then fell off due to depletion. High prices for sturgeon, at 45-60 cents per pound were

maintained between 1922-1928, resulting in more intensive fishing and a need to examine the long term sturgeon situation.



Wolverine and tugs, at Selkirk. (Source: Archives of Manitoba #382.)



String of sturgeon, showing the size of the great fish. (Source: Water Stewardship, Fisheries Branch Collection C10554.)

The rich fishery at Lac du Bonnet, which peaked at 194,000 pounds, dropped off until it was only 90 pounds in 1933.¹²⁵ Production thereafter shifted to northern lakes, around The Pas and the Nelson River. In the 1920s, some sturgeon was taken from Lake of the Woods at Buffalo Bay as well. The sturgeon fishery was good around Kettle Island at the mouth of the Nelson River, and along the river all the way to Hudson Bay, into the 1930s.¹²⁶

Although able to live for up to 150 years, sturgeon is very slow at maturing, not reaching sexual maturity until 22-25 years old. They live in shallow water which confines their concentration to specific parts of a lake. When spawning season arrives they travel to the swift water at the base of a falls. Here, they are easily caught, making the species particularly susceptible to over fishing and depletion. Icelandic fisherman, Ted Kristjanson remembered the largest sturgeon he ever saw in his life as being caught by a Native from the Poplar River reserve and weighing over 200 lbs. Kristjanson's father purchased the fish from the Chief and the Anglican missionary from the reserve, but the transaction was very hush-hush, because the fish had been caught out of season.¹²⁷ In 1925, Kristjanson's father and his partner went to Pigeon River, considered at that time the best sturgeon fishery on Lake Winnipeg. At the falls, six miles up the river, the sturgeon congregated in the spring and Kristjanson's crew caught a large number of sturgeons well out of season. The catch was so plentiful that the men "*had sturgeon thrashing around in the bottom of their skiff, so that they had to stand on the rowing seats, otherwise they ran the risk of having their legs broken or badly bruised. It must be remembered that the sturgeon they had in that small skiff weighed up to eighty pounds.*"¹²⁸

In an investigative report prepared in 1936 by Department of Natural Resources staff, it was recommended to establish a controlled sturgeon fishery in which a special permit was given to only a few men and these were to be chosen to be trained as resource managers. The sturgeon fishery would be limited to 10,000 pounds per year, these to be taken from different areas, each fished once every eight years.¹²⁹



Killing sturgeon at Sipiwek Lake, 1954. (Source: Gord Emberley.)

Goldeye Fishery: Maximum abundance of goldeye in North America was centred in the area around Lake Winnipeg, Lake Winnipegosis and the delta of the North Saskatchewan River. Goldeye are always found in shallow muddy bays formed at the mouth of turbid streams or the streams proper. They run upstream shortly after the ice breaks, to spawn in 3-4 feet of water in pools with a hard mud bottom. Some spawning is along the shores of suitable lakes.

Fresh goldeye is not particularly palatable, but around 1890, it was discovered that its flesh was well adapted to smoking, which made it quite delicious. The species was scaled, brined, dyed red to simulate red snapper, and smoked in an oak smudge. Between 1926 and 1929 more than

one million pounds were caught and marketed. After 1930, production dropped to between one quarter and one half that amount.¹³⁰ This was not due to a decrease in the market but rather a decrease in the species. The entire catch was taken in gill nets of between 3.75 and 4.25 inch mesh, with winter fishing producing greater poundage than summer fishing. During winter the fish stay close to the water surface and feed during the night. For this reason, fishermen “double-cork” their nets and fish during the evening and night. On fast flowing rivers, fishermen float small pieces of net, about 20-30 feet long, but sufficient to catch 200 pounds of goldeye overnight.

The goldeye fishery was later affected by the development of power dams on large rivers on the prairies. Such dams cause silt to build up in river mouths and along lake shores, affecting spawning beds. Another factor was the use of gill nets of 3.75 inches, which were too small, catching immature females. The gill net size was later officially set at a larger mesh.

PROBLEMS WITH THE FISHERY

The beginning of the 20th century brought increased fish prices due to improved transportation networks and an expanding market. The result was an increase in equipment for all the companies, as more and more fishermen were put on all the lakes, in search of whitefish which were in particular demand in eastern markets. In 1904, the result was a record catch of whitefish on Lake Winnipeg at 5.2 million pounds, as well as increased catches on Lake Winnipegosis, at 6.1 million pounds, and Lake Manitoba at 4.9 million pounds. The latter amounts represented increases of 100% and 75% respectively.¹³¹

This rape of the lakes could not continue. Yields from the summer season fell as a result of the increased catches taken in the two other seasons. In 1905, an Order-in-Council prohibited the summer fishery on Lake Manitoba. Lake Winnipegosis’ summer fishery was closed the following year.¹³² There were many reasons why this decisive course was taken. Certainly the idea that fish stocks might be depleted to feed the market was one reason, but there were others. There was less spoilage in the winter fishery due to natural refrigeration. The winter fishery required less investment, thus allowing farmers to be employed as fishermen in their winter off-season. The government, however, did not like the idea that farmers, lured by the great prices for fish, might forsake agriculture for fishing. By making fishing employment available only on a part-time basis anywhere but on Lake Winnipeg, it lessened the chances of that likelihood.

These changes in regulations, accompanied with a particularly bad winter, led to a marked decrease in the catch from 1906 onward. The impact of the financial crisis, caused by the reduced catches and low market prices, led the American companies to reorganize their Canadian activities. The result was greater Canadian control of assets, but not the marketplace, which continued to be dominated by Americans who were the purchasers and the distributors of the product, as well as the suppliers of credit. These people continued to control the prices paid for Canadian fish.

Canadian companies found it difficult to find a Canadian market as large as the American one, or wholesale companies to replace the American ones. Local retail prices were high because, it was believed, the middlemen, or wholesalers, took a cut of at least three cents per pound. The high prices on the local market were a reflection of the product control by American middlemen. But the emphasis in this time period was on white fish and among Canadians, only Aboriginal people seemed to value this product as a food source. It was not the fact that the catch was being consumed by Americans and denied Canadians which caused concern among Canadian businessmen and politicians, but rather that the profits from the industry went south with the

product. Faced with lower than usual catches and low profits for Canadian fishermen, in 1909, the federal government appointed a commission to investigate the state of Manitoba's fishery.

The 1909 Commission's interim report highlighted problems with stock depletions, the monopoly and American control of the inland fishery. It recommended sweeping changes, including the suspension of summer fishing, and stated: "*The Manitoba fisheries have been unduly controlled by foreign fish operators who have indicated the price of fish and have secured the major proportion of the profits.*"¹³³ Between 1909 and 1911 the Commissioners did an about face, in part due to pressure from Selkirk citizens and politicians.¹³⁴ The ban on the summer fishery would have greatly impacted the economy of Selkirk, which, along with Gimli and Westbourne, was one of the few towns along the lakes to reap any economic benefit from the fishery. The fishing fleets were staffed out of those centres, and sufficient citizens from these areas were involved in the fishery to reduce dependence on Aboriginal labour. Since the real profits from the fishing trade went south to America, the only benefits to local fishermen were in the form of salaries for independent fishermen and company managers. Spin-off industries from fishing included boat and box manufacturing as well as transporting.

The commission did not address the question of foreign ownership. Historian James Mochoruk suggests that this omission might have been tied to the fact that the Liberal government of Wilfred Laurier was attempting to negotiate a reciprocity agreement with the United States at the time of the Commission and did not want to give offense.¹³⁵ There was no doubt that the fishing industry was dependent on the American market. Fully 75% of the product was going to the United States. In the twenty years from 1887-1907, the value of Manitoba's annual fish catch to



Northern Fish Company tug boat on Lake Winnipeg 1922. (Source: Archives of Manitoba, #545.)

Manitobans had risen from \$129,084 to \$806,615. This amount of money represented the worth of the efforts of approximately 5000 people engaged in some way in the fisheries, not just the 2000 fishermen who actually caught the fish. Of course, this was the amount the American companies paid for the product, not what they sold it for. Most of the value was in the whitefish

haul, which could not be sustained for much longer without “*more persistent fishing and the use of excessive amounts of gear*”, according to the Commissioner of Fisheries, E.E. Prince.¹³⁶

Nevertheless, as railway transportation expanded in the province, providing better lake and market access, there was a 25% increase in commercial fishing licences in the early 1920s. Production over the previous 30 years had expanded by 360%. Fishermen and fish companies had tripled their investment in boats, nets and shore facilities.¹³⁷ By 1929, Manitoba’s total catch was 39 million pounds, valued at \$2.6 million, with an equipment investment worth over one million dollars, and providing employment for almost 5000 men.¹³⁸

THE CORRELATION BETWEEN COMMERCIAL FISHERIES AND TRANSPORTATION

Since the commercial fishery was centered on Manitoba’s big lakes rather than its rivers, the need for transportation systems to move the fish to the southern markets was crucial. Lake Winnipeg is one of the world’s largest freshwater lakes and its storms can offer up waves as high as an ocean. The lake has been a major travel route throughout Manitoba’s history. Native canoes, first used to travel the lake, were replaced by large flat-bottomed York boats in the 1800s. The Hudson’s Bay Company began using steamers such as The Colville after 1860.

The Icelandic settlers entered the freighting business with The Victoria, purchased by Messrs. Fredrickson and Jonasson in 1878. Jonasson went on to build several boats, which he used in his logging and fishing enterprises on Lake Winnipeg. In 1897, the brothers Stefan and Johannes Sigurdson constructed the 155-ton boat, Lady of the Lake, a freighter and passenger ship, and the largest boat built by the early Icelandic settlers.¹³⁹ Soon both Riverton and Selkirk had developed ship-building industries, producing large lake schooners as well as fishing boats.



The freighter Goldfield. (Source: Water Stewardship, Fisheries Branch Collection, C13.)

According to J.B. Johnson, a fisherman on Lake Winnipeg for over seventy years, the first boats the Icelanders constructed were made from the lumber of the scows which brought the

Icelanders to the new settlement at Gimli. The boats were barge-like in construction, with a square stern and prow, and two pegs for oarlocks. The oar was placed between them and square boards were attached to the oar to keep it in place. The skiff, or “bytta” in Icelandic, which were the second series of fishing boats, were *“12-14 feet long and about 5 ½ feet wide, with square stern, pointed prow and two thwarts, on which two rowers could sit side by side. One or two men fished from the skiffs, which had two or sometimes three oars.”*¹⁴⁰

In the early years, the Icelandic fishermen used sleighs pulled by dogs for the winter fishery. Usually the sleds were 12 ft long by 3.5 ft wide, with a crate on top. Captain John G. Steven introduced toboggans which he used for freighting.¹⁴¹ A team of sleigh dogs, of various species, usually numbering five or six, could pull a load of 300-400 pounds on ice. On steel runners, J.B. Johnson’s team once pulled a 1200-pound load.¹⁴² These sled dogs only lasted five or six years before their strength was gone and they had to be replaced. In all that time they were never allowed any freedom.¹⁴³ In an important side story of history, the Icelandic fishermen were considered so adept at choosing and training dog teams that Antarctic explorer, Sir Ernest Shackleton hired them to secure 100 sled dogs for his 1914-17 expedition.¹⁴⁴

In the fishing stations, flat bottomed boats and sailboats were used. The fall fishing was undertaken with sailboats. These were generally half-decked, around 26 -32 feet long, equipped with two masts. Because they cost about \$400, they were usually rented from the fish companies who brought them from eastern Canada. These boats had no equipment except an anchor and rope.



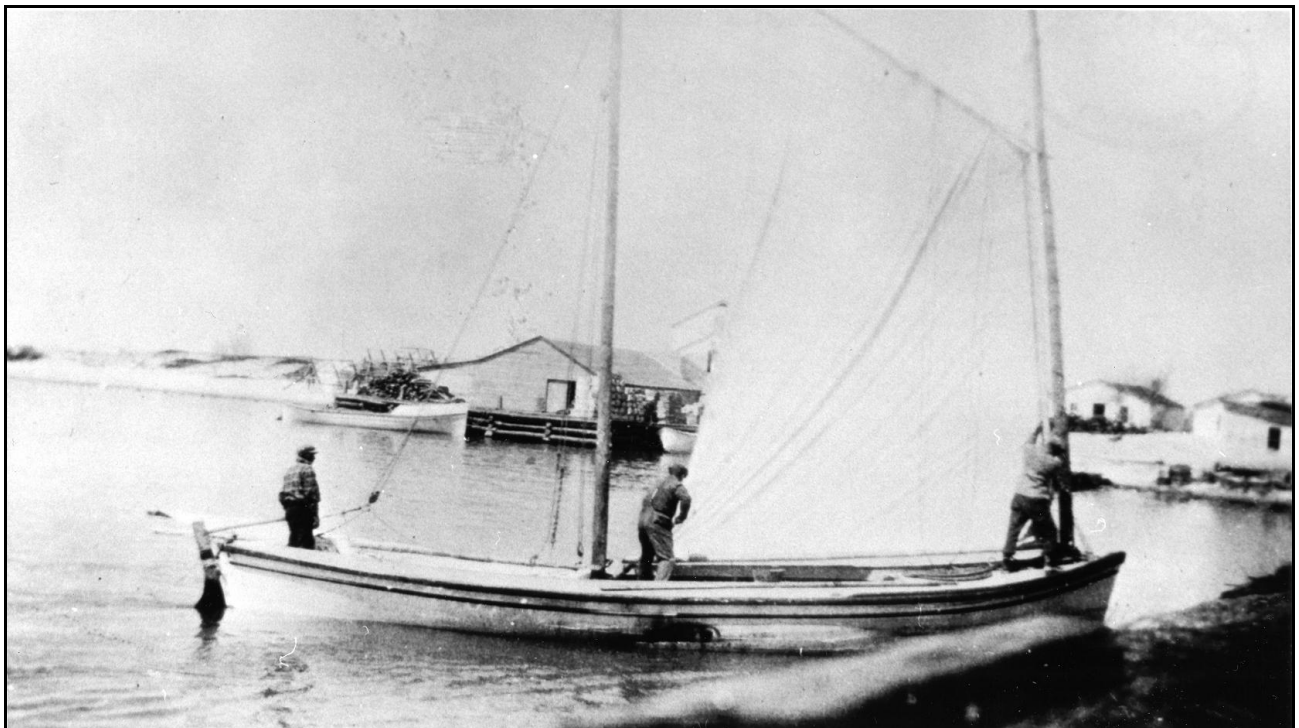
Part of Warren’s Landing fishing fleet, 1924. (Source: Archives of Manitoba, #553.)

Each mast, mainly made in Gimli or Selkirk, carried one sail. When there was no wind, tug boats, varying in size from 10-25 tons, towed the sailboats out to the nets and if the wind had not come up, returned to tow them after the nets had been lifted. The boats had a centre board *“aft to the rear mast with a box on either side, extending down 3-4 feet and manoeuvrable,*

*being pushed up or down by means of a metal rod with a grip as much as 3-4 feet in a side wind to prevent drifting.*¹⁴⁵ The boats used rocks for ballast. If the men caught a lot of fish, they sometimes had to throw the rocks overboard. Regardless, the rocks had to be continually shifted to keep the balance, because if the lake was rough the boats could roll over.¹⁴⁶ These sailboats were later converted and engines were installed. It was then that pilot houses were added to the boats. The wooden hulls were replaced by steel hulls. Many of the skiffs used daily by the fishermen were light carvel-built rowboats, costing about \$15. These were generally used in the southern part of the lake, mainly in the fall season. They were popular during the 1930s when the Depression placed the expense of gasoline motors to propel the skiffs beyond the financial resources of most fishermen. Native fishermen rarely could afford gasoline motors, and usually rowed their boats to their nets.¹⁴⁷

During the whitefish season, most fishermen rented their boats from the companies for \$250 a season.¹⁴⁸ The wooden boats averaged 40 feet in length with a beam of 10-12 feet. The bow was flared and the stern square. The motor was mounted well astern of midship. Above the motor, a small deckhouse provided some shelter for the crew. It was about seven feet long and about six feet high, but opened to the stern. The forward wall of the wheelhouse had a small window and a large door. Along the low-walled deck, hatches covered the partitioned holds into which the fish were deposited. The area astern of the deckhouse also had a low wall. It was from here that the nets were set, and here that meals were prepared.

During the 1920s and 1930s, gas boats replaced the sailboats used by the fishermen, giving them greater mobility on the lake. Some boats had the motor below deck and it was reached through a hatch cover. These often had a small bunk area fitted along the part wall. In the



Fishing station on Lake Winnipeg, 1920s. (Source: Archives of Manitoba, #591.)

1950s, the motors were usually converted automobile motors of 1930s vintage. They provided adequate power even if they lacked fuel efficiency. Speeds of 9-11 m.p.h., for a fuel consumption of 3.5-5 gallons per hour, were normal.¹⁴⁹ A few marine motors, the most common variety being St. Lawrence, Gray and Vivian, were used. Diesel engines were first installed in



A motorized whitefish boat on Lake Winnipeg. (Source: Water Stewardship, Fisheries Branch Collection, C58.)

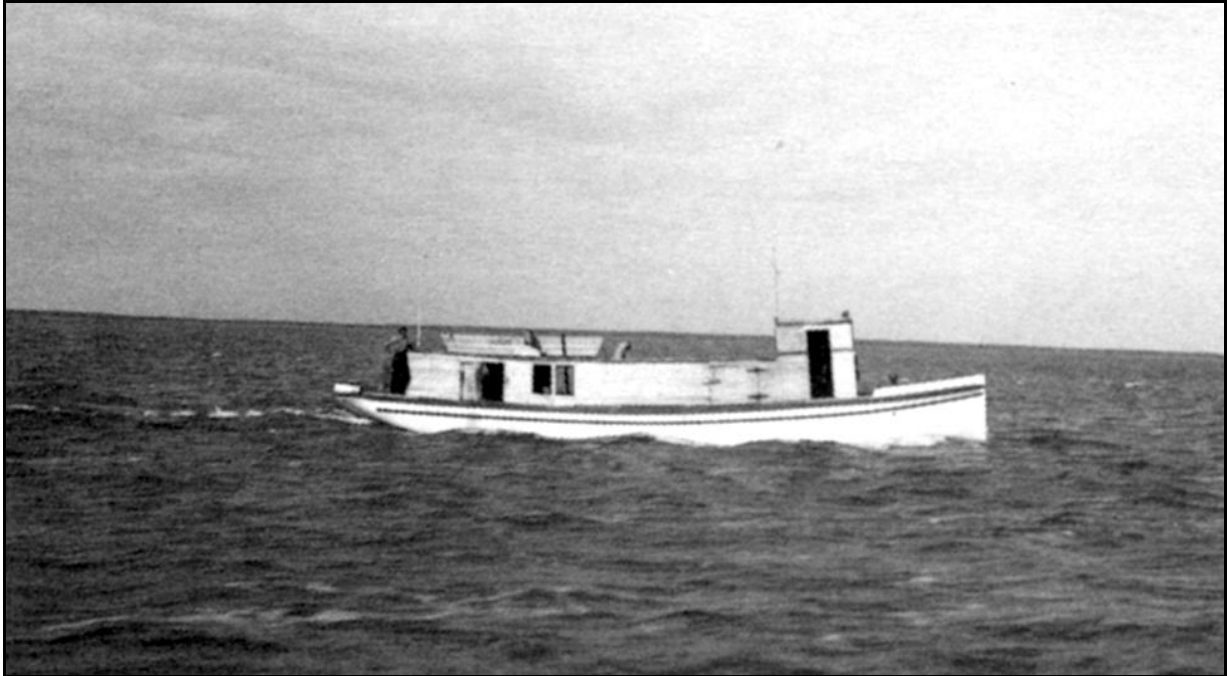
larger fishing boats during the 1950s and many fishermen using 30-45 foot whitefish boats began to use net lifters, thus reducing operating costs. All motors presented a fire hazard because of the gasoline used to fuel them.¹⁵⁰

Freighters were used to haul logs, lumber and fish from the northern ends of the lake to the port of Selkirk. Most of these boats were owned by the commercial fish companies, but some were owned by local Icelanders involved in the freighting business. In 1926, a tug named S.S. Garry made three trips a week, plying the route from Black Bear Island south to Little Head Point, to Big Bull Head Point, to Granite Quarry and on to Selkirk, picking up fish from several different companies. It could carry 500 boxes, each holding 125 pounds of fish, on her deck.¹⁵¹

Due to the sudden storms that arose on the lake, there were many tragedies involving fishing boats and freighters on Lake Winnipeg. The earliest involved the Keewatin, which foundered in 1890, resulting in the death of two mounted police. The Princess sank in a storm in 1906, with six lives lost. In 1965, the freighter, Suzanne F. capsized and sank with eight lives lost. These are just some examples of the potential treachery of the lake. Consider then, how many fishermen in smaller boats lost their lives while fishing on the lake.¹⁵²

J.B. Johnson recalled a horrendous series of storms in late October, 1910 when the Mikado (later the Grand Rapids) was taking fishermen to their winter fishing stations on Lake Winnipeg. When the first storm hit, the Mikado's captain took shelter in Berens Island harbour which proved unsafe.

During the night, a north-east gale blew the ship around, shattering its rudder and leaving it stranded on nearby shallows. The captain knew the Wolverine, on a similar mission, would be arriving soon. Unfortunately, it too had been hit by the storm and forced into nearby Berens Island, where it struck a reef and broke its rudder. Since no other boats would be arriving this



I'm Alone, a fish-hauling boat on Lake Winnipegosis, owned by the H.W. Grenon Fish Company. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 33.)

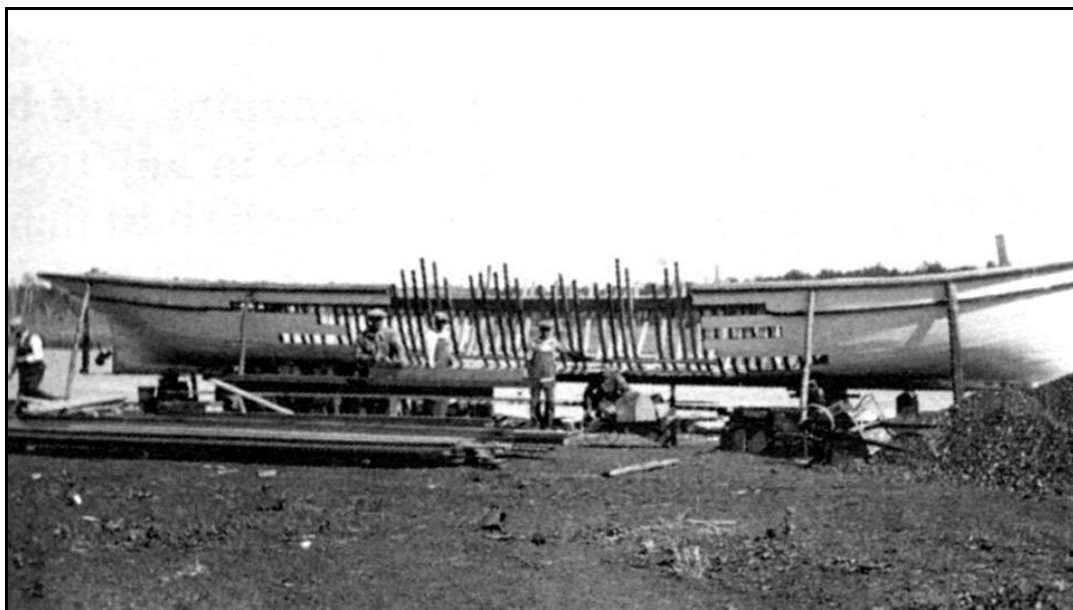


The freighter Wolverine docked at Black River, 1914. (Source: Archives of Manitoba, #406.)

late in the season, several men, including Johnson, took a skiff and rowed to Berens Island to find a campsite. Another storm hit while they were on shore, carrying their skiff away. They used two lifeboats from the Mikado to try to reach the Wolverine. With great difficulty the men were pulled aboard the ship. When it was Johnson's turn, the heaving of the boat threw him into the water where his heavy clothing and poor swimming skills nearly caused him to drown. Just at the last moment he managed to grab an oar and be pulled to safety. The fishermen went ashore and made camps, which could be moved once the ice had frozen. Both ships however, spent the winter marooned in the ice until spring when they were towed to dry dock in Selkirk.¹⁵³

There was a connection between the ship building-industry at Collingwood, Ontario and the boats used on Lake Winnipegosis. Several of the shipbuilders had come from Collingwood and captains such as Captain Coffey of the S.S. Mockingbird and the Lottie S, and Captain William Mapes, had seen service on the Great Lakes before relocating to Lake Winnipegosis. The S.S. Manitou, built with material from Collingwood, plied Lake Winnipegosis from 1900-1942, carrying loads of 70,000 pounds of fish, with the weight of the boxes and ice doubling this.¹⁵⁴

The Manitou also carried outward all the supplies for the winter fishing season, leaving port on October 5 every year. Her load included families, supplies, horses, sleighs and fishing equipment. On one occasion in 1908, there were 90 dogs on board, as well as many horses. Once the fishing camps were reached the unloading of the horses presented quite a problem. Most often they were driven off the boat into the cold water and had to swim to shore. The shock occasionally killed them. This explains why farmers were unwilling to lease their horses for work in the winter fishery.¹⁵⁵



The I'm Alone undergoing construction to lengthen it. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 35.)

J.B. Johnson remembered seeing a train of twenty teams of oxen moving across Lake Winnipeg. Later, horse trains hauled the fish across the lakes. Two or even three teams would pull the heavily loaded sleigh. The teams were rested by changing the draft horses, usually at noon. A freight train might consist of eight to twelve sleighs, each sleigh carrying up to 150

boxes of fish, weighing 100-110 pounds each. There would be a snowplow at the front and a caboose at the back of the train.¹⁵⁶



The freighter, Wolf, being loaded with fishermen and their families bound for the fish camps on Lake Winnipegosis. The boat was owned by the Mindy Jonasson Fish Company. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 43.)



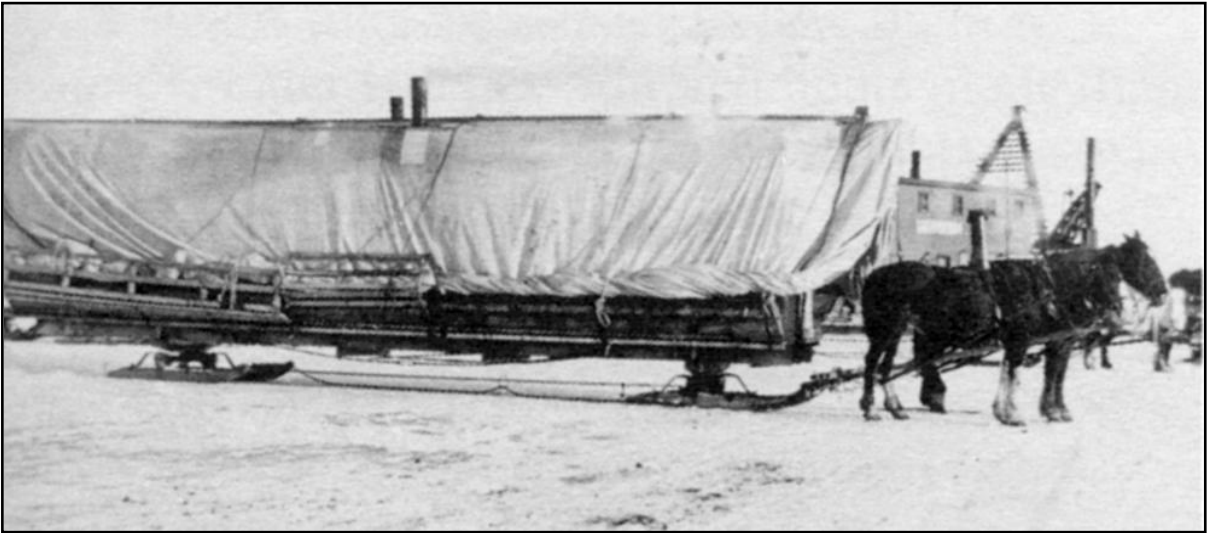
The freighter, Wolf, towing fishing boats behind it as it leaves Winnipegosis bound for the fish camps. (Source: Winnipegosis History Book Committee, *Reflections on Little Muddy River*, p. 44.)

Often the men who took up fish freighting were farmers who found a use for their idle horses during the winter months. One such farmer was Duncan McIvor from Clandeboye who began hauling fish for the Kristjanson Bros in 1912, making the 140-mile trip from Reindeer Island to Riverton on a regular basis. During a mild spell in winter 1926-27, the ice on Lake Winnipeg became so slushy that the horses could no longer pull the snow plow. One hauler, Grimsi Magnusson, became so frustrated with the attempt that *“he left the freighting outfit and proceeded on foot to Riverton, a distance of over 60 miles....He somehow was able to purchase a D-2 Cat andhe finally was able to get the loads of fish to Riverton with the “Cat” pulling the snow plow through the heavy slush, the horses following in the plow trail.”*¹⁵⁷

On Lake Winnipegosis, from 1912-1933, a transport method known as “snow plowing” was used, whereby collective action moved the fish from the various camps to Winnipegosis. The first snow plow was organized by the Village of Winnipegosis who secured the 12-14 teams suitable for the grueling work of forming a transport train. Later, the fish companies had to purchase their own teams because farmers refused to rent their teams for the strenuous task. Captain Alex Vance constructed the first snow plow, weighing around half a ton and made of three-eighth-inch steel plate. The metal blades of the plow scraped the snow off the ice down to glare ice. It was pulled by two teams which had to be changed every half day so as not to destroy them with the hard labour. A pole was extended behind, attached to the plow, and to which another team was hitched, itself pulling a load of either fish or supplies, depending on the direction it was heading. Following the snow plow were outfits composed of from 10-12 heavy sleighs with three-inch runners, and three or more horse toboggans. A 36-foot long caboose served as a cookhouse and bunkhouse, and also had mangers built on its sides from which the horses could be fed. Tarps were strung from it to provide night-time shelter for the horses. The sleighs had 30-foot long fish racks which could hold 120 boxes of fish, weighing seven to eight tons per team. Once the sleighs were moving, the teams had no difficulty keeping them going but starting them from frozen ice each morning was another story.



An ice plow is being used to prepare ice. Ice gangs went up to the stations during winter to cut and store ice for the fishing station and Winnipegosis for the summer season. Cakes of ice two feet wide, four feet long and two to two and one-half feet thick were considered ideal. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 40.)



These rigs, called horse tents, were part of each fish hauling train. This caboose offered shelter for the crews and for the horses when they traveled across the open lake. (Source: Winnipegosis History Book Committee, *Reflections on Little Muddy River*, p. 29.)



Arrival of a fish train in Winnipegosis. The fish trains could be seen approaching town for miles and their arrival was a social event, as families greeted fishermen who had been away all winter. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 29.)

The runners would freeze into the ice unless they were pulled over small round sticks to park, thus leaving less contact with the ice. Even so, the runners had to be loosened from the ice each morning with a side by side force provided by a bunting pole three inches in diameter.¹⁵⁸ The trip across Lake Winnipegosis was 120 miles each way and there had to be at least two feet of ice on the lake before the snow plow run could begin. Ice cracks were a major problem

for these horse trains. Sometimes the piled up ice around a crack would be 10 feet high. Therefore, the trains carried planks to form bridges, the building of which could take half a day, to cross the cracks. In slush ice, a problem in mild weather, more teams were required to pull the plow.¹⁵⁹ Usually the hauling trains came to the fishing camps twice each winter, at Christmas and in February. The fishermen and their families had to be ready to leave on the February trip because there was no other way to get back to civilization once the ice went out in spring. The family and their belongings were placed atop the boxes of fish, which could be 12 feet off the ice, depending on how much fish the men had caught. Each team of horses would pull 100-150 boxes of fish on each sleigh. On Lake Winnipegosis in February, 1920 the Isaac Bradbury family road atop the boxes of fish. Their son remembered: *“On their last trip Mother and Father and two small children (ages 1 year and just under 2 years) were in a tiny caboose on top of a load of fish, when the sleigh runner fell in a crack on the ice and the whole load upset. There was a woodstove in the caboose and I still wonder how our parents were able to keep us from being burned.”*¹⁶⁰

Exceptionally difficult transport conditions marked the winter of 1933-34. This occurred because heavy snow came as the ice was forming, keeping the lakes and muskegs from freezing totally. The heavy weight of the snow on the thin ice caused cracks to develop, resulting in unfrozen slush. These conditions were prevalent on the route between Mafeking and Grand Rapids in January 1934, when a tractor tried to break a road, running out of gas after traveling 100 miles. The driver had to walk to Grand Rapids for gas. Thinking the road had been created, a 29-sleigh horse caravan set out on the route on January 18, carrying hay, oats, lumber and other supplies. Pushing through slush often three feet deep, the train took two weeks, twice the usual time, to reach Grand Rapids and then another two weeks to return to Mafeking with their load of fish. Since there was little profit in such a trip, no one wanted to make the return trip for the remaining fish. This was the first time a tractor had been used in Manitoba. Later it would be used for hauling fish as well.¹⁶¹



A motorized fish train, in 1939 from Camperville, offered greater protection for the freighters. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 29.)

In the mid-1930s, caterpillar tractors began to replace the horse teams, each hauling more than three times the poundage earlier moved by horses.¹⁶² After World War II, about 1946-47, surplus war machines, such as the snow tractor, or “weasel”, which was light with broad tracks, and bombardiers, which could travel at thirty miles per hour, became prevalent on the lakes.¹⁶³



A bombardier delivers fish to freight plane near Pukatawagan in 1954. (Source: Gord Emberley.)

On Lake Manitoba, trucks were sometimes used to haul the fish off the lake. This could be dangerous, especially if cracks had developed in the ice. These were not always visible through the frost covered windows of the truck.

The building of railway lines also played a role in the development of commercial fishing in Manitoba. The American demand for whitefish only affected Manitoba’s fisheries once the creation of the Pembina railway line allowed the fish from Lake Winnipeg to be shipped to the United States. While many of the northern lakes held potential commercial fisheries, these could



A fish truck goes through the ice of Lake Manitoba, c. 1940s. (Source: Eriksdale Municipal Heritage Committee, *Beyond Beginnings*, p. 166.)



A truck with a snow plow attempts to clear a route on lake Manitoba. (Source: (Source: Eriksdale Heritage Advisory Committee, *Beyond beginnings*, p. 167.)



Fishermen's time on the lake was greatly improved with the increased use of bombardiers after World War II. This bombardier is on Lake Winnipeg in February 1966. These machines were great because they eliminated the need for shacks on the ice or for the fisherman to stay away from home at night. They also provided the power take-off to operate ice augers, simplifying the task of setting nets. Fishermen were able to move their catch even more quickly from the stations to the market. (Source: Water Stewardship, Fisheries Branch Collection C10490.)

not be exploited unless the harvested fish could be brought to ports along the three big lakes. However, once railways reached Winnipegosis, Mafeking, The Pas, and Fairford, to name a few railway stations, these became shipping points for crates of fish. In 1897, when a Canadian Northern railway branch line reached Lake Winnipegosis, Peter McArthur moved his operations to Winnipegosis from McArthur's Landing, near Westbourne. Predominantly interested in logging along Lake Winnipegosis, McArthur was also an agent for Booth Fisheries. His lumbering operations along Lake Winnipegosis were also important to the fishing industry. McArthur used his lumber to operate a box factory in Winnipegosis. In 1910, the company was *"making fish boxes at the rate of 1200 per day – over 30 men employed..."*¹⁶⁴

Once the railway was in place, Booth Fisheries set up stations throughout the islands of Lake Winnipegosis, with a freezing plant in Winnipegosis. Secondary bases were set up elsewhere, such as at Dawson Bay on Lake Winnipegosis, once the Canadian Northern reached Mafeking in 1903.

Another form of transportation began to be used for fish hauling in 1931-32: airplanes. Using a Stinson Detroit SR with a carrying capacity of 800 pounds, Konnie Johannesson flew the first fish cargo from Spruce Island on Duck Bay to Winnipegosis, an air distance of 50 miles one way, at a rate of 12 cents per pound. Air transport was also used from Grand Rapids on Lake Winnipeg, an air distance of 125 miles to Winnipegosis.¹⁶⁵ The important factor associated with air transport was the freshness of the product, especially when considered that it still had to travel by railway an additional 1500 miles to reach its market. When Gord Emberley was air freighting for Keystone Fisheries in the early 1950s, he hauled fresh whitefish out of northern lakes such as McKnight and Suwannee, taking the fish to the company's packing house at

Pukatawagan where it could be re-iced and put on the train. Every second day he flew out 1400 pounds of fish in his Stinson SR9 Reliant.¹⁶⁶



Freighting by plane, first accomplished on Lake Winnipegosis in 1932-33, shortened the time between production and marketing for Manitoba's fish harvest. (Source: Winnipegosis History Book Committee, *Reflections on Little Muddy River*, p. 29.)

Highway construction also greatly facilitated the movement of fish from the lakes to market. Trucks could be sent to a shipping point along the lake more often than the trains were scheduled to arrive. Moreover, with their refrigerated boxes, they could quickly deliver the fresh catch to American markets.

FISHING METHODS

A fisherman's life was rather nomadic. They moved with the fishing season. The fishery was conducted from "stations" at suitable points on the lake, established with regard to harbour or anchorage facilities and general productivity of the fishing area. There had to be some grazing land for the horses which might be left behind for the summer. Upon arrival at a fishing site the fisherman had to set about building a rough camp or repairing an existing one. A camp for one or two men might be 12x14 ft. A larger one to accommodate eight to ten men would have two separate buildings, one for cooking and one for sleeping. A twenty-foot building would hold rows of bunks six-seven feet lengthwise along the wall. Such camps were set on bare ground, and "constructed on rough logs fitted only on the corners, with a roof of saplings set side by side, covered with hay or straw with hay on top. For insulation they were chinked with moss. Often to prevent drafts, white paper supplied in rolls like tar paper but thinner lined the inside logs and moss. Some had a slush of snow and water and slapped it on the outside walls to form a sheath of ice."¹⁶⁷ One fisherman remembered a site with no logs available. He constructed a camp of saplings placed vertically and insulated with moss. Kennels also had to be constructed to

shelter the sled dogs. These were three feet high, three deep and partitioned about four feet apart.¹⁶⁸

A larger station might consist of a group of buildings, erected on crown lands by the fish companies. Usually these were ram-shackle, as the following 1951 description suggests:



This summer-fishing camp at Edmund Lake, while smaller than most, is representative of the primitive conditions of most fish camps. (Source: Water Stewardship, Fisheries Branch Collection C1146.)

“There is a rough dock built on pole pilings, the major part of which is occupied by a shed in which the fish are dressed. Another part of the dock is reserved for storage of oil and fuel drums. The section of the dock at which the fish are unloaded is equipped with a roller-type conveyor, which leads into the dressing shed.

The dressing shed has bins about four feet square along two end walls. The bottoms of the bins are sloped toward the interior of the building. A section of the wall above the bins is omitted so that they may be reached from the outside as well as the inside. These bins will hold from 150 to 200 fish. Adjacent to the bins are waist high lumber tables with holes 4 inches square cut at intervals along the top. These receive the fish offal which passes through to containers below. A few feet behind the dressing shed and connected by another roller conveyor is a cooler.

The cooler is an insulated frame building about 24 feet by 16 feet. The sides of the building can be charged with an ice-salt, which supplies the refrigeration. It is usually charged once a day in order to maintain a temperature of just above 32° F. A short distance from the cooler is an ice house. The two are connected by a gangway.

The icehouse is an insulated frame building with a capacity of 200 to 300 tons. It incorporates a filling ramp built of rough poles. As a general rule the ice house is filled by a contractor. The filling begins when the ice is two feet or more in thickness. Blocks of ice about three feet long and two feet wide are cut a few yards from the ice house. Power driven circular saws are used. The blocks are pulled up the ramp by a rope and pulley system using a horse or small tractor.

On two sides of the ice house, two lean-to sheds have been added. One shed is used as a store room for nonperishable grocery items and similar goods. The other shed provides a general working space and houses the machine shop. Spare motors and spare parts are stored there. The machine shop is poorly equipped with tools. There is little beyond a vise, a set or two of wrenches, a drill and a grinder.

Somewhat apart from the group of buildings just described is a cook-house. It is a rough rectangular frame building. The mess section is furnished with two long tables flanked by benches. The kitchen is equipped with a wood-burning stove, a water barrel and sundry cupboards and cook tables.

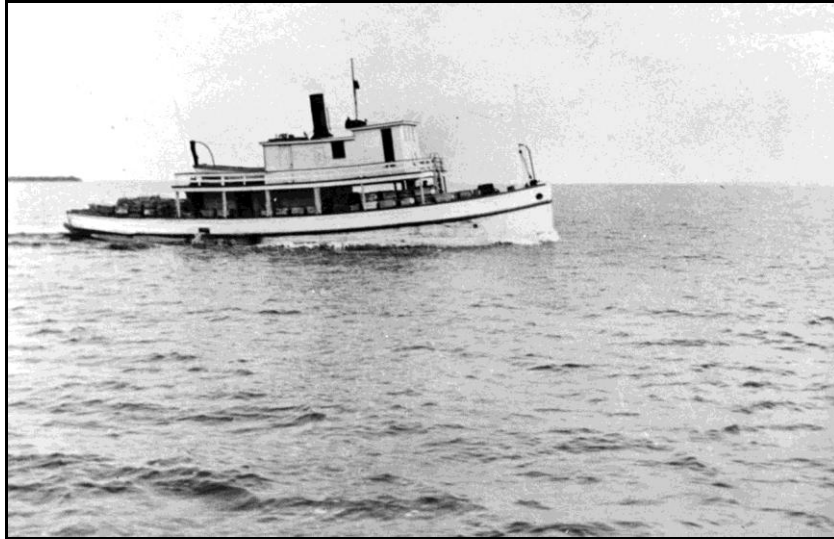
A commissary building a short distance away from the cookhouse houses the company office. The commissary itself provides the variety of merchandise common in the smaller general stores seen in rural areas.

Summer Fishing: The preparation for the summer season required the filling of station icehouses during the previous winter so that the catch could be properly stored. The freezer walls were *“lined with sheet tin, about five inches wide, covering four walls. This in turn was packed with crushed ice and a special freezer salt everyday...”*¹⁶⁹ Later, gas-run refrigerators were installed at the stations along the lake. *Between the commissary and the cook-house is a little shelter built to protect the lighting plant. It is a 500 watt, 6 volt D.C. outfit powered by a gasoline motor. It supplies light to the commissary and cook-house.*

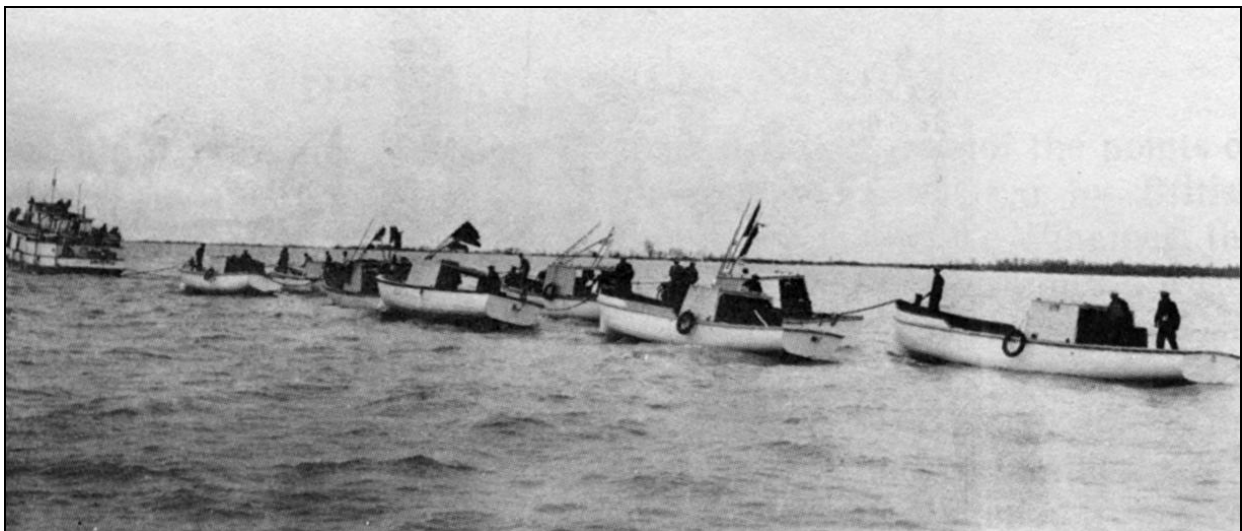
*Some distance from the latter group of buildings there are three or four bunk houses. They are furnished with double deck army bunks. A small sheet iron heater is provided for use on damp days. There is an outdoor type latrine near the bunkhouses. No attempt is made to exclude flies which are present in large numbers.”*¹⁷⁰

Each fish company employed fishermen to work for them and paid them per pound dressed weight, delivered at a particular fishing station. In early June, the fishermen left for the fishing grounds, often taking their families with them, to live in log cabins or tents along the shores of a good fishing spot, which might be located eight to ten miles from the campsite. Company-owned tugs boats towed the sailboats out to summer fishing grounds. Fishing was from 30 ft long two-masted sailboats, operated by three men under one licence. Gill nets were used because they captured a certain size of fish. The amount of gill net to be used was different for various kinds of lakes. For larger lakes, 2000 yards was usual while on lakes Manitoba and Winnipegosis, 4000 yards was permitted. In northern lakes, smaller yardage, from 1000-1500 yards, was allowed.¹⁷¹

From their camps the fishermen sailed out to set their nets. The working day commenced at 3:00 a.m. with the boats going out on their own if the distance was short, or being towed, four to sixteen boats at a time, a distance of up to 30 miles. The boats stayed out for 10-12 hours. Gas boats might return to shore between 2:00 to 4:00 p.m. Sailboats would sail in if possible; when the weather lacked wind, the tugs would retrieve them. The tugs were also eligible for a fishing licence, with authorization to use 5000 yards of net.¹⁷²



The tug boat, Goldfield. (Source: Water Stewardship, Fisheries Branch Collection C10220.)

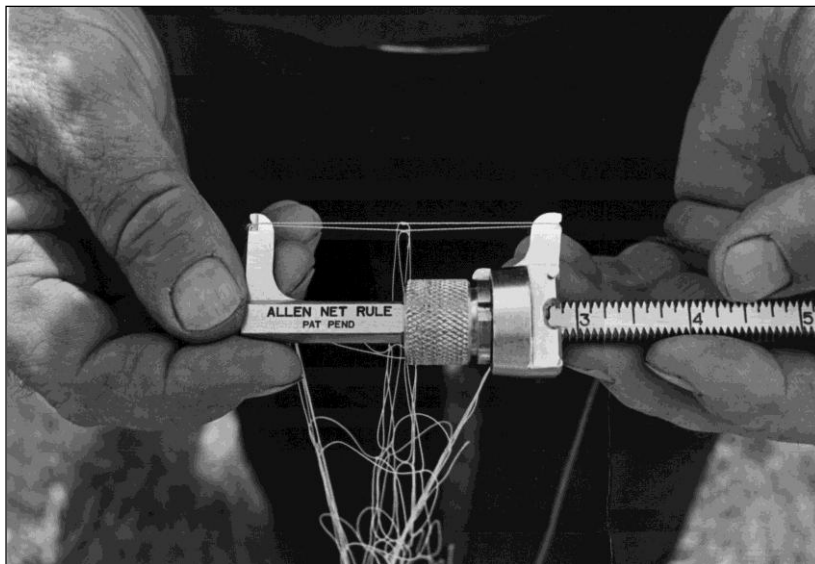


The Goldfield towing fishermen and their boats out to the fishing grounds on Lake Winnipeg to begin the whitefish season. (Source: Gimli Women's Institute, *Gimli Saga*, p. 238.)

The linen mesh gill nets had a regulated size of mesh which allowed only fish of the proper size to be taken. Anything smaller and considered too young would pass through the nets. The mesh size varied according to each species annual growth rate and age of maturity, and these were determined by marine biologists in the Fisheries Branch. Nets with 4.25 inch mesh were used for pickerel and 5.25 inch for whitefish. They might vary not only according to species but also according to lakes. For example, a six-year-old whitefish in Lake Winnipeg might be as large as a ten-year-old specimen taken from a northern lake. Where two species, with different growth rates, such as pickerel and whitefish intermingled, the problem was solved by arbitrarily dividing lakes into areas in which only whitefish or pickerel fishing was allowed.¹⁷³

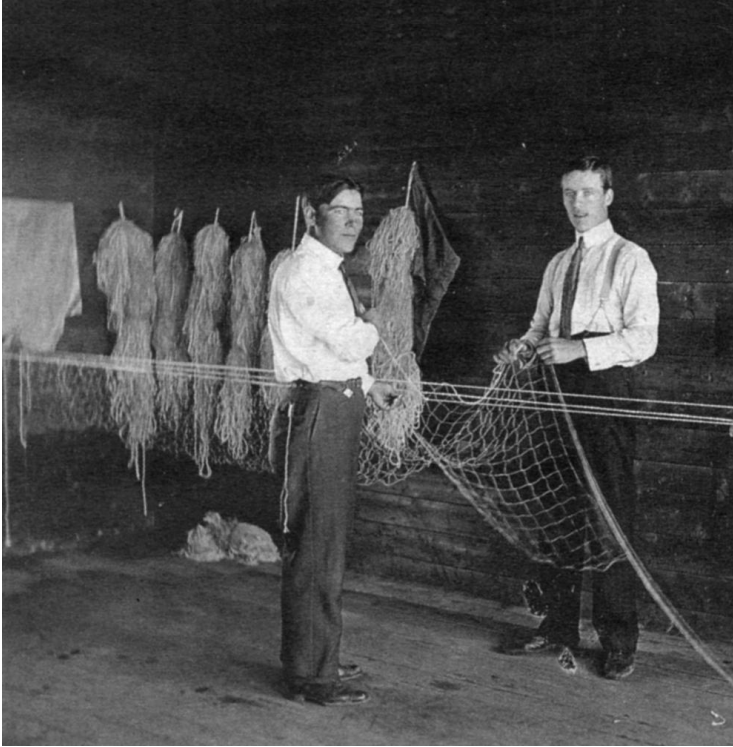


Some fisherman would have to spend a lot of time untangling this mass of fish nets before the season started. (Source: Water Stewardship, Fisheries Branch Collection. C10508.)



Allen gill net mesh measure

The fisheries inspector used the Allen Gill net mesh measuring gauge to check if fishermen were using the correct sized nets for their catch. (Source: Water Stewardship, Fisheries Branch Collection, C2795.)



Two Icelandic fishermen from Lake Winnipegosis check their nets for mending and storing. Since the men are wearing their “Sunday best”, we can assume the photo session was staged. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 30.)

With the rise in the price of cotton in the 1950s, linen became the second choice again. The average whitefish net was probably 200 yards long and 30-32 meshes deep. Today, nylon nets are used.

“Hanging” a gill net consisted of fixing the net between two ropes along the lengthwise margins. These were called sidelines and made the net easier to handle, and prevented damage to the flimsy net meshing. Most of the hanging was done at the net factory. The bottom sideline of the net was weighted with lead weights of 5-6 ounces, at intervals of 5-6 feet, hammered into place. Directly opposite each weight a float was fixed on the top sideline. These were cylindrical cedar blocks, about 8 inches long and 3 inches in diameter.¹⁷⁴ The nets were seamed 70 fathoms long and packed in net boxes, each containing 2-3. Each boat would have about 10 boxes, or 30 nets. The nets were then split into two gangs of 15 nets each, with a bridle at each end. An anchor stone was attached to each bridle. Marking buoys at the end of each net were flag-bearing stakes, with the fisherman’s licence number attached, which floated upright by being inserted in a cedar bowl. A fisherman marked the location of his nets by taking directional ranges from the shore, which meant that he had to have pretty fair directional finding skills.

Setting the nets involved the use of four men. One man steered the boat on course. Another, called a spreader, transferred the nets from the boxes to the water in such a way that they were fully spread out without snarls. Since the net was packed with the cork-line and lead-line together with the mesh, a third man, called a spinner, kept the net taut between himself and the spreader. He thus prevented the net from snagging and getting the cork and lead lines twisted. The fourth man brought up additional boxes of nets and tied the sidelines to the ends of the other nets in the box which were also being set. The entire set of gangs could thus be set without stopping the boat.¹⁷⁵ The fourth man was also responsible for keeping the nets well soaked during setting. He did this by pouring buckets of water on them as they lay in the boxes.



A fisherman seaming and boxing his nets in preparation for the coming season. (Source: Eriksdale Municipal Advisory Committee, *Beyond Beginnings*, p. 154.)

Clearing the fish from such a great yardage was a tremendous amount of work. The nets were lifted every second day and the fish taken to the shore for processing and placement in the freezer. A typical lifting day began at 4:00 a.m. with breakfast in the cookhouse. Boxes of shaved ice for cooling the fish were taken on board along with the crew's rations.

When the first buoy was sighted, the decks of the boat were cleared. One man lifted the buoy while another pulled up the anchor stone. The captain kept the boat in such a position that the other three men could haul the gill nets over the bow from the windward side. The net boxes were placed amidships, just forward of the deckhouse. The second man grasped the cork and lead lines together, and walked backward towards the net box. The resistance from the nets during this action pulled the boat forward, giving the effect of the boat standing still. The man at the net box arranged the roped-up nets in the box, keeping the leads and corks in pairs. While performing this "tailing in", he also removed the fish from the mesh. The third man took the position at the rail recently occupied by the "tailer" and they repeated the pulling operation, alternating places. When they were tired, they changed jobs with the other two men. The fish were deposited in the holds and the "rough fish" (unwanted) thrown overboard, or placed in boxes above deck. Once the lifting was completed, the nets were reset, either in the same location or a different one, depending on the size of the catch. During the 1950s many fishermen using 30-45 foot whitefish boats began using net-lifters, thus reducing operating costs, as well as labour expended.¹⁷⁶

It was important to get the fish to the station as soon as possible to maintain its quality. In the early years, when tugs, skiffs and sailboats were used, fishermen tended to raise their nets every day and clean the catch on their way back to the shore. Once on shore, the fish were

dressed and sorted according to species. The catch of each crew was weighed and credited to the operator. The fish were then washed and graded and placed in large metal pans for freezing. After a day in the ice and salt freezer, the fish were dipped in water. The ice-coated cakes were placed in wooden crates, which held 125 lbs each, and returned to the cooler to await the arrival of the boat to transfer them to a shipping point like Selkirk.¹⁷⁷ Sometimes the men did not finish this process until 2:00 a.m.

In the 1950s, once the crews had completed lifting their nets, the boats headed to the station where they took their turn unloading the fish by hand into boxes which were pushed up the conveyor to the bins in the dressing shed. Here the four men worked in pairs dressing their fish. The first took the fish from the bin, cut off its gills, and slit open the belly from the anus to the gill isthmus. He passed it to his partner who removed the guts and scraped out the kidney. This refuse, along with culled fish, passed through a hole in the table.



Unloading fish at the station. Source: Water Steward - ship, Fisheries Branch Collection, C59.)

The dressed fish were weighed, and each weight was credited to the fishermen whose catch it had been. The fish were packed in boxes and shaved ice placed on top before the box, of a standard weight, was nailed shut. The boxes were stacked in the cooler to await shipment on a freighter to a lake port. The dressed fish lasted longer because they rotted from the inside out. When the lake freighter arrived, the fish were removed from the cooler and fresh ice added to the boxes before they were pushed up the conveyor to the vessel. By the 1950s, most ships had power elevators to use in loading and emptying their holds.

Another important step in a fisherman's duties was the drying of the nets. In the years before nylon or filament nets, the netting had to be removed from the waters and wind dried to kill the bacteria which rotted the nets. In winter, the nets were dried by stretching them across poles placed in the ice, looking much like a series of clothes lines. In summer, the nets on net reels were treated with lime or bluestone, left to dry over night, taken off the reels on Sunday morning and spread and boxed, ready for Monday morning fishing. The nets had to be pulled from the lake every three days for drying, which cut the amount of time the nets were actually engaged in trapping fish.¹⁷⁸



A fish camp on Channel Island on Lake Winnipegosis in 1929, with the nets drying on frame net winders. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 44.)

Winter Fishing: The winter camps were located on islands or the mainland, places that the fishermen had chosen because they thought there were bountiful fishing grounds nearby. They also had to consider the availability of trees for building camps, barns, and for firewood. Some fishermen used dog teams for transportation during the winter. The winter season could be as long as seven months depending upon freeze-up and break-up times.

Once ensconced in their winter camp, the fishermen waited impatiently for the ice to freeze hard enough for them to travel on it. Storms might repeatedly shatter the ice and snowfalls would cover the cracks making travel very dangerous. Often men tried to catch the run of fish by venturing out on the thin ice. J.B. Johnson and his partner ventured out on thin ice to lift nets in November 1921, leaving the dogs behind and pulling the sleighs themselves. J.B. had slung a rope over his shoulder and under his arm to pull the sled, thankfully, because he broke through the ice. The rope allowed his partner to haul him from the icy water.¹⁷⁹

By late winter, the ice on Lake Winnipeg would average four feet or more in thickness in the north and a bit thinner in the south. The fishermen would make a hole 3.5 to 4 feet long and two feet wide. Over a twenty-minute period, the bottom of the hole would be cleared with an ice chisel which had a four to five foot handle. This tool was improved over the years, to steel handled chisels, to “needle bars” like three-edged spears, to ice augers operated by a power take-off.



A winter fish camp on Spruce Island on Lake Winnipegosis. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 39.)



A fisherman, with his sled and dogs, has the dangerous task of crossing a crack in the ice in order to reach his nets. Cracks could open up at anytime. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 178.)



Lifting nets at Rat Lake. (Source: Water Stewardship, Fisheries Branch Collection C10115.)



Tractor with ice auger. The use of tractors with motorized ice augers eliminated the need for laboriously chopping holes in the ice. (Source: Water Stewardship, Fisheries Branch Collection, C10571.)

The winter season required placing nets under the ice. The nets, prepared with corks and leads before the ice froze, were set as early as possible. The nets, normally made of linen, were from 40-45 fathoms in length, with 4.25 inch mesh for pickerel. Basin holes were cut in the ice, the size determined by the thickness of the lake ice. For thin ice, 14 inches was ample; for thicker ice larger holes were cut with an ice chisel or auger. *“A running line of No. 20 cord was then attached to the running pole, or in later years, a jigger. The original method was to use a pole, cut in the bush, of about thirty feet in length, flattened so that it would slide under the ice in a reasonably straight line. This pole was directed under the ice surface and holes were cut as its*

*length was extended so as to be able to propel it further along until the required length for the net was reached. The pole was then withdrawn from under the ice and the running line taken from the pole. With this line between the two holes in the ice and under the ice, the net was ready to be pulled into position for setting. Anchor stones were attached to each end of the net at the bridle, and the weight of the leads held the net on the bottom of the lake with the corks or floats holding the net upright. This procedure was continued until all the gangs of nets were set. To withdraw the nets, the reverse procedure was used and the fish were taken from the net, spread on the ice surface to freeze and the net was reset. Nets were lifted twice weekly to prevent drowning of the fish.*¹⁸⁰

Jiggers, which replaced the poles, were manufactured from four pieces of one-by-four lumber, sixteen feet long. The four pieces, once nailed together, gave a sixty-foot stretch between the holes cut in the ice, thus reducing the work required to set the nets. More modern jiggers had a clapper attached to them by which the direction of movement of the jigger could be distinguished by sound. Jon Viglundeson of Gimli is said to have been responsible for devising the first jigger with a sound attachment.¹⁸¹



A fisherman using a jigger. Jiggers were used to keep the nets from floating astray under the ice. (Source: Water Stewardship, Fisheries Branch Collection C10570.)

The life of a winter fisherman was hard. Aside from leaving one's family for long periods while one spent months on the bleak landscape of a frozen lake, there was also the cold factor. Once the ice was solidly frozen, the regular routine began of heading out to the nets seven days a week, working from dawn to dusk, regardless of the weather. Usually two to three men would head out together, with sleighs loaded with boxes and other gear and pulled by the dogs. The men themselves jogged ahead of (or behind) the sleighs, to encourage the dogs, the entire sixteen miles to the fishing holes. All day the men would work on the ice, often eating a frozen lunch at noon before heading back to camp at dusk, usually taking the same route each day until a trail formed. The dogs traveled better if they had a trail to follow. A ten-mile trip back to camp usually took two hours. Once back at camp, the men had to box the fish, repair nets and gear, gather wood, and tend to either the dogs or horses, depending upon which form of transport

they were using. They were always working with wet nets, which quickly froze their woollen mittens. Every night these and other items had to be washed and dried in the makeshift cabin, above a wood-burning stove.

The nets were emptied every second day, and the fish frozen and placed in the freezer at the station. The laborious job of pulling the nets was greatly eased by the invention of net winders. The strong wind on the lake, as well as sudden storms, made the canvas cabooses placed over the holes dangerous. These same strong winds could make it impossible for a fisherman to pull



Winter fishing at Cedar Lake, 1968. The net is being pulled from the water to remove the fish. (Source: Water Stewardship, Fisheries Branch Collection C10162.)

his nets out of the water. There was also the danger of falling through thin ice. Magnus Magnusson recorded two instances within four months in which fishermen fell through thin ice.¹⁸² Another danger was man-made: a fisherman shipped his catch all winter to a buyer on faith. When spring came and the fisherman went to collect what he was owed, he might find the business bankrupted, as did Magnus Magnusson. In April 1921, when the North Fish Co. of Selkirk went under, Magnusson stood to lose \$13,000.¹⁸³

Originally all winter-caught fish were allowed to freeze on the ice, and left frozen in piles, often for weeks, and moved to market at leisure. Later, when there were about 200 boxes of fish at the station icehouse, they would be hauled to a shipping point.

The winter fishing season usually began around mid-November and continued until the limit set for the lake had been reached, which in most cases was mid-March. Limits were set to insure that efficient seed stock remained in the lake after the allotted poundage was taken. Checking the limit taken by fishermen was fairly easy on lakes which had only one exit road. On the larger lakes, however, checking was a full-time job for inspectors. The cost of the fishing licence was dependent on the limit set for the allotted catch. For example, in 1947, 600 licences, worth \$20.00 each, were issued to fishermen participating in the winter season on Lake Winnipegosis. The licence allowed each fisherman to use 4000 yds of 5.25-5.50 inch net for whitefish and 4.25-4.50 inch net for pickerel. The total limit for the lake was one million pounds of fish for the entire season.¹⁸⁴

As transportation facilities improved, so did the demand for fresh fish, which commanded a higher price than frozen fish. . Fresh winter fish were probably first shipped around 1920. One way to meet the demand for fresh fish was to build a rough camp right on the ice. These were made of rough lumber and were about 12x16 feet and could house eight men. There was a stove, heater and bunks, one above the other. The fish were packed into boxes with crushed ice and kept fresh until freighters arrived every two days, weather permitting To meet the new



The Armstrong Trading Company store and fish sheds. The waterfront in Winnipegosis was once filled with the buildings of fish companies actively mining Lake Winnipegosis for fish to ship to American markets. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 35.)



This fish train is approaching the village of Winnipegosis, following the Mossey River from its mouth on Lake Winnipegosis. The length of the train is an indication of how successful was the fishery on the lake at the beginning of the 20th century. (Source: Winnipegosis History Book Committee, *Reflections on Little Muddy River*, p. 35.)

market, fishermen packed 300-500 pound boxes on dog sleds with compartments containing a lantern at one end. *"The box was covered with a lid with a canvas covered hole above the main compartment. The canvas was lifted as fresh-caught fish were dropped in."*¹⁸⁵

A word must be said about fishermen's clothing because their profession subjected them to wet or cold, or both simultaneously, most of the year. According to J.B. Johnson, a fisherman on Lake Winnipeg for over seventy years: *Oilskins were used in summer and fall. For protection against water some wore high socks of shaved sheepskin tied just below the knee, which were stuffed with hay for drying. For winter wear some early pioneers had brought with them clothing of extremely warm Icelandic homespun (vadmal), but few had brought looms for weaving it...The unending industry of Icelandic housewives supplied the men with hand-knitted wool underwear, sweaters, scarves, socks and mitts. They supplied the fishermen with a bag containing twelve pairs of mitts, each pair being used for two nets and then set to dry ...For winter wear sheepskin-lined jackets with wide collars were common....Felt caps with earflaps were later replaced with fur caps with flaps tied under the chin. Eventually parkas came into use. Footwear varied greatly. Some made the Icelandic-style slippers from the traditional sheepskin, or from cowhide...Boots, moccasins or shoe-pacs were worn. Some sewed hide to the soles of socks and part way up.*¹⁸⁶



This caboose was just large to give the fisherman some protection from the elements. Most fishermen headed out from the winter fish camps each morning to pull their nets and reset them, returning to the cabin for night. Hay for the horse is in the box at the back of the caboose. Fish boxes are at the front. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 28.)

A fisherman's diet revolved around cold, easily prepared food. Yet the food had to be sufficiently hearty to fuel a body that worked hard and long. In the early years of the commercial fishery, the fisherman subsisted mainly on salt pork, eggs, bread and butter, and tea with condensed milk. In summer, a fire might be built on the boat and lunch heated using old freezer pans. Later, Coleman gas stoves were installed on the boats and regular meals could be prepared. At the fish stations, a cook was engaged to provide plentiful food for the morning and evening meals.

THE FISHING REGIONS

FISHING ON LAKE WINNIPEG

Lake Winnipeg, covering 24,390 square kilometres, and measuring 416 kilometres in length, is the seventh largest lake in North America, and presents a mini-ocean, complete with seagulls, fishermen, nets, wharves, waves, and a skyline that merges with the water on a plane of gray. The lake's Narrows is a 48 km shoreline indentation that divides the lake into two basins. The north basin is a straight line invitation to the northwest wind, which can build waves for 260 km to The Narrows. In several hours the lake level can drop as much as six feet. According to a seasoned commercial fisherman: *The winds come from all over, but the predominant ones are northwest to southeast. Your fish can get turned right around. And within ten minutes you can get yourself a tremendous storm on this lake.*¹⁸⁷

The first substantial commercial fishery on Lake Winnipeg began in 1882, when one sailboat operating on the lake produced over 100,000 pounds for sale in Winnipeg. In 1884, the first steam-powered tug operated on the lake, and exported fish exceeded local sales.¹⁸⁸ Increased production and increased exportation continued for the next half century. For most of this time gill nets were the only fishing gear used, although seines and baited hooks and pound nets enjoyed limited use in the early years.

At the beginning of the 19th century, Lake Winnipeg represented three quarters of the province's important fishing waters. The lake was in continuous production during summer and fall. June and July were whitefish season which also overlapped with sturgeon season. Pickerel operations began in September and October in the southern part of the lake, bounded by Catfish Point and Cathed in the west. In summer 1904, the Lake Winnipeg fishery involved 24 tugs, 900 boats and 1900 men.¹⁸⁹ A record catch of 5.2 million lbs of whitefish greatly stretched the handling facilities, even though the number of freezers and icehouses had more than doubled from past years.¹⁹⁰ These high yields could not be expected to continue and indeed, the next two seasons saw production cut by around two million lbs.¹⁹¹ By 1909, the lower catches in the southern parts of the lake forced a relocation of fishing operations midway up the lake. The principal points for the big companies became Reindeer Island, Berens Island, the mouth of the Little Saskatchewan, and more northerly, at Selkirk Island and the mouth of the Big Saskatchewan River. Until 1930, the Northern Fish Company and the Manitoba Transport companies each controlled one million pounds of the production while the other one million pounds were shared by the Booth Fish Co., Roderick Smith, and Armstrong-Gimli Fisheries.

By 1926, the Lake Winnipeg summer fishing season opened on June 1, and ran to August 15, during which the main focus of the industry was the whitefishery in the northern portion of the lake, the limit of the catch being three million pounds per season.

The fish stations were located 200-300 miles from Gimli or Selkirk and therefore steamers with refrigerators were required to visit the stations and transport the fish back to these points. The fish were packed in 100-pound boxes each evening at the stations and when these reached Selkirk two days later, the fish were repacked and sent to market in refrigerated cars.

Pickerel fishing season was from June 1-November 15, and conducted by individuals and smaller companies. This was carried on at stations from Swampy Island to Red River. The stations had an icehouse cooler or a refrigerator where fish could be stored indefinitely. Fishing was in one-man skiffs with 1500 yard gill nets.

Sturgeon fishing was carried on in the vicinity of Berens, Pigeon, Bloodvein and Winnipeg rivers, from June 15-October 15. Legal mesh nets were 12 inches.¹⁹² Winter sturgeon season ran from November 15 to February 28. Fishing through the ice, the fishermen usually harvested as many fish as during summer season. Winter fishing also yielded about 3 million pounds of tullibee, which once smoked, were a profitable harvest.¹⁹³



Lake Winnipeg freighters, Keenora and Wolverine docked, 1928. (Source: Archives of Manitoba, #039.)

Fishing on Lake Winnipeg varied greatly from one year to the next, one location to another and even from day to day. In the 1934-37 seasons, one fisherman towed twelve boats to Horse Island and these were spread out over a distance of 30 miles. The fishermen caught only three to four fish per net, not enough to fill a fifty-pound box. In 1938, this same area yielded fish so small they dropped through the net. However, in 1939 the catch was so plentiful that the nets floated up laden with fish.¹⁹⁴ Hence a fisherman spent life in a perpetual search for favourable fishing locations

Between 1911 and the 1940s, many changes took place in the Lake Winnipeg fishery. Activity moved gradually from the western shore to the eastern shore of the north basin, due to poor harbours on the western shore. Any good harbours were closed to whitefish fishing in 1911. The distances involved in fishing on the western shore, and taking the product to the eastern shore for packing and shipping, made the western shore uneconomical. Also, an abundance of unmarketable fish, such as suckers, was caught on the western shore. By the 1950s, *“two thirds of the fishing for whitefish was extended in a strip of water within 12 miles of the shore from just south of Poplar Point to just southwest of Warren’s Landing.”* This represented only 750 square miles (1,943 sq. km) out of the total of 6300 square miles (16,321 sq. km) of the lake’s whitefish area.¹⁹⁵

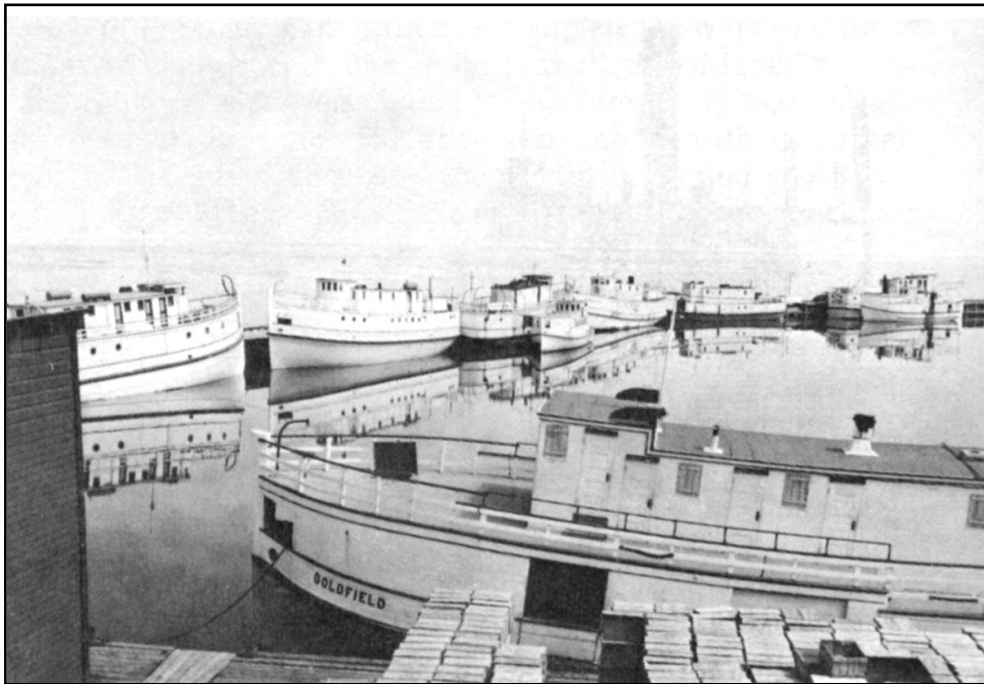
Between 1920 and 1930 sailboats were gradually replaced by gasoline-propelled fishing boats. The practice of freezing fish at the fishing ports declined and only unfrozen fish were shipped after 1935. The use of steam tugs was prohibited in 1934.¹⁹⁶ The standard fishing boat between

then and 1970 was a “*wooden-hulled gasoline-powered boat, about 40-45 feet long, with a beam 10-12 feet, maximum beam well forward, square stern and round bottom.*”¹⁹⁷ Several skiffs were based at the small fishing stations where the fish, after evisceration, were bought by the station manager and then packed in ice for movement to market. About half the catch left the station by freight boat and almost half by truck.¹⁹⁸

For the first decades of the commercial fishery, pickerel was not important on the lake’s fishery because it was more fragile and had a shorter shelf life. Smoking and salting the whitefish made it last longer so that it could be shipped to eastern markets. During World War II, fishing efforts were increased to facilitate larger harvests of whitefish and as a result, the Lake Winnipeg whitefishery took decades to recover. With the development of better refrigeration, packing and transportation methods, emphasis shifted from the whitefish catch to pickerel.

Sturgeon was part of the lake’s fishery until 1946, although by 1926 Lake Winnipeg was the last of the large lakes in which sturgeon could legally be taken. The slow recovery of sturgeon stocks caused it to disappear almost completely from fishermen’s targets. Sauger became an important catch in the 1930s, but it was pickerel which evolved as the most valued species on Lake Winnipeg after 1960.

The Lake Winnipeg fishery was an important part of the Interlake region’s economy. For example, in 1947, 123 licences, worth \$25.00 each, were issued to fishermen participating in the summer whitefish season on Lake Winnipeg. This allowed each to use 5000 yds of 5.25-5.50 inch net to take 19,400 lbs of fish.¹⁹⁹ An additional 27 joint licences were issued with a limit of 24,000 lbs of whitefish allowed. There was also a fall sauger and pickerel season on Lake Winnipeg. Licences for these totalled 1201, and cost either \$5.00 or \$7.50 in 1947.²⁰⁰



Gimli harbour with the freighters and fish boxes awaiting the change of seasons. (Source: Gimli Women’s Institute, *Gimli Saga*, p. 240.)

Whitefish, the mainstay of Lake Winnipeg's commercial fishery, began to show a population decline in the 1960s. For over fifty years the lake had produced annual catches averaging three million pounds, but after 1952 there was no major catch. The smallest catch was in 1969 when only one-half million pounds of whitefish were caught. In order to study possible causes for this decline, scientists produced size, weight and age composition over the period 1944-1969. They found a drastic change in age composition which was accompanied by a decrease in average weight. The researchers credited the use of illegal gillnets, as small as 4.24 inches, with responsibility for this decrease. Most whitefish do not spawn until they are four years old but most would be caught in the smaller nets before they had a chance to spawn. This was especially true in 1969, *"when approximately 49% of the total number of fish caught were 3-year olds, and 39% were 4-year olds."*²⁰¹ By greatly reducing the number of spawning stock, the fishery had placed considerable pressure on pre-spawners and spawners. The scientists also found that survival rates had decreased from 34% in the 1944-48 period, to 12% in the 1959-1969 period.²⁰² They concluded that *"the decline in the catch of whitefish in Lake Winnipeg cannot be attributed to a major deterioration in environmentIt appeared that the optimum rate of fishing was exceeded, and that the fishery itself was largely responsible for the depleted condition of the whitefish stocks in Lake Winnipeg."*²⁰³

Average Commercial Catch per Decade on Lake Winnipeg

1890-1899	2.6 mln kg.
1900-1909	6.7 mln kg
1910-1919	5.4 mln kg
1920-1929	6.8 mln kg
1930-1939	5.7 mln kg
1940-1949	7.8 mln kg
1950-1959	6.6 mln kg
1960-1969	3.9 mln kg
1970-1979	3.4 mln kg
1980-1989	5.3 mln kg
1990	4.8 mln kg

Source: Laura Heuring, "A Historical Assessment of the Commercial and Subsistence Fish Harvests of Lake Winnipeg." Winnipeg: University of Manitoba, 1993, pp. 34-46.

Métis communities along the lake's shores were actively involved in the fishing industry, but were generally reduced to serving as hired hands. In the 1970s, many of the men at Traverse Bay, at the mouth of the Winnipeg River, were involved in the Summer Fisherman's Program, sponsored by the Provincial Employment Program, which provided funds for the fishermen to build an ice-packing shed for fishing purposes. There were about twenty fishermen for the fall season but the men also fished in the summer and winter seasons. The quota for summer

fishing was 3000 pounds per fisherman; 4000 pounds during the winter and 6000 pounds for the fall season.²⁰⁴

Fishing was banned on Lake Winnipeg in 1970 due to a scare that the fish were contaminated with mercury. Until fall 1971, the only fishing permitted on the lake was for mink feed for local fur farmers. Many of the small fishing communities along the lake suffered devastating repercussions. Berens River had 50-60 fishermen at the time and forty-five of these received partial government compensation in the form of work progress.²⁰⁵

With the reopening of the fishery in 1971, commercial fishing was limited by licences of quota to those experienced in the industry or those dependent upon it. Quotas are based on provincial biological and economical studies and changed according to the fish stocks of the three major species: whitefish, pickerel, and sauger. The fishing quota was then set at 6500 pounds each. The fish were marketed at Sigurdson's Island, located at the mouth of the Berens River on which a fish plant was situated.²⁰⁶

A 1972-74 study of the correlation between fishing methods and incomes on Lake Winnipeg revealed that the number of times a fisherman lifted his nets during the summer and fall seasons increased a fisherman's gross income. By lifting his nets nine out of ten days instead of eight out of ten days a fisherman could increase his gross income by \$90-\$180.²⁰⁷ The study also found that during the fall season, the mesh net size determined the species to be caught, and since some species were more valuable than others, it was an important consideration. The use of larger motors and more nets tended to increase gross income. In the study, the Aboriginal fishing community of Hole River tended to have lower incomes, by as much as \$499, than many others along the lake. It can be surmised then, that they had the smaller boats and incorrect mesh nets, and perhaps did not lift their nets as often as needed.²⁰⁸

Today, whitefish is the primary species caught in the North Basin of Lake Winnipeg, whereas sauger is dominant in the Channel area and pickerel in the South Basin.



Fishing boats on Lake Winnipeg pulled up for the winter season. A fisherman is testing the ice in preparation for the winter fishing season. (Source: Former Gimli fisherman.)

FISHING ON LAKE WINNIPEGOSIS

Lake Winnipegosis is the second largest lake in Manitoba and is at the head of a chain of smaller lakes. It serves as an emptying basin for a large number of rivers and streams which drain the Porcupine and Duck Mountains. It is relatively shallow, however, which means that it requires regular dredging to keep it navigable. Commercial fishing on Lake Winnipegosis began



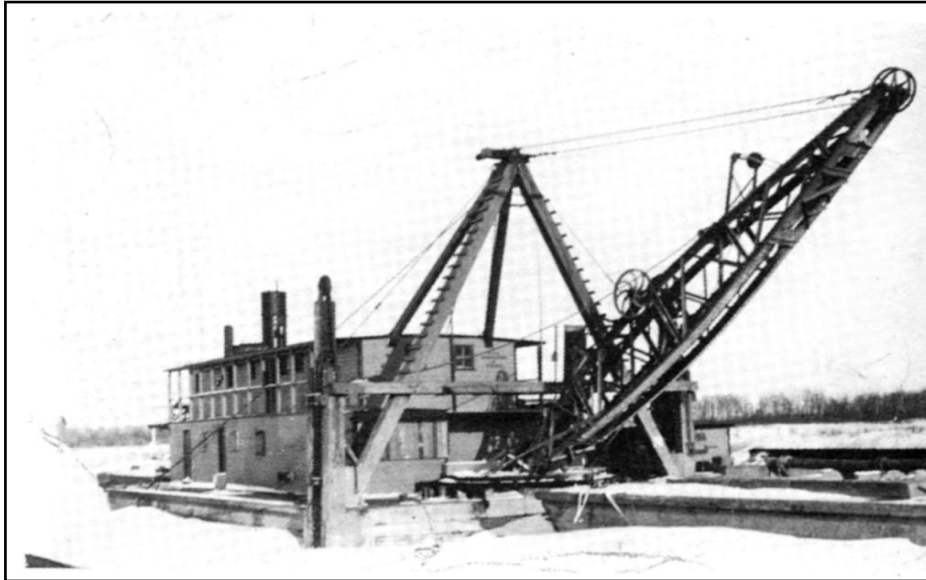
The Grenon Fish Company was one of the first to operate out of Winnipegosis. The business was sold to Armstrong Fisheries in 1898. Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 45.)

in 1897 with the arrival of Joseph Octave Grenon from Michigan in 1895. His small operation had grown to two sailboats and a tug by 1897. With the completion of the rail line to Winnipegosis in 1897 and an influx of Icelandic fishermen, the commercial fishery on Manitoba's second largest lake took off. Several families of fishermen left Newfoundland in 1914 to fish the waters of Lake Winnipegosis.

In the early years of fishing on the lake, each fisherman was responsible for the movement of his fish to the railway, either by dogs or horses. As fishing moved to more distant waters, transport could only be undertaken by producing some plowed paths across the lake. This led to the development of the "snow plow" mode of movement, where collective action was taken to transport fish from the numerous camps to Winnipegosis. This method was used between 1912-1933.

The fishing industry was focused in the small village of Winnipegosis from which the fish were shipped to Winnipeg. Catches from fishing sites north of Lake Winnipegosis, such as Cedar Lake and Moose Lake were also sent to Winnipegosis for shipment south. Because of the presence of both the fishing and lumber industries in the Winnipegosis region, a boat-building industry also developed, with boat builders such as Armand Bjornson and Baldi Stevenson creating new fleet vessels for the industry. The main winter fish camp was on the east end of Big Spruce Island.²⁰⁹ The summer fishery was centered on Whiskey Jack Island, Ice House Point, and Channel Island. Production from Lake Winnipegosis rose by 100% between 1900-1903.²¹⁰ The decision to end the summer fishery on Lake Winnipegosis, in 1905, lowered output from that lake considerably, especially in the whitefish catch. With the demands for fish during World War I, the summer fishery was reopened. So great was the demand, U.S. buyers placed ads in the *Canadian Fisherman*, seeking contacts with producers on Lake Winnipegosis.²¹¹

In 1926, the summer fishery for whitefish on Lake Winnipegosis opened August 15 with a limit of one million pounds. There was a fall season as well, for pickerel. The main fishery however, was through the ice in winter, when approximately 250 fishermen were busy harvesting a catch three times as large as the summer fishery.²¹² In 1939, fishermen were using nets made of 4.24 inches cotton, fine twine, and no more than 16 meshes deep. These were called Stearnes Goldeye nets because they caught as many as 110 goldeyes per winter net, with as many tullibeets, the latter at that time being thrown away.²¹³



Dredge used to keep the channels on Lake Winnipegosis open. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p.44.)



Families accompanied their men to fish camps in the summer, making it a less lonely place to be than in the winter. Children remembered enjoying life at the camps very much. Source: Winnipegosis History Book Committee, *Reflections on Little Muddy River*, p. 38.)

Icelandic fishermen settled at Red Deer Point along lake Winnipegosis because it was close to the fishing and also had lots of hay for their animals. Note the loneliness of this craft as its occupant fishes on Lake Winnipegosis. (Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 23.)



For the summer fishery, the men left the first week of July and came back in September. The children went with them until school started. The men sometimes used pigeons as a way to communicate their catch numbers to the company so they would know when to send a boat. The pigeons took the messages back to Winnipegosis.²¹⁴

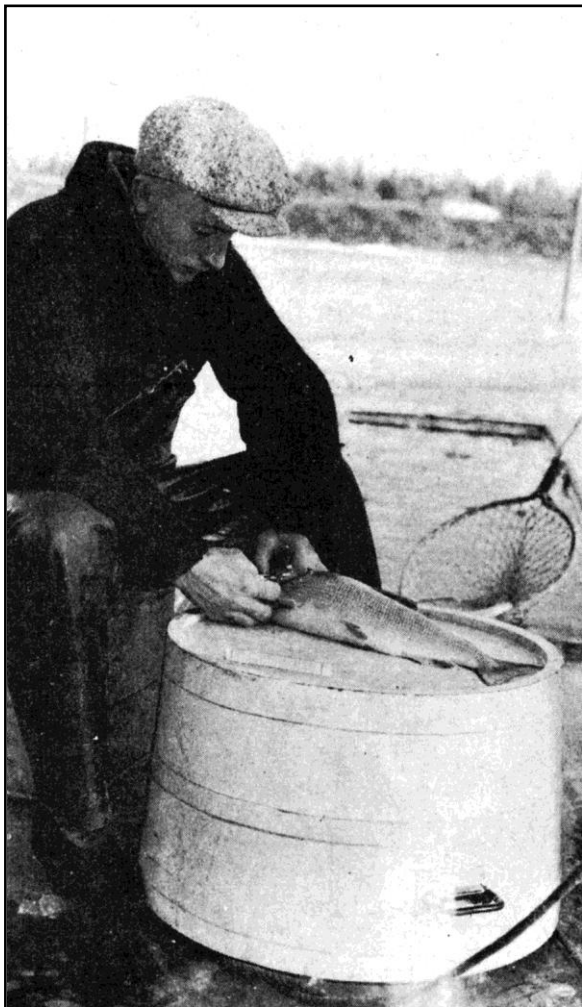
On two other large lakes connected to Lake Winnipegosis, Lake Dauphin and Lake St. Martin, only winter fishing was allowed. For the fall fishery, the fishermen left Winnipegosis in October and were dropped off at their fish camps. They saw no one until Christmas when the teams came across the ice to pick up their catch. When the teamsters returned in February the fishermen, their families and their catch were transported back to Winnipegosis.

While the fishery was originally for whitefish, this species declined by 1930 and pickerel advanced in importance. Around 1930, there were substantial numbers of goldeye produced; after 1967, the catch became predominantly sauger, suckers, pike, perch and pickerel.²¹⁵ In 1947, Lake Winnipegosis had a winter season in which sauger, pickerel and whitefish could be harvested with a licence costing \$10.00. The fall pickerel season was more monitored, with 43 skiffs, 29 full and 8 joint licences, costing \$7.50 or \$20.00 issued. There was a limited catch of 1,077,000 lbs of pickerel, goldeyes, and whitefish for the entire lake.²¹⁶ In that time period, it was not unusual for a fisherman to clear \$2000 during the 6-8 week summer whitefish season. In the 1960s, Lake Winnipegosis supported a one million-pound pickerel fishery but by 1972 this had declined to 74,000. In 1969-70, Lake Winnipegosis accounted for 14% of Manitoba's commercial fish production.²¹⁷

1972-74 study of the correlation between fishing methods and gross incomes on Lake Winnipegosis clearly demonstrated the need for good transport on such a large lake. Fishermen using diesel engines and therefore able to afford to travel miles to find the fish, had higher gross incomes by as much as \$2600.²¹⁸ Another study, undertaken in the 1970s, had to do with what



This fish train contained the horse caboose at the front and a long line of sleds loaded with fish and fishermen's supplies. Source: Winnipegosis History Book Committee, *Reflections from Little Muddy River*, p. 257.)



Tagging whitefish with metal tags affixed to the bone of the gill cover. By tagging and releasing live whitefish, the range of their species could be recorded when the fish were caught by commercial fishermen. (Source: David Hinks, *The Fishes of Manitoba*, p. 30.

the fishermen described as the disappearing pickerel stocks. It was widely believed that Lake Winnipegosis acted as a natural fish hatchery for other lakes such as Lake Waterhen, Lake Manitoba, Lake St. Martin and Lake Winnipeg. Many Lake Winnipegosis fishermen blamed the decline in the pickerel catch in the 1960s on the construction of the Fairford Dam in 1961. They claimed it prevented the return of fish from Lake Winnipeg and Lake St. Martin. By tagging pickerel at various sites along Lake Winnipegosis and then tracking their movement, the researchers discovered that of the 3,250 pickerel tagged at Duck Bay, with 20% of the tags returned, it was found that most were recovered within 25 miles of Duck Bay, although some had traveled up to 100 miles. There was no indication that any of these fish had left Lake Winnipegosis.²¹⁹ Other factors in the 1960s, such as drier springs which lowered the water levels in streams where the pickerel liked to spawn, and an increased number of fishermen, were more likely to blame for reduced pickerel stocks.²²⁰

The pickerel catch of Lake Winnipegosis, as high as one million pounds in the 1960s declined to 400,000 in the 1980s.²²¹ Today, mullet and pike are the dominant catches.

FISHING ON LAKE MANITOBA

The Métis people were early fishermen on Lake Manitoba. It was traditional in the 1840s for Métis families to move to St. Laurent on the shores of the lake for the fall fishery. The families who remained in the region continued to fish the lake until it was regulated that the lake was only open for commercial fishing during winter.

A familiar sight each Monday morning in the winter was a long train of horse drawn cabooses, loaded with provisions and hay for a week, heading out on the lake. They would travel 10-15 miles before setting up camps. In ice six inches to four feet deep, the men prepared holes one to two feet in diameter with a chisel and ice bar. It took two experienced fishermen fifteen minutes to cast a net and usually up to 25 were cast. These were pulled every two to three days. Veteran fisherman, Robert Gaudry remembered: *"Fifty fish per net was considered an excellent catch, at first we got 5 cents a pound for pickerel and a cent and a half for jackfish."*²²²

The fishermen worked constantly on the lake as a means to keep warm in temperatures as low as minus fifty degrees Fahrenheit. But a storm brought visibility to nil and it was in these times that fishermen lost their way, and sometimes their lives. The men lived in their cabooses until Saturday when they headed home to their families, taking their catch with them to sell to local buyers or to ship in 80-pound boxes to Winnipeg. By the early 1950s, bombardiers and tractors began to replace horses and cabooses. These motorized transports allowed the men to return to their families every evening. No longer did they rely on the needle bar and chisel to cut holes, instead using the electric auger on the snowmobile.

Icelanders settled on both the eastern and western shores of Lake Manitoba in the 1890s. Only after the railway reached Westbourne were the settlers on the western shore able to engage in the commercial fishing industry. Hugh Armstrong began to buy fishermen's catches out of Westbourne in 1895 and several families were engaged in hauling the fish from Kinosota and the Narrows to Westbourne.²²³ In 1885, Shammey and Chandelar of Westbourne handled 100,000 pounds of fish from Lake Manitoba. The commercial fishery on the lake was underway.



Fishing from a caboose on Lake Manitoba. (Source: Eriksdale Municipal Heritage Committee, *Beyond Beginnings*, p.155.)

In spring 1896, a summer fishery was started on Lake Manitoba but it turned out to be disastrous. Helgi Einarson contracted to freight the fish from the northern reaches to Westbourne. Unfortunately, because whitefish like deep water and Lake Manitoba is relatively shallow, the fishermen had to go out 24 kilometres to the middle of the lake to set their nets. Summer fishing called for lifting the nets out of the lake and resetting them each evening before heading for shore. One night a storm came up and almost the entire two-kilometre wide strip of nets floated on top of the water. They were filled with at least 8-10 tons of rotten fish, so disintegrated that their bones stuck to the nets. The men *“worked all day and into the night to clear the nets and there were 13 other boats, none of them more than a quarter mile apart, so when they left, they figured there were at least six to eight square miles of lake where the rotting fish almost covered the entire area drifting with the wind. They had to take all the nets to shore and clean them which took about two days. There was not much fishing that week.”*²²⁴ The summer fishery proved impractical because the transportation facilities were inadequate and probably *“only 15% to 20% of the whitefish ever caught reached the markets in fit condition.”*²²⁵

By 1904, the rise in the amount of catch from Lake Manitoba showed a 75% increase.²²⁶ This output showed a sharp drop when commercial fishing on the lake was restricted to winter by an order-in-council of March 13, 1905.²²⁷

In the winter of 1921-22, 3.75 inch mesh nets were allowed for the first time on Lake Manitoba. This resulted in an upsurge in the number of pickerel and tullibee taken. In this initial exploitation, many old fish were caught. Once older fish are removed, the fishery stabilizes as most of the fish are caught when they are comparatively young.²²⁸

On Lake Manitoba, once fishing was limited to the winter season, many farmers did double duty as winter fishermen. In winter 1924, 779 licences were issued and this number increased to 979

licences in 1926, resulting in smaller catches per fishermen. But the net profit was reasonable because the lake's proximity to two railways rendered transportation costs lower than elsewhere in Manitoba. Here, the fish could be shipped fresh directly from fisherman to eastern markets in refrigerated cars. Although the shipping method was more expensive, it was justified by the prices of 40 to 50 cents per pound which the fresh pickerel received on New York markets.²²⁹ The main product was pickerel, with tullibee, whitefish and pike of secondary importance.²³⁰

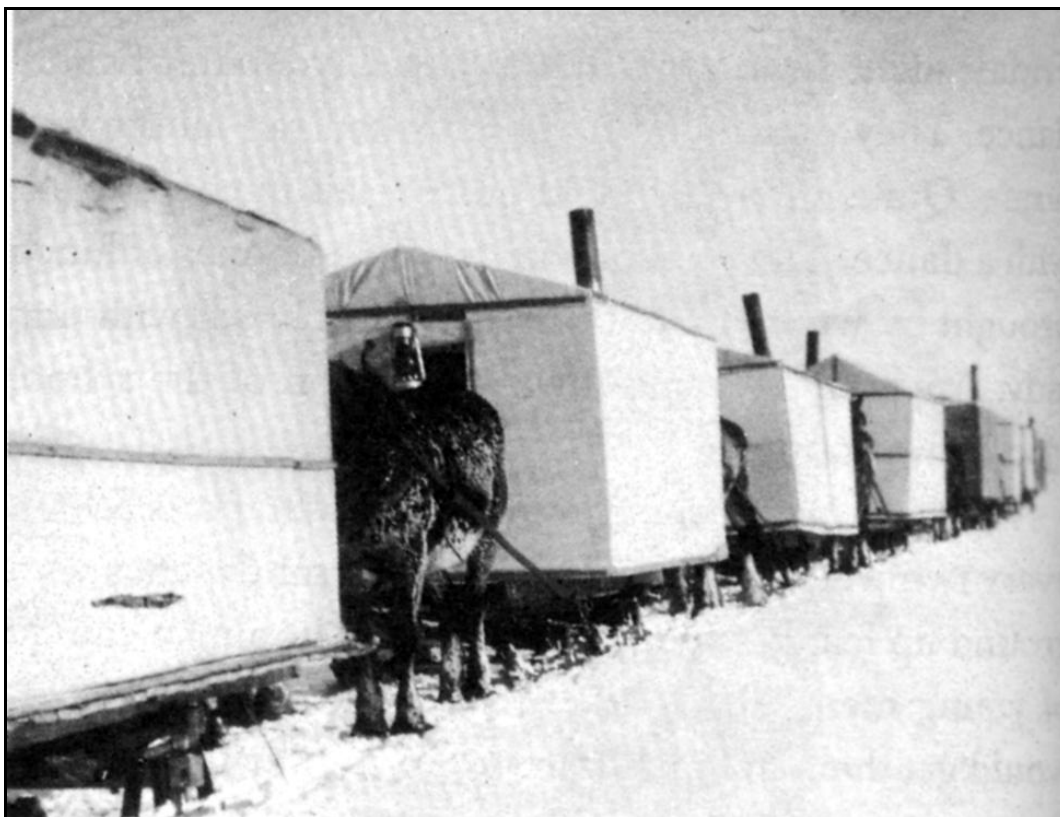


A fish camp called Dog Town on the shores of Lake Manitoba. (Source: Eriksdale Heritage Advisory Committee, *Beyond beginnings*, p. 158.)

Between 1940-1950, the catch of sauger exceeded that of pickerel. After 1950, sauger catches declined and pickerel once again became the important species.²³¹ The drought of the 1930s had greatly reduced the water level in the lake and provided conditions which allowed sauger to appear in the commercial catch. When lake levels rose again and 3.25 inch mesh nets were legalized in the winter of 1940-41, there was a marked increase in the number of sauger and perch, followed by a decline as the fishery once more stabilized. Fishery researchers concluded that the lake was not overfished and could actually sustain increased fishing, using 3.25 inch mesh nets.²³² The reason for the downgrade in the size of nets from 4.25 was the disappearance of pickerel and the emergence of the smaller sauger as the dominant fish species. Intensive fishing had depleted the pickerel stocks so, to maintain production, fishermen had switched to smaller meshed nets, which caused havoc for the future fish stocks of the pickerel species. Sauger was able to fill the niche left vacant and it came to exceed the pickerel in number and size. Since the two species were equal in money value, it mattered little to the fisherman which species he caught in his nets, but certainly using the smaller mesh net was bound to keep the pickerel stocks from rebounding.

In 1945, the provincial Ministry of Fisheries maintained that "*Commercial fishing operations on Lake Manitoba have progressively overfished the five main species as follows: whitefish commencing between 1902 and 1906; pickerel commencing between 1909-10 and 1912-13; tullibee commencing in 1923-24; perch commencing in 1940-41; sauger commencing in 1940-41.*"²³³ This conclusion was based on records of catches since 1888. Another study undertaken on the lake reached a different conclusion. Researchers concluded that the lake had been filled in a great deal with soil from farmers' fields, carried to the lake by tributary rivers. As the depth and bottom consistency changed, so did the numbers and prevalence of different species.

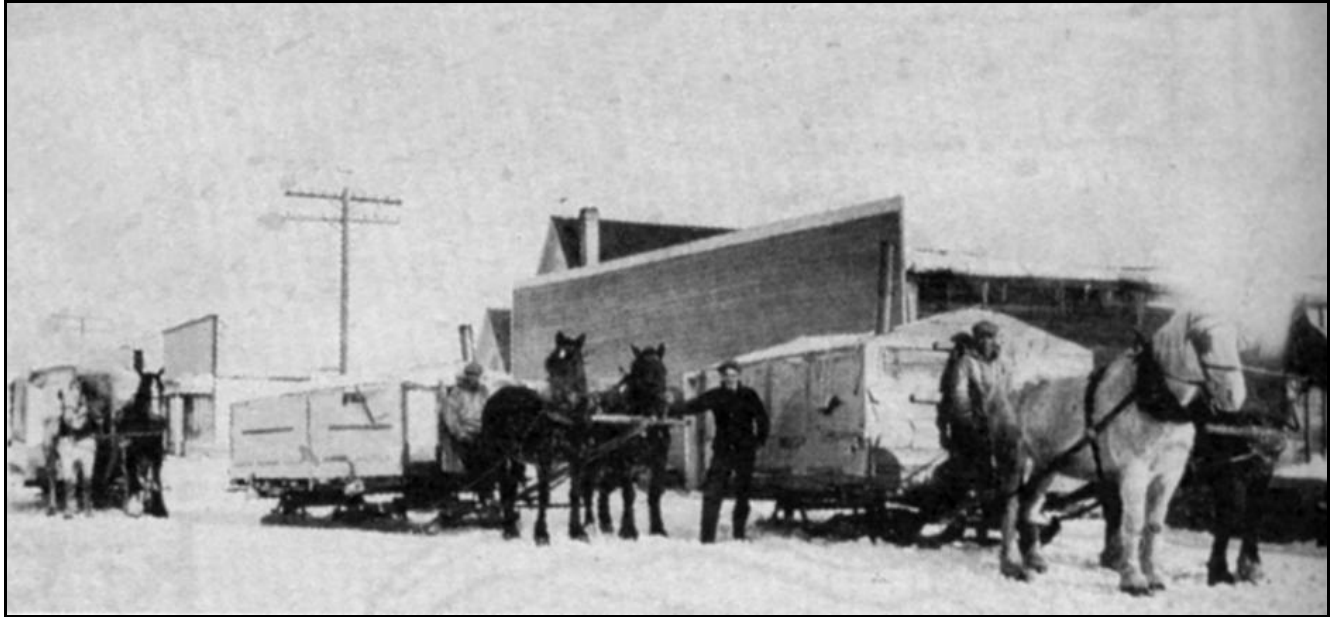
Fishermen from the region formed a fishing cooperative in 1969. The co-op was composed of seven directors elected by members. The directors in turn elected a president, vice-president and a secretary. Each member paid an entry fee of one dollar. The co-op helped the fishermen attain better prices for their fish as well as share administration costs and directives from the Freshwater Fish Marketing Board. The Co-op also lobbied to improve conditions on the lake, such as having the channels at Lake Francis, Delta and Oak Point opened.



A horse-drawn fish caravan traveling across Lake Manitoba. (Source: Eriksdale Municipal Advisory Committee, *Beyond Beginnings*, p. 162.)

In 1969-70, Lake Manitoba accounted for 17% of Manitoba's commercial fish production.²³⁴ In the 1970s, fishing deteriorated on the lake and the fishermen blamed the creation of the dam on Fairford River, which had lowered the level of the lake and, they felt, harmed the spawning grounds.²³⁵ Other factors were of greater significance. High stream flows and warm spring temperatures in the late 1940s and 1950s had helped produce ideal spawning conditions and resulting good harvests into the mid-1960s. The early 1960s, however, were very dry; spawning potential was lowered and few young fish were produced. Also, there was an increase in the number of licensed fishermen in the early 1960s, and an increase in the use of small mesh nets aimed at catching sauger and perch. These nets caught too many small pickerel, thus affecting breeding potential. Even the four-inch mesh used in the 1970s took too many young pickerel, affecting future fish resources.²³⁶

Today, the winter fishery on Lake Manitoba yields pickerel, sauger and pike. In 2003, there were 50 licensed fishermen among the Métis families at St. Laurent. Most of these belong to a co-op.²³⁷



A fish caravan in Eriksdale loading supplies before heading back north to Lake Manitoba. (Source: Eriksdale Heritage Advisory Committee, *Beyond Beginnings*, p. 162.)

NORTHERN COMMERCIAL FISHERY

The northern fishery revolves mainly around two major rivers and the lakes associated with them. The Saskatchewan River runs easterly through The Pas, through Cedar and Cross lakes and into Lake Winnipeg at Grand Rapids. The Nelson River is really a series of lakes connecting it with Hudson Bay. These include Playgreen, Kiskittogisu, Kiskitto, Cross, Sipiwesk,



An Aboriginal fisherman with his dog team at McKnight Lake in 1955. He would have used the dogs to haul fish to the airplane for freighting, as well as for tending his nets on the frozen lake (Source: Gord Emberley.)

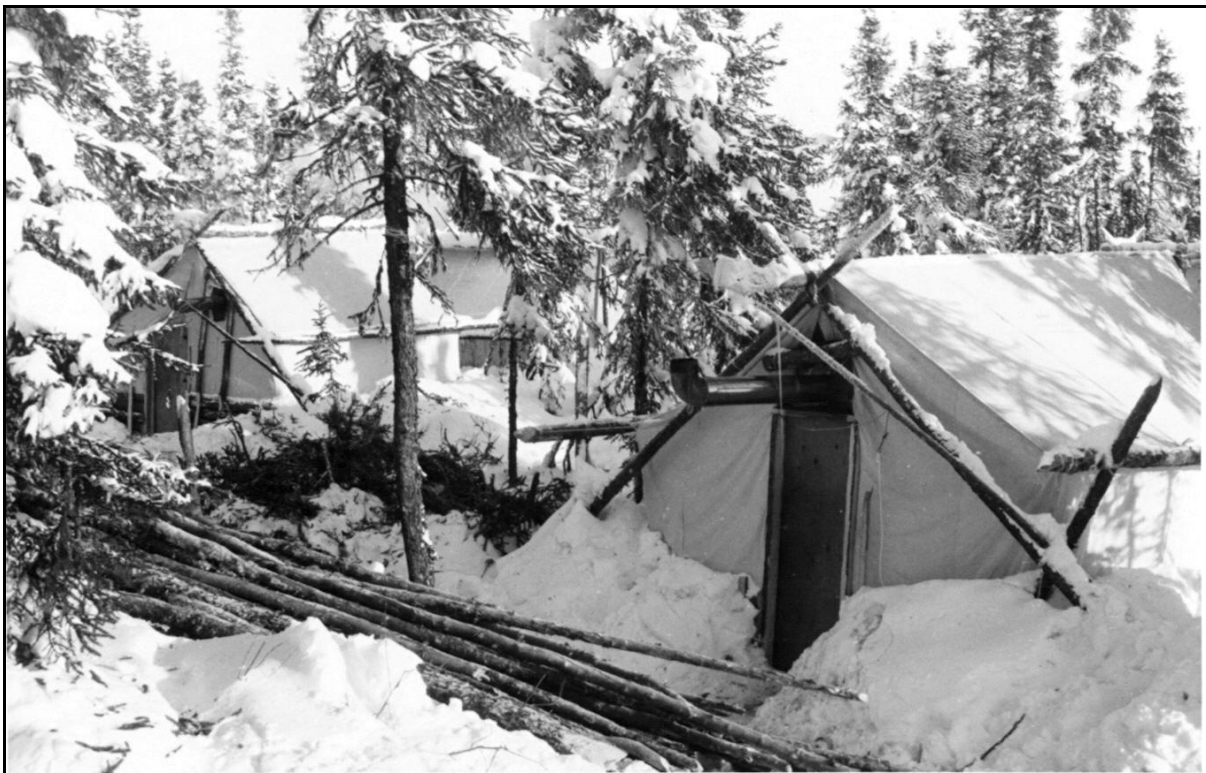
Landing, Clearwater and Split lakes. Playgreen Lake has been fished extensively since the 1890s, the catch being brought by boat via Lake Winnipeg to Selkirk. The rest of the waters

were not fished until the construction of the Hudson Bay railway which was completed in 1931. The waters of the Churchill River, which included Duck Lake, Pukatawagan, Indian and Granville lakes, became accessible for commercial fishing at that time. The waters of the Hayes River and its lakes, Island, Gods, Oxford and Knee, would not be fished commercially until decades later.

Between 1908 and the 1920s, fishing around The Pas increased due to the presence of the railway, which had been built to access lumber and mining resources, not fish. In the 1920s, approximately 20 northern lakes were being commercially fished.²³⁸ By 1938, this number had doubled, under an aggregate catch limit of 2.5 million pounds.²³⁹

In the early years, the emphasis was on the sturgeon resource. Big Saskatchewan River area had a sturgeon limit of 6,000 pounds in 1926, while the Nelson River had a limit of 140,000 pounds. The Churchill River area was given a limit of 100,000 pounds. Summer operations were confined to the sturgeon and winter fishing of scale fish was very limited.

Most of the northern lakes, although recognized as having potential, had limits of between 25-150 tons on catches in order to preserve the stocks. This was made easier by the fact that most lacked the transportation facilities required to harvest large quantities of a variety of fish.²⁴⁰ The three major rivers of the north, the Saskatchewan, Nelson, and Churchill had sturgeon catches limited to 65000, 140,000, and 100,000 pounds respectively. Some of these catches could be transported on the newly completed Hudson Bay railway after 1926.²⁴¹ The fishermen in the northern lakes and rivers were predominantly Native.



North Knife Lake Fish Camp 1967. Note the primitive conditions in which winter fishermen often existed for long winter months. (Source: Water Stewardship, Fisheries Branch Collection C10156.)

In 1938, there were 40 lakes being fished in the north. The size of the fishery grew gradually from then until 1955, but fishing was a winter activity because transportation facilities were only available in that season. Tractor trains carried supplies inland on winter roads to northern communities, and the vehicles were filled with fish for the trip southward, at reasonable freight rates. Fish quality could only be maintained in the winter. After 1955, there was an increase in the summer fishery due to the appearance of float planes on northern lakes. Fresh fish commanded better prices than frozen fish. Therefore, the summer fishery yielded more money than the winter fishery, making it more attractive to Natives. Over time, private fish companies shifted their operations more northward to increase production to meet market demands and to compensate for production declines on Lake Winnipeg.²⁴²

Winter licences for pickerel and whitefish were issued in 1947 for Moose, Cedar, Cross, South Indian, McKnight, Walker, Sisipuk lakes, as well as many smaller northern lakes. Sixty-five spring pickerel licences were granted in that year for Landing, Wintering, Pakwa, Yawingstone, and Kississing lakes. The total allowance for winter fishing in all the northern lakes was 650,000 lbs.

Cedar and Moose lakes also had a summer pickerel season with 102 licences allowed to take 100,000 lbs of fish. The winter season for whitefish and pickerel applied to all the lakes mentioned above, and the catch limit totalled 650,000 lbs. The number of licences for these lakes was not limited and cost either \$5.00 or \$10.00. Again, the fishermen on these lakes



An Aboriginal fisherman with a string of walleye. (Credit: Water Stewardship, Fisheries Branch Collection A90.)

would have been predominantly Native.²⁴³ Following a six-year ban on all sturgeon fishing in Manitoba, in 1953 portions of the Nelson and Churchill rivers were opened for sturgeon harvesting. During the hiatus, biologists had been able to study the sturgeon, gathering information which would allow greater control of the important fishery. Because the sturgeon grows so slowly and the population size is comparatively low, a sustained yield of sturgeon was only possible if annual production was kept low. Therefore, the biologists recommended stricter regulations on the Nelson River sturgeon fishery.

There had been five separate periods of sturgeon fishing on the Nelson: 1907-10, 1917-18, 1921-29, 1937-46, and 1953-58. In each period, production had risen to a peak and then dropped off as stocks were depleted. The peak for 1924 was 146,000 pounds but this dropped to 4000 pounds in 1929.²⁴⁴ During each subsequent period, sturgeon stocks were depleted to such an extent that the fishery collapsed. In 1958, when the fishery had to be closed once again, biologists recommended reduced production limits, shorter seasons, and minimum legal size requirements, all to be strictly enforced. Enforcement, unfortunately, was almost impossible in remote regions, and the very high prices paid for sturgeon and caviar were a strong incentive for breaking the regulations.²⁴⁵

The amount of fish available in northern lakes would more than compensate for the decrease in catches from Manitoba's large lakes, once the transportation problem was solved. This occurred after World War II when the availability of planes and trained pilots made air freight an economic option. Gord Emberley, a former freighter, remembers that in 1954-55, one northern lake alone, Suwannee, had a 125,000 pound whitefish quota. Here, the fishermen were able to fill this quota with category A-round, indicating perfect fish with no parasites, which meant they could



Dressing sturgeon at Sipiwek Lake, 1954. (Source: Gord Emberley.)



Unloading a fishing boat at Loon Narrows fishing station. (Source: Water Stewardship, Fisheries Branch Collection C55.)

be sent to the American market whole. Class B fish had to be filleted and dressed headless before they could be shipped to American markets. The Class A fish were shipped fresh by air to Mile 99 on the Hudson Bay rail line, near Pukatawagan. At the packing station they were re-iced and sent to Winnipeg where they were re-iced again and sent south. In summer, Emberley flew fresh whitefish and pickerel from Sickle and Granville lakes to Harriot on the Lynn Lake rail line. There, it was packed in 60-pound boxes and placed in a “reefer” or refrigerated car. Northern Pike and trout were always shipped frozen. Out of Churchill and north of Churchill, Emberley flew out round whitefish and sturgeon. Emberley remembers that for all the fish he freighted out of the north, the fishermen were poorly paid, receiving only 3 cents per pound. He only received pay for flying time. If his plane had engine trouble and delayed him, he was not paid for this loss of time. On one occasion his engine broke down in the north and he spent about a month getting a new engine and installing it in the extreme cold.²⁴⁶

As more and more lakes were opened to commercial fishing, the northern lakes system began to dominate commercial fish production. In 1969-70, the north accounted for 41% of total provincial production.²⁴⁷ By 1980 there were 280 northern lakes open to commercial fishing.²⁴⁸ In four more years, the number had increased to 300 commercially fished lakes.²⁴⁹ Whitefish were the dominant catch in this region and these were divided into three categories: premium, continental, and “cutter”. The price for “cutter” fish, which had to be filleted to meet the requirements of the American Food and Drug Administration, was less than half of that of the premium (non-infected) fish.²⁵⁰

Several of the northern fisheries were greatly affected by the construction of Manitoba Hydro projects in the North. The Churchill River Diversion and Lake Winnipeg Regulation (CRD/LWR) project, which became operational in the mid-1970s, increased the flow of water on the Nelson River, changing the water levels on some lakes, while lowering others, resulting in debris and



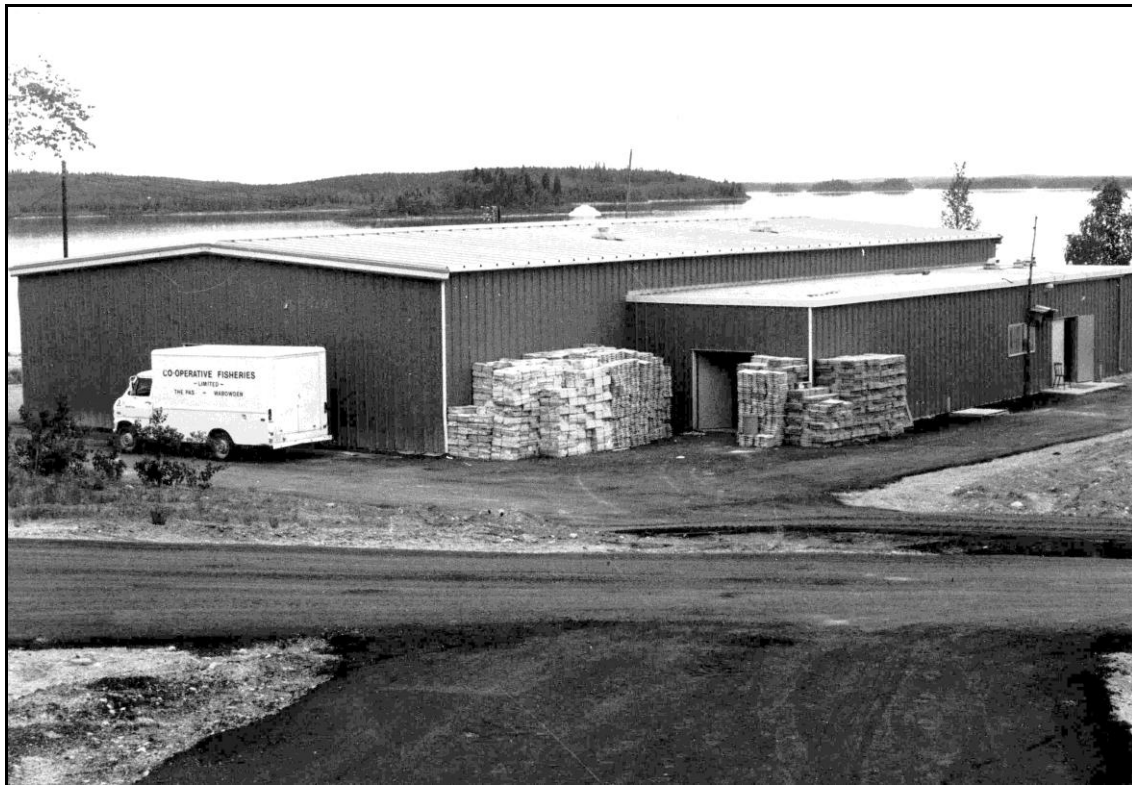
A Keystone Fisheries' packer fills Gord Emberley's freight plane with frozen pike at Pukatawagan. The fish were just stacked loose in the plane until it was full. 1954-55. (Source: Gord Emberley.)



At McKnight Lake in 1955, Keystone Fisheries packer holds frozen trout which are being loaded onto plane. (Source: Gord Emberley.)

increased sediment levels. Heavily impacted by these occurrences were the fisheries in Cross Lake, Nelson House, South Indian Lake, Ilford, and Split Lakes. Spawning beds were disrupted by water level changes and increases in sediment. As a result, the whitefish stocks from South Indian Lake were downgraded from export to cutter grade, and there was an increase in the mercury levels of higher value species such as pickerel and northern pike. As compensation for the disruption of their fishery, fishermen from South Indian Lake received a \$2.5 million one-time settlement. The fishermen at Nelson House received payment later.²⁵¹ A water control structure was built at Cross Lake to reduce water levels and similar structures were planned for other lakes on the Lower Churchill River.²⁵²

In the 1980s several of the northern lakes, most notably South Indian Lake, suffered from mercury contamination. In most cases the contamination was believed to be from natural sources. In some lakes, the contamination levels in the pike, wall-eye and lake trout populations were found to be high enough to exceed the federal health standard (0.5 parts per million) for mercury in commercially sold fish. Approximately 40 waters in northern Manitoba yielded catches that required mercury inspection. When the fish were detained because of mercury levels, the FFMC imposed a charge to the fisherman of two cents per pound to defray the extra storage and handling costs. Besides those bodies of water for which testing was required, there were four lakes, Drunken, Laurie, Sipiwisk lakes, and the Nelson River area, so highly contaminated that the FFMC refused to purchase the catches. The quantity of fish withheld from market, however, was relatively small, estimated at 20,000 pounds of .1% of the total Manitoba production of 1984.²⁵³



A commercial fish station in the North. (Source: Water Stewardship, Fisheries Branch Collection C75.)

The expansion of the northern fishery brought many Aboriginal fishermen into the industry. They faced the disadvantage of having little experience with modern technology, which resulted in their investment in boats well beyond their needs and a lack of expertise to keep the boats working. This greatly increased their operating costs and reduced their profits. Another cause of reduced profits was the transportation cost to move their product from shore to market. Provincial transportation assistance programs were later created to assist northern fishermen with these expenses.

REGULATION OF THE FISHING INDUSTRY

Control over the fisheries in the prairie provinces was solely the responsibility of the Dominion or federal government until 1930 when control over the western provinces' natural resources was finally handed over to the provincial governments. Thereafter responsibility for fisheries was shared by the two levels of government.

As commercial companies began to troll the waters of Lake Winnipeg, and as complaints from the Aboriginal people and Indian agents that whitefish stocks were being depleted increased, the need for some kind of control became evident. In 1873, the Dominion Government extended the Dominion Fisheries Act to the prairie region. These regulations, aimed at salt water fishing, were not well adapted to inland fishing. In 1877, new regulations set net sizes and stipulated against the using dynamite, barring channels, dumping refuse, and establishing dams. By 1881, a closed season for whitefish was established from October 20 - November 1. Natives were exempt but only to allow them to fish for their own needs. Although boiling whitefish for oil or feeding whitefish to animals was forbidden, no one was appointed to police these regulations among the Native bands. These regulations marked the beginning of the argument by commercial interests that it was the Natives who were most responsible for wasting fishery resources.

In 1884, Alex McQueen, was appointed the first Inspector of Fisheries for Manitoba and North West territories. He recommended a licencing system be put in place, suggesting a \$5.00 per gill net and \$25.00 per drag or seine nets per annum. He also recommended allocating certain fishing grounds to various parties. Thirdly, he recommended the fixing of closed seasons for whitefish and sturgeon.²⁵⁴

In 1887, a licence system was adopted for Manitoba. The closed season was extended for whitefish in 1889, and a closed season was introduced for trout and pickerel. Under the new regulations, Natives were allowed to fish for their own needs during the closed season. The overseers of the fisheries warned that the Natives were selling these fish to traders, and that *"unless something is done to restrict the unlimited privilege of Indian fishing during the close season, white people will complain: as they now look upon it as an absurdity to permit large bands of Indians to fish and prohibit a few white fishermen, who, unlike the Indians, are not given to hunting, to do the same when they need the fish more than the Indians do for their maintenance and that of their families."*²⁵⁵ Complaints were constantly made about the wastefulness of the Natives in taking too many whitefish. J.B. Johnston, overseer for Bull's head, Lake Winnipeg was *"strongly opposed to the reckless destruction of whitefish by Indians, at a season of the year when every possible care should be taken to preserve them. It is to be regretted that such unpardonable encroachments are allowed to be made on the resources of so valuable an article of food as the whitefish of Lake Winnipeg. It might perhaps be a serious thing to prevent Indians preserving what they require for their actual needs; but that they should give the greater portion of their catch during the close season to dogs in the winter is an inexcusable and unpardonable offence."*²⁵⁶ Johnson had evidence that the Indians had sold fish

taken in the close season to traders, and *“in one instance, a trader named Henderson had 800 pounds of such fish in his possession at Fort Alexander which he purchased from Indians. Upon examination, he found the fish full of spawn.”*²⁵⁷ It seemed easy to blame the Natives for the depleted fish stocks and not the fish companies who, in the same winter season, had purchased 75,000 pounds whitefish and 11,000 pounds of sturgeon in the Bull’s Head district.²⁵⁸

Aware of the interests which would be effected by a prohibition or more restrictions on the fishery, the Minister of Marine and Fisheries, in consultation with the Superintendent General of Indian Affairs, instructed Samuel Wilmot, the Superintendent of Fish Culture, to proceed to Manitoba in July 1890 and undertake an examination of the fisheries on Lake Winnipeg generally, to determine if over fishing was indeed a legitimate concern. In his report, Wilmot stated: *“There is a gradual but steady depletion of the whitefish product of Lake Winnipeg going on, from the effects of the present system of fishing in certain parts of the lake...The depletion is experienced more particularly at the mouths of the larger rivers, and in the lower parts of the lake, particularly in the Little Saskatchewan River and St. Martin’s Lake, caused by over-fishing at improper times, notably at the mouth and bay of the Little Saskatchewan River. This cause, if permitted to be continued here, and to be allowed in other places similarly situated in other parts of the lake, must assuredly hasten rapid depletion and eventually termination of the whitefish industry of Lake Winnipeg.”*²⁵⁹ As a result of Wilmot’s recommendations of ways to alleviate the situation, new regulations, implemented in 1892, included: limitation of the number of nets used in each boat; a ban on Sunday fishing; and restriction of fishing to the north basin of the lake.

The law stated that every company or individual must have British citizenship before it/they could secure a commercial licence to fish in Lake Winnipeg. While most people knew that companies such as the Dominion Fish Company, based in Selkirk, were fronts for American companies, the Canadian subsidiary was given a licence anyway. While domestic and commercial licences were available, there did not appear to be much difference in how they were used. Most domestic licences were used to catch fish which were sold to the big commercial companies. The method of issuing licences was exceedingly cumbersome, leading to great laxity in the enforcement of the fishery regulations. The time delay in sending applications for licences to Ottawa meant that the fisherman was actually engaged in fishing long before the document was in his hands. This meant that he was unaware of the regulations accompanying the licence. The remoteness of the overseers of the fishery and the lack of adequate personnel in the fishing region led to this loose enforcement of the regulations.²⁶⁰

The 1892 regulations did little to address the problem of overfishing the whitefish stocks that nearly everyone believed was a reality. In March 1909, a Commission was established once again to inspect the fisheries of Manitoba. An important concern of the Commission was to prepare a separate set of regulations for Manitoba and Keewatin, the previous ones having been applied to Manitoba, Saskatchewan, Alberta, and the North West Territories.

The Commission, consisting of Professor E.E. Prince as chairman, with J.B. Hugg and D.F. Reid, made several recommendations. These included: raising the season’s limit for whitefish and reducing the gill-net mesh size to 5.5 inches.²⁶¹ Another important new step was the introduction of a new licencing system. It involved abolishing the commercial and domestic licences and replacing them with only one type of fishing licence. Each fisherman required one licence for summer fishing and another for winter fishing while the settler’s permit would allow any settler or Native to fish at any time for his domestic needs. A special tug licence would enable these vessels to do limited fishing, as well as towing the boats of the fishermen. The radical changes in the new licencing system were accompanied with the necessity of reorganizing the official fishery staff in the province. The Commission also reported that the

claims that the whitefish fishery of lakes Winnipeg and Manitoba was being depleted had proven to be unfounded.²⁶²

Limits were placed on the size of the summer fishery for the first time. In 1910 the limit for whitefish from Lake Winnipeg was set at 2,400,000 pounds of whitefish in the round (undressed).

Fishery legislation was complicated by the many government agencies involved in authorizing and enforcing it. The constitution of Canada gave control over fisheries to the federal government. *“Thus while fish are in the water, while they are being taken in commercial fishing operations, and while they are in the vicinity of a fishery, they are under the jurisdiction of the Dominion Government. When, however, fish pass into the channels of trade and leave the fishery vicinities, they are under the exclusive jurisdiction of the provincial government. To overcome this complicated legal situation, the fisheries of the Province are administered under the Dominion Statute – The Fisheries Act 1932 – by the Special Fishery Regulations of the Province of Manitoba. These regulations are made by the Dominion Government of Ottawa and changes therein to meet changing conditions are put forward by the Manitoba Government. This is because under the Natural Resources Act of 1930 the fisheries, together with the other natural resources, passed from Dominion to Provincial control. In order to meet the difficulty of regulating the fish business when fish are passed from the Dominion to Provincial jurisdiction the Fish Dealers Act was enacted in 1942. This Manitoba statute provides regulation for fish dealers.”*²⁶³

Another act directly affecting the fishing industry was the Fish Inspection Act, a federal statute also adopted by the Province. This Act allowed the quality of whitefish caught and sold in Manitoba to be protected.²⁶⁴

The licencing system put in place on Manitoba's inland waters required inspectors to enforce it. In summer, the fishing inspector used a patrol boat to move around the lake, checking licences and quotas. In winter, he used a snow plane or snowmobile. The fishing inspector, or Guardian, was required to have a thorough knowledge of fishing. Consequently, he was often a former fisherman, often an Icelander, which gave him the expertise to check the size of the gill nets as well as recognize the species of fish in the nets. Such enforcement of the licencing system was made difficult by the mode of transportation and the remoteness of the fishing grounds. Since enforcement was inadequate, it was natural then that regulations about licencing, mesh and net lengths were not always observed. The closed seasons were more properly observed, not so much because of supervision as because of weather conditions.

The number of inspections depended on the area involved; some lakes were more isolated than others. Not all fishermen necessarily abided by the regulations, so sometimes a game of “hide and go seek” took place between certain fishermen and inspectors about such matters as fishing with too small a mesh or fishing out of season. Some inspectors, sympathetic to the fisherman's need to make a living were “lenient to the point of turning a blind eye to the infraction.” One inspector, Sandy McPherson, set out aboard the S.S. Manitou to inspect the fishing grounds and station of Lake Winnipegosis. The Captain hoisted the Union Jack, explaining to McPherson that he always did this when he had a representative of Her Majesty on board. In fact, it was his method of signalling the fishermen that the inspector was on his way!²⁶⁵ Many inspectors felt it was their duty to carry out instructions to the letter, however painful that proved. Nets would be confiscated if the inspector caught a fisherman. This was a major disaster for a fisherman. Therefore, violence sometimes erupted over an inspector's actions. One incident occurred on Dauphin River where Aboriginal fishermen beat an inspector

quite badly. Another time, when an inspector was seizing nets, a shot was fired through his boat cabin window.²⁶⁶ The nets once confiscated, would be burned or sunk in the lake. Since these represented a large financial investment for a fisherman, it was understandable that some men would take desperate measures to protect their livelihood. Most fishermen would appeal through legal channels to overturn the case against them.

The licensing system, as well as controlling production, also provided some income for the Department of Fisheries, though never enough to cover the administration costs. The licences could be quite lucrative, with a summer whitefish licence for Lake Winnipeg, and a fall fishery licence for Lake Winnipegosis netting as much as \$2000 for 6-8 weeks work in 1947. This resulted in more applications for licences than were available. A system of selection resulted, in which the seniority of the fisherman was the principal element in issuing a licence. To provide benefits for more people, the full licences were sometimes split and made into joint licences for junior fishermen. In this way, young men were able to gain experience which would be needed in the future. On Lake Winnipegosis, for example, 43 skiff licences were issued for juniors. From this the junior fishermen could be promoted to half-licences and eventually to full licences.²⁶⁷

Local concern for depleting stocks, and declining catches led to continual revision of regulations. Lake Winnipeg was initially divided into four fishing seasons, summer, fall, winter and summer whitefish. The latter was confined to the north basin of the lake with the season opening anywhere from the first of June to the beginning of July, and usually running to early or mid-August. Mesh gillnets' sizes changed too, from a high of 5.5 inch to the current 3.00 inch in the south basin and 3.75 inch in the channel area.²⁶⁸ Allowable mesh sizes in the north basin changed in 1956 to 4.25, 5.0 and 5.25, depending on the fishing area in the basin.²⁶⁹ Other changes included: lengthening the season from 53 to 60 days in the 1950s; daily gill net yardage allowances per fishermen in the north basin increasing from 5000-8000 yards in 1959; the move to nylon nets in 1949 followed by wide usage by 1951; power lifters on boats in 1959; use of trap nets prior to 1969.²⁷⁰

With the establishment of the Freshwater Fish Marketing Board in 1969, more regulatory changes were made, the most important being the establishment of licences limited by quota to experienced fishermen and dependent subsidiary fishermen. In Lake Winnipeg, the current total quota for the three main species is set at 6.4 million kg and catches of these species have been about 85% of the quota in recent years.²⁷¹ The fishing seasons on Lake Winnipeg were reduced to three, with the summer fishery encompassing all areas of the lake and beginning in June and lasting between 40-69 days, depending on the location. The maximum allowable amount of gillnets per fisherman has been increased, as has the summer quota. The fall fishery starts in September and runs for two months. The quotas for the winter fishery have been increased, as have the number of fishermen.

The major features of the quota system are: transfer of quota between community licencing areas is prohibited but quota entitlements can be sold within community areas if the purchaser meets certain requirements; fishermen are allowed a maximum of four quota licences except in certain areas and the quotas are transferable between seasons, with some restrictions.



DOMINION OF CANADA.

PROVINCE OF MANITOBA.

DEPARTMENT OF MARINE AND FISHERIES.

SPECIAL FISHERY LICENSE.

1899.

The herein named *Helgi Somason* resident of *Neola* in consideration of the payment of the sum of *Two* dollars, is hereby licensed to fish during the season of 1899, except during the legal close seasons, in that portion of the public waters of *Lake Winnipeg*

East of Big Island

with *5* square feet net of at least *4* inch mesh extension measure.

THIS LICENSE IS NOT TRANSFERABLE.

The present License requires strict conformity with the various provisions of the FISHERY LAWS now (or hereafter) in force, and to all REGULATIONS emanating from the GOVERNOR GENERAL IN COUNCIL and DIRECTIONS by FISHERY OFFICERS; in default of such compliance, the same will become void and forfeited forthwith, saving moreover the penalties imposed by law.

[Signature]
For Minister of Marine and Fisheries.

Countersigned and dated at *Selkirk*
this *22^d* day of *July* 1899.
[Signature]
Inspector of Fisheries.

(FOR CLOSE SEASON OF FISH, SEE OVER.)

The granting of this License conveys no implied right or claim to continuance beyond the period stated. It is issued and accepted subject to angling and trolling within the limits prescribed.
No fishing of any kind is permitted between six o'clock p. m. on Saturday and six o'clock a. m. on Monday in each week.

A copy of a fishing license from 1899. (Source: Water Stewardship, Fisheries Branch Collection, C10077.)

CONSOLIDATION OF THE FISHING INDUSTRY, 1900-1930

Following the new regulations put in place in 1911, the fishery suffered a decline due to cold weather. With the outbreak of war in 1914, it was expected that prices would climb and companies equipped more fishermen to handle the increased demand. But prices failed to rise and the companies soon scaled back operations. There was a reduction of 400 licenced fishermen, due in part to bad operating conditions and the market economy. These factors reduced Manitoba's output.

In 1916, the market finally rose and fish companies advertised for contacts with Lake Winnipegosis winter producers.²⁷² The total output increased greatly and the fresh fish shipments from Lake Manitoba became more common. In the early 1920s, about 70% of the Canadian catch was sold fresh, predominantly to Jewish merchants. Fresh fish garnered a higher price and the result was the development of a winter fresh fish trade centered on Lake Manitoba. Chicago jobbers paid 24 cents per pound for fresh and 14 cents per pound for frozen during February and March 1924.²⁷³

The demand for fresh fish and its higher prices were ideal for fishermen on Lake Manitoba who were close to railway connections on both sides of the lake. Elsewhere, in an effort to control costs, fishermen began to consign carloads of frozen fish to brokers in American cities, thus bypassing the middlemen in Manitoba. The fish were sold directly from the freight train to the customers at a reduced price, thus encouraging consumers to purchase frozen rather than fresh fish. At first this approach was successful, with one Chicago broker handling 35-40 carloads, but unsatisfactory marketing and handling resulted in some losses for the shippers.

A continued strong demand for Manitoba fish combined with additional refrigeration facilities to increase the output from Manitoba's lakes in all seasons. With the agricultural economy in distress, many more farmers entered the fishing industry in the 1920s. For example, nearly 800 fishermen congregated on the Lake Manitoba fishery, severely testing the lake's resources. Fortunately, most of the increased catch was tullibee, which had not been taken in any great quantities previously, so the pickerel stocks were not affected as much as they could have been.²⁷⁴ In this same period of the 1920s, construction of the railway towards Hudson Bay was making the stocks of more northerly lakes available for export. In 1926, the shift to gas boats, which first appeared on Lake Winnipegosis, became more prevalent, again facilitating the handling of a larger catch. The gas boats were to have little impact on the Lake Winnipeg summer fishery until the 1930s.²⁷⁵

By 1930, the whitefish stock of Lake Winnipeg was showing a decided reduction, but this was being offset by the catches of tullibee and pickerel during the fall season. The southern lakes were accommodating an increased number of fishermen as well as benefiting from increased technology such as refrigerator plants and gas boats. More independent stations had been developing and smaller boats, which carried 100-300 pound capacities, were becoming common. Fishermen on lakes Manitoba and Winnipegosis were suffering reduced average returns, due to reduced catches and increased costs.

During this period, fishing techniques on most lakes remained relatively unchanged. Summer whitefish fishermen still used sailboats with assistance from tugs. Their catch was mostly frozen, crated and shipped to Selkirk by company steamers. One man skiffs were used during the fall. In winter, nets were still placed in the ice, the only new technology being the use of the jigger. Fish were still frozen naturally, boxed and shipped by horse caravans.

FISH PROCESSING

The fishermen's catches were brought by tugs or skiffs to packing sites along the lakes, places like Spider Island, Black River, Poplar River, Berens River, Snake Island, Horse Island and Warren's Landing. Each site resembled a factory village, with wharfs, and crowded dwellings. Here, the fish were cleaned and packed in ice before being sent by lake steamers to places like Selkirk or Winnipegosis. Once there, they were placed in refrigerated cars and shipped eastward. They did not arrive in very good condition because of poor icing and refrigeration at the station or on the transfer boat, or even on the train. In 1911, an ammonia refrigeration plant was built in Selkirk. This plant was said to be the largest in Canada. It had cold storage rooms to accommodate two million pounds of fish.

The fish were placed on metal trays which were laid on pipes and subjected to temperatures as cold as minus 15 degrees F., while the cold rooms had temperatures of minus 20 degrees F. When Professor Prince assessed the handling practices at the cold plant he found several liabilities: the fish were brought to Selkirk fresh, which was often too long a journey to maintain freshness; the fish were frozen too slowly at the plant; they were held too long in the refrigeration plant; they often thawed during the train journey to market. Prince emphasized the higher value and quality of fresh fish. But he believed, if handled and frozen properly, frozen fish could be valuable, allowing fish from places as far north as Cedar Lake to reach markets. In 1918, he prepared a special bulletin aimed at helping the handlers to preserve the quality of fresh fish in a frozen form.²⁷⁶

The fall fishery produced more fresh fish and even those frozen under natural weather conditions were of a higher quality than those processed at the plant. The fall fishery also produced a variety of fish not available from the summer fishery and these could be marketed locally. Although the price received for pickerel was lower than for whitefish, the lower operating costs for the winter fishery made it more economical.

By the 1940s, fresh, or unfrozen fish were being produced in the winter season in any waters with access to railway transportation. These fish were weighed and packed, usually in 50 pound lots, allowing three pounds for shrinkage, and covered with chipped ice in summer fish boxes, which had been lined with waxed paper to retain the ice longer. Most of the ice used at this time was real, having been cut and stored in ice houses since winter. There was also an artificial ice, called flake ice, which kept the fish at 30 degrees instead of the 34-35 degrees provided by real ice. These few degrees made a difference in the quality of the fish, allowing it to be kept 4-5 days longer without downgrading its condition.²⁷⁷

As transportation facilities improved, so did the quality of the fish product. Boats with refrigerated holds allowed for the filleting and freezing of fish before it reached port and was put on trains. Many of the Icelandic fishermen had their own fish-packing plants where they purchased, processed, stored and marketed fish. Along Lake Winnipeg's shores, from Gimli to Hnaua, many fish stations had processing sheds and freezers. These included the Helgasons, Thorkelsons, Magnussons, two Sigurdson families as well as J.B. Johnson in partnership with Sigurdur Kristjanson.²⁷⁸ An example of these processing plants was a two-storey building, 20x30 ft, with a similarly sized shed attached. *"The freezer had the lengthwise walls lined to about 8-10ft. up with tin plates and eight-inch planks with narrow edge out set at the junction of the plates, with another set of tin plates attached to these at this distance out and held with planks. The aperture between was filled solidly with a mixture of shaved ice and salt poured in and packed.*



At Pukatawagan in 1955, a horse was used to transport fish crates to the freight plane. Note the fish crates and the fuel barrels. The pilot always carried freight into the communities and fish filled the hold on the flight out. (Source: Gord Emberley.)

*In the sheds the fish was washed and either dressed or left in the round and arranged in pans with alternate layers of the crushed ice and salt mixture between row spans. As layers rose planks were added. When solidly frozen, the fish was in its ice sheet [and] was knocked out of the pan, and in this form or boxed was stored in the freezer.*¹²⁷⁹

After the formation of the Freshwater Fish Marketing Corporation (FFMC) in 1969, the Corporation erected a modern and cost-efficient processing plant in Transcona to process the bulk of the freshwater harvest from western Canada. The new highly efficient plant led to the closure of six other processing facilities in the Western region. The number of packing plants was also reduced, from 200 to 100. At the Transcona plant, called the Lake Food Kitchen, crews of mostly women sorted and filleted large fish and the soft-fleshed whitefish. Much of the work was mechanized, such as the German slicing machine which sliced 240 boneless sauger fillets per minute. A new deboning process allowed new products to be made from fish flesh. The new

process deboned the fish mechanically and rapidly separated the flesh from the rest of the fish. This flesh could then be shredded and further processed into a high protein fish product. Sorting and grading machines prepared fish for vacuum packs, ready for the export market.²⁸⁰

By 1986, the Transcona plant had a through capacity of 16 thousand tonnes (3.5 million lb.) per year, and a maximum weekly through-put of approximately 900 tonnes (2 million lb.). Of its total production, approximately 85% was shipped from the plant to export markets while the remaining 15% was marketed in Canada.²⁸¹



C

Easterville packing plant

CHANGES IN FISH MARKETING

FISHERMAN'S PROTECTIVE UNION

During the decade of the 1890s, as control of Manitoba's commercial fishery slipped into the hands of American companies and the prices paid for their catch fell, fishermen began to feel the consequences of a combine. The reaction of fishermen, Icelandic and Native, was to form the Fishermen's Protective Union. Their 1900 petition read: *The said American company practically exercises a monopoly on the said [Winnipeg] lake; thereby injuring us to an immense extent not only by the rapid depletionbut also in many ways incident to a monopoly, as by greatly and unjustly depressing the wages, prices and profits obtainable by us as such fishermen as aforesaid, and by practically excluding many bona fide Manitoba companies from Selkirk and Winnipeg etc., which would otherwise form and engage the said fishing industry.*²⁸² The union only lasted a year before it was dissolved.

In 1918 a group of seventy-five sailboat operators who were involved in the summer whitefishery in the north basin of Lake Winnipeg, tried to revive the Fishermen's Protective

Union. The group made some headway in increasing the price of whitefish from the fish companies the first year. The following year they asked for the price to be set at 3.5 cents per pound or they would go on strike. The fish companies offered 3.25 cents and threatened to bring in boat foremen from the Great Lakes if the Lake Winnipeg fishermen went on strike. When the strike was called, the companies acted on their promise. The fishermen panicked and returned to work. Eight Icelandic fishermen from Gimli and Hnaua held their stand all summer.²⁸³

A summary of this early fishermen's union, provided in 1951 by Dr. Louis Berube, Chairman of the Canadian Co-operative Fisheries Conference and head of the School of Fisheries at Laval University, stated: "*In 1920 the fishermen of Lake Winnipeg were well-organized in a strong union. It was not a Co-op, but enabled the fishermen to bargain with their fish buyers for better prices. However, in one particular year, in bargaining, they stuck to their guns far too long for their own good, and the powerful companies, owners of the boats, brought in strike breakers and broke the union down.*"²⁸⁴

THE MANITOBA CO-OPERATIVE FISHERIES LTD.

The maintenance of high fish prices was crucial to the fishing industry and in 1928 a "fish pool" known as the Manitoba Co-operative Fisheries Ltd. was formed to counteract the increasing degree of control being exerted on the Manitoba fishery by powerful eastern and southern fish-marketing organizations. The winter of 1927-28 brought matters to a head when a New York dealers' syndicate set market prices at levels unacceptable to Manitoba's producers. Having watched or participated in the formation of the Manitoba Wheat Pool, many of the fishermen/farmers began to see this as a model for the fishing industry.

Many of the fishermen who looked to this example as a solution to their problem were small independent dealers from Lake Manitoba or large-scale fishermen. They laid their proposal for a marketing cooperative before the Manitoba Co-operative Marketing Board in 1927 but did not wait for the board to finish its investigation. Instead, they went ahead and established the Manitoba Co-operative Fisheries Ltd. in 1928. Their haste resulted in numerous problems which could never be overcome.

The organizers were not producers and they soon grabbed all the better-paid positions on the board. Consequently, the managers of the board lacked the experience necessary to make a success of the effort. The responsibilities of the "managers" were not properly laid out, resulting in the President and Manager often being at cross purposes. The accounting system was inadequate and there existed no review of procedures which could have resulted in better management.

Collection points were not supervised and fishermen often remained unpaid for their product, although dealers were paid for equipment. No policy was formulated on credit sales, prepayment of membership fees, advances to fishermen, relationship of dealers to the Pool, and summer operations.²⁸⁵ Hampered by the lack of organization, the Pool nevertheless began operations in winter 1928-29.

The 477 members of the Pool signed a contract which included the following provisions:

1. The fisherman agreed to sell his winter catch to the Pool for a 5-year period, beginning in 1928-29.

2. The fisherman agreed to ship all his fish to the Pool or face a penalty of 5 cents per pound on fish delivered to others.
3. The fisherman agreed to inform the Pool of the area to be fished and the shipping point to be used.
4. The Pool was required to establish receiving stations.
5. The Pool agreed to pay the fisherman for frozen fish on an average monthly price record. Fresh fish amounts were to be kept separate, but the Pool had the right to freeze such fish as the market required.
6. The pool was to name the species and quality required.
7. The Pool had the right to make charge backs to the producers where quality was not adequate.²⁸⁶

Not all the members, most of who were from Lake Manitoba, were paid-up members. Once the members and 200 non-members had shipped nine million pounds, about 44% of the total catch, to the Pool, it had to be marketed.²⁸⁷ Unfortunately the Pool had not yet formed enough contacts to accomplish this. It sold \$400,000 worth of fish, some of which was on credit and for which payment was never received. This, plus the high overhead costs, resulted in heavy losses the first season.

In a bid to sign up as many members as possible, the directors often overlooked the payment of the new member's share, while advancing the fisherman money for equipment. This made it advantageous for a fisherman to join but the pool, but it left important borrowed financial resources of the Pool tied up for purposes not intended.

A bigger problem was the grading of the fish. The collection agent was required to grade the deposited fish as No.1, 2, or Rejects. Slipshod methods developed which resulted in the fishermen delivering poorer quality fish to the Pool and, in contravention of his contract, selling the higher quality fish to other companies. The pooling system mixed all qualities of fish together, resulting in poorer grades, and making marketing difficult, especially after the Pool had garnered a reputation for lesser quality in the marketplace. Fishermen chose to sell to fish companies because they received their money up front. The companies were actually paying good prices in this period because they were receiving only the high quality fish.

The Pool was not originally equipped to enter the Lake Winnipeg summer season, but in February 1929 the Pool's president undertook to negotiate a contract to provide hauling, transportation and storage services for Lake Winnipeg, which could have resulted in the fishermen there becoming members. But conditions on the Board were so bad by this time that the President, Secretary and later, the Manager were all removed from office. The negotiated contract was never ratified, and the plan for summer activities was dropped.

The 1929-30 seasons operated with fewer mishaps due to the experience gained by the sales manager. But the American markets were even more disorganized due to weak demand. This lack of demand escalated with the onset of the Depression. The result was that the fishermen who shipped their fish in the January-March 1930 period received no payment. Although the Pool attempted to take part in the Lake Winnipegosis summer season that year, the effort was a dismal failure. Everyone, the fishermen, bankers, directors, and American buyers, had all lost confidence in the co-operative and the experiment wound up its affairs, with its creditors receiving 50 cents on the dollar.²⁸⁸

A Committee of Enquiry was appointed to look into the failure of the Manitoba Co-operative Fisheries Ltd. Its report, written by H.C. Grant and J.W. Ward and issued in September 1930, concluded that the fish market was *“the most poorly organized produce market we have ever studied. No one can tell what the crop will be...and the narrowness of the market field causes recurring bare and glutted markets.”*²⁸⁹ The Committee’s greatest criticism, however, was reserved for the mismanagement which had plagued the too hastily formed co-operative. The enquirers wrote: *“The Pool could not hardly have committed more mistakes in co-operative organization if the organizers had deliberately set out to make them...Co-operative organizations are not new, and there have been co-operatives as complicated in management as the Fish Pool. Surrounded by successful co-operatives, the Fish Pool committed mistakes for which we are at a loss to account.”*²⁹⁰ The report strongly warned that only a co-operative which sprang from the producers themselves had any chance of success. Such an effort should be attempted for the winter season and should pay no premium at first, building a reputation for quality and capital for the future which would attract new members. But the failure of the Pool resulted in a *“doubting attitude towards co-operation by some fishermen.”*²⁹¹

FRESH FISH DISTRIBUTORS

In 1931, Manitoba’s fish wholesalers believed they were facing a combine in the eastern American markets. Market conditions were similar to what had caused the Fish Pool to fail. The New York Peck Slip dealers generally combined to force down the price they paid for fish, and many did not meet their financial obligations. In 1931, Manitoba’s wholesalers met and agreed to form a central credit agency which would enable members to refuse shipment to delinquent payers. Three companies, all controlled by parent Peck Slip companies, Lake Manitoba Fisheries, Northern Lake Fisheries, and Keystone Fisheries, formed the central credit agency. The other firms remained aloof. In 1932, Fresh Fish Distributors Company was organized as a partnership to act as a credit association and a marketing agency for its organizers. In 1933, the Fresh Fish Distributors Limited was incorporated with four shareholders: Keystone Fisheries Ltd., Lake Manitoba Fisheries Ltd., and H.M. McGinnis Ltd. It was hoped that this would limit the eastern American companies’ access to an alternate fish supply, and would therefore force them to pay their debts in order to maintain a fish supply.

The operation of the Fresh Fish Distributors was aimed at orderly marketing. The companies set prices by controlling production on Manitoba’s lakes. They faced competition from the Great Lakes, however, and since that region was closer to the market, the price of fresh fish species, such as pickerel and sauger, from these lakes was beyond the agency’s control. They could, however, control the selling price of whitefish, since Manitoba was the main supplier of this species. And, if the agency could not control the market selling price, it could control the price paid to Manitoba’s producers.

The partnership pressured other local firms, such as Viking Fish Company, to join the Distributors, and made agreements with Booth Fisheries and Armstrong-Gimli to make certain that the price paid to all Manitoba’s fishermen was the same. Armstrong and Booth were to concentrate on fresh fish sales while the Distributors would sell their frozen fish on the New York market. G.F. Jonasson of Keystone Fisheries summarized the effect of the combine: *“As far as the five companies operating on Lake Winnipeg are concerned the days of warfare are over today.....We try to put up a united front as far as the fishermen are concerned.”*²⁹²

A united front it was, especially after Capt. W. Robinson, the last operator whose boats were allowed to carry fish for small independent operators, left the business. With no public carrier to transport their fish and no way to market their product themselves, station operators had to sell

it to Distributors. The prices to be paid for the 1933 summer catch of Lake Winnipeg's whitefish was set in New York with representatives from the major retailers (Distributor members) present. The price, at three cents per pound, was well below the usual price paid to fishermen, and was the lowest price Manitoba's retailers insisted they could accept and still make a profit.

The low price offered little profit for the fisherman who had no choice but to fish for the dealer since he was already indebted to him. To cover the wages of a first helper, a fisherman operating a four-man gas boat would have required a catch of 50,000 lbs. of whitefish during the Lake Winnipeg summer season. A three-man boat would have required 30,000 lbs. Even if the fishermen were successful at reaching the summer limit of three million pounds for the lake, the 90 boats could only average 33,333 lbs, meaning the operator would not cover wages and more fishermen would go deeply in debt by the end of the season. A Commission, appointed by the Manitoba Government to look into this combine, and its attendant publicity, caused the Distributors to negotiate with the Minister of Natural Resources to raise the price per pound to four cents. As well, the Department agreed to raise the Lake Winnipeg whitefish limit by another million pounds. With the nightly catches good, (an average season's catch was 42,000 lbs) more fishermen managed to make a profit.²⁹³ (See Appendix 6: Cost of Operation of Whitefish Boats on Lake Winnipeg, 1933.)

The Distributors and their New York partners were less successful at controlling activities during the winter fisheries because there were different transportation arrangements. There remained little competition among the Big Five, who avoided establishing fishing stations in the same fishing grounds. Some itinerant truckers offered an alternate buyer for fishermen. They frequently purchased fish directly off the ice from fishermen, which, because they had no storage facilities, they sold right away.

INLAND LAKE FISHERMEN'S CO-OPERATIVE

Nearly twenty years after the failure of the first fishermen's cooperative, another attempt was made to organize a co-op. At the initiative of an ex-fisherman, T. Kardal, along with fishermen at Arnes, the Inland Lake Fisherman's Co-operative began operations on January 14, 1950. Its fifteen original members all owned their own equipment so no advances were necessary. The group produced 125,000 pounds of fish, valued at \$14,000, that season. Kardal acted as the salesman and made arrangements with Fish Processing Services, a small exporter, to ice and pack the fish, and do the accounting. Kardal, as President of the Fishermen's Association and Manager of the Co-operative, set the initial price two cents above what exporters offered, forcing the other companies to raise their prices, and thus benefiting all fishermen. This should have strengthened the Co-operative. Instead, it raised antagonism against the group and did not gain any good will of fishermen in general. Since the final payment was only one cent per pound, the Co-operative could not prove the benefits of membership. The other companies undercut the price of Inland's fish. Only the proven quality of Inland's product allowed it to survive.

The Inland Co-operative could not grow without expanding to other lakes and seasons. The group faced the multiple difficulties of weak finances, inadequate facilities, and indifference from the provincial government, all of which prevented expansion. Without a greater financial base, the co-op could not offer the advances needed by the fishermen who did not own their own equipment. Secondly, the Co-operative needed more handling and transportation facilities. These, it could not afford to build. Its leadership was unable to persuade the existing companies to take on their services because most of the other transportation, processing and storage companies were tied to importers by financing. Many fishermen on Lake Manitoba, where the

fall fishery offered the best possible expansion site, refused to join the Co-operative unless it undertook summer operations as well. This would have meant that the co-op would have had to provide boats for the whitefishery because few of the fishermen involved in this summer fishery owned their own equipment.

The third difficulty, which concerned the attitude of the provincial government, was difficult to overcome. It seemed to the fishermen that the staff of the Department of Natural Resources favoured the exporters over the interests of the fishermen themselves. The Co-operative Marketing Board could provide only limited assistance since it required all its meagre funds to work with credit unions and agricultural co-operatives. Some support did come from the United Farmers of Manitoba and had the group expanded operations into both fall and winter operations, it might have been able to survive. Instead it stagnated, in part because of the untimely death in August 1951, of T. Kardal, whose spark drove the organization. Kardal was the only employee and only fisherman who had gained any detailed knowledge of the marketing aspects of the fish industry.²⁹⁴ Ultimately, the co-op became more dependent on the Fish Processing Service. When it failed, it brought the 1950 Co-operative down with it. Still, the Co-operative had provided its limited membership with a higher return during its brief lifetime, as well as a considerable sense of independence.²⁹⁵

INCREASING PROBLEMS, 1930-1960

In 1930, the transfer of control of natural resources to provincial control from federal control fundamentally affected the commercial fishing industry in Manitoba. The result was an overhaul of existing regulations. Aware of the impending change in jurisdiction, the federal government had spent little money on upgrading its enforcement fleet and had not invested in snow planes or snowmobiles for controlling the winter fishery. As a result, Manitoba faced a complete overhaul of enforcement equipment at a time when its financial resources were very limited.

The Depression hit the fishing industry in mid-season 1930. Participants in the industry increased as farmers, facing the loss of farm income, became seasonal fishermen. The number of fishermen on northern lakes also increased because railway construction to northern mines now provided transportation facilities for produce from more northern lakes. There was a dramatic jump in the number of lakes fished in northern Manitoba, from 17 in 1927-28 to 38 in 1929-30.²⁹⁶ This greatly increased production, causing the market to break in January, 1930. The break was so severe that only those producing fresh fish for market continued operations for the entire season. This production was mainly centered on Lake Winnipeg. Added to the decrease in market value was the fact that many firms had undertaken improvements in equipment and facilities at their fishing stations as a result of the very profitable 1920s seasons.

Under such financial constraints, fishing companies had to reduce costs and improve efficiency. To do this, one important change was the use of gas boats which were more efficient than the tug-delivered sailboats. A gas boat could operate in worse weather than a sailboat, thereby reducing the loss of fish in nets whose lifting was delayed by bad weather. In the south, there was also a change to truck rather than train delivery of the catch. Trains were more expensive and ran on set schedules while trucks could deliver the catch to Winnipeg whenever it arrived in Selkirk or Gimli. Another efficiency measure employed was to spread the catch over a longer period by using fewer nets per boat and fishing fewer days per week. Fortunately, the fish were plentiful and easily caught. However, due to American restrictions, the tullibee market had disappeared and fishermen had to employ different net sizes so as to avoid catching and wasting this species. Such changes resulted in lower catches for the desired species as well.

With the need to concentrate on fresh fish sales, marginal smaller lakes, from which transportation delayed delivery, were not fished for those seasons when only fresh fish could be sold for a profit. During the early years of the 1930s, the number of fishermen began to decline; a fall of 25% occurred in 1932 because the companies did not advance new gear to potential fishermen who could definitely not afford to outfit themselves in the lean times.²⁹⁷ Although the price of equipment fell slightly, it did not compensate for the fall in fish prices.²⁹⁸

Dissatisfaction developed among fishermen in 1932 when they began to suspect that a decline in dealer competition was leading to price collusion. The price paid to operators was reduced even though a new market had developed for whitefish. Frozen whitefish was being smoked and sold on the market to replace tullibee, which had been banned from American markets.²⁹⁹

In 1933, the general discontent in the fishing industry led the Manitoba Government to appoint a commission to investigate the industry and make suggestions for its improvement. The major objectives of the committee were to protect and promote the welfare of Manitobans involved in the fishing industry, and to preserve the fish resources of Manitoba through improved marketing conditions and fishing regulations. The committee had to deal with the specific roots of problems, such as the quality of the product, the costs of nets and equipment, the price of fish, and the existence of combines, among others. Once the entire industry had been investigated, recommendations could be made to improve it.

Evidence placed before the Committee indicated that 90% of Manitoba's fish were exported to the United States. Exports and sales in America were under the control of a few American companies, which were beyond Manitoba's marketing laws and regulations. This resulted in an inability to improve the interests of Canadian fishermen. Without some form of direct contact, the prevailing practices would continue. The fishermen insisted that a combine was operating, and this was backed up by the fact that the low prices quoted by the companies were not justified by actual market conditions. Prices were raised and lowered seemingly without regard for supply and demand, and there seemed to be no competition amongst buyers. Only after fishermen had committed themselves to supply their fish to a certain company did they learn the price they would be receiving for their product.

The committee, which met with fishermen in all the major fishing centres in Manitoba, found that the fact that all fish caught in Manitoba were far from their actual market presented quality problems, as did the fact that fishing outfits were paid on a poundage basis. This resulted in as much poundage as possible being caught without regard for the week-to-week variations in American demand. The main market was American and this market had shrunken considerably during the Depression when 12-14 million unemployed people no longer represented potential customers. Furthermore, the financial crisis forced people to buy the cheapest product and this was definitely not imported fresh fish.³⁰⁰

The distances involved for the fishermen in catching the fish raised operating costs and made them very vulnerable to disturbances or control in a foreign market. Most of the American wholesalers had found it worth their while to enter the fish-producing business in Manitoba. For independent fishermen in Manitoba it was often difficult to collect monies owed them by the American fish houses, who might claim that the quality was inferior, and thus lower the final price paid. Improper handling could lower the quality of fish. Often, however, fish of inferior quality were boxed with good quality fish. Therefore, the wholesalers' claims were not altogether dishonest. Manitoba fish also had to compete against fish caught in the Great Lakes, which had lower transportation costs connected with them. Only Manitoba's winter fishery did not face this competition, although competition from salt water fish remained. The Commission also found

that a considerable quantity of fish was marketed on the consignment basis, which had a detrimental effect on prices, and was often used as an excuse for not paying contract prices for fish shipped to order.

The committee concluded that the economic competition between the fish distributors both for fish and markets had resulted in a disadvantage for Manitoba's fishermen and fish dealers. Ruthless competition had led to collusion to regulate and control a large portion of the summer fish caught on Lake Winnipeg. Manitoba fishermen were at the mercy of American markets, control of these markets by large interest groups, and American investment capital in Manitoba fish companies. Under these circumstances, the committee members concluded that the difficulties surrounding the marketing would continue to increase. Since the market was in America, control of it was beyond the scope of the Commission. But, they felt, Manitobans could take greater control over the actual production of the fish.

The committee made several recommendations in this regard. They recommended that inter-provincial co-operation be instituted to make certain that different areas of Canada did not compete against one another. They felt an open fish market should be considered for the future. Better regulations were needed to ensure both the proper conservation of resources and the quality of our product. They also recommended the organization and establishment of a permanent fishermen's association to protect the producers and safeguard the industry in general. The committee believed that the commercial fishing industry really was facing serious problems for which solutions were necessary as soon as possible. One of the solutions, they suggested, was a provincial clearing house to control marketing quotas. Their description of this institution would later be the basis of the Freshwater Fish Marketing Commission, created thirty years later.³⁰¹

Two important studies were undertaken by Manitoba Natural Resources staff in the 1930s, one to ascertain the state of the sturgeon fishery and the other to examine the state of the whitefish stocks in Lake Winnipeg. Both these studies were the result of dwindling stocks. The latter study found that the size of the mesh used was allowing immature fish to be caught before they had ever spawned, thus limiting the reproduction of the species. The projected depletion figures were five to ten times greater than the number of fry distributed by the Lake Winnipeg hatcheries during a ten-year period.³⁰² The whitefish were also facing competition from other species. Catches of "coarse fish" had increased in the nets of whitefish fishermen. These included ling, northern sucker, common sucker, tullibee, pickerel, and pike. Many fishermen believed that such fish had increased greatly during the 1930s and they were crowding out the whitefish. Certainly, it was found that younger fish were proportionately smaller in number, an indication that they were falling prey to predators, such as the tullibee. Many fishermen believed that the whitefish had migrated from the traditional fishing grounds, where gasoline powered boats were harassing them, into northern rivers such as the Nelson.³⁰³ It was recommended that the whitefishery be closed for three years, following the next season. The study also stressed the importance of enforcing the 5.25 mesh net size, and keeping a watch on the age of the catch in the ensuing season.³⁰⁴

By this time, the whitefish were no longer the most plentiful catch from Manitoba's waters. Pickerel had surpassed the whitefish as the dominant catch. Economically, Manitoba's catch, of around 20 million pounds, was worth between \$1-3 million each year. Over the first fifty years of the commercial fishery, roughly half a million tons of fish had been harvested, about 300 million fish. It was not surprising then that the fishery was facing adversity.³⁰⁵

The advent of the Second World War was an important catalyst for temporary improvement in fishermen's incomes. Problems still beset the industry and these were not addressed until 1949. Between 1949-1952, the Manitoba Federation of Agriculture and Co-operation (MFAC) studied the commercial fishing industry and concluded that many fishermen were largely indebted to the private companies but lacked understanding of co-operative techniques, which might have been used as a tool to undertake joint action to address this situation. The MFAC suggested three possible courses of action and presented these to the Commercial Fishing Commission, appointed by the Manitoba Government in 1953. These were: the continuation of the present system with minor adjustments to give the fishermen a more effective voice in marketing; the establishment of a government board; and the establishment of a co-operative, owned by the fishermen, to market their product.³⁰⁶

The Commercial Fishing Commission held meetings in fishing communities in 1953-54. The most common complaint they heard concerned the price spread between what fishermen were paid and what consumers paid for the same product. Many fishermen were wholly dependent upon the companies for the finances required to conduct fishing operations, and they believed that a strong combine still existed to keep prices low. Of all the problems put before the Commission there were few solutions. Two outcomes, however, did play a role in future solutions. The first was the adoption of the Selkirk net gauge which became the official instrument to measure net sizes, thus ending the controversy over net measurement.³⁰⁷ The second was an effort launched in 1955 by the MFAC, to educate fishermen on the value of fishing co-ops.

SEARCHING FOR SOLUTIONS, 1961-1970

By the 1960s it was evident that the commercial fishing industry in Manitoba was losing ground. While in 1945 Manitoba had produced almost 40% of the freshwater fish harvested in Canada, by 1969 this percentage had fallen to about 25%.³⁰⁸ A thorough examination of the fishing industry was undertaken yet again in 1963 when the Committee on Manitoba's Economic Future (COMEF) prepared a blueprint for the numerous changes needed to make the industry economically viable. Generally, the committee found the methods of fish harvesting very inefficient, stating: *"There are too many fishermen; their costs of production are inordinately high; the return to individual fishermen is inadequate, and coarse fish (not desirable for human consumption) are left in the lakes where they multiply, use up the available food supply, upset the biological balance and limit the potential catch of higher quality species."*³⁰⁹ The packing and processing operations were assessed as lacking a reasonably secure fish supply to allow for the establishment of modern processing facilities. The effort to secure an adequate supply of raw fish had led to competitive conditions which were detrimental to the fishermen's incomes. The traditional marketing practices were aimed at the American market, where 90-95 % of Manitoba's fish were sent, and this resulted in extreme fluctuations in prices and little profit for the processing firms or the fishermen.

The committee recommended a three-pronged attack on the beleaguered industry: *"In essence, fishing methods must be improved by introduction of new gear, equipment, and techniques to achieve greater efficiency, better quality control, and the production of coarse fish leading to higher incomes for the individual fishermen. Secondly, investment in adequate processing facilities and the elimination of inefficient duplicated collection facilities for raw fish must be achieved by allocation of fish management areas to individual processors. Finally, the marketing techniques must be improved through the creation of a central export agency."*³¹⁰ Once again, a committee had clearly enunciated the problems with the industry and outlined good solutions. Although these solutions would not be put into effect for a few years, they would become the

basis for the creation of the Freshwater Fish Marketing Corporation and its mandate. The committee was calling for the rationalization of the industry and warned that the present organization prevented “*the attainment of optimum levels of output, employment, and income.*”³¹¹

In 1969, the problems with the industry were again examined in a Report of the Commission on Targets for Economic Development (TED). The Report found that about one-third of Manitoba’s fishermen obtained one-half their income from fishing. Dependence upon fishing was highest in the northern fisheries, where 90% of the fishermen were Aboriginal. On Lake Winnipeg, only 30% of fishermen depended upon fishing for their incomes. About 40% of the yearly catch was netted by 10% of the fishermen, which explained why so many participants made less than \$1000 per year. Only ten per cent of the fishermen were earning \$5000-\$6000.³¹²

The report concluded that Manitoba’s fishermen were unable to sustain an adequate standard of living for the following reasons:

1. Too many fishermen.
2. Poor marketing procedures and low prices for fish.
3. A high ratio of poor quality fish.
4. Inadequate fishing gear and equipment.
5. Inefficient and duplicate services provided by a large number of fishing companies.³¹³

These problems had developed over a long period of time and a long history of investigations and inquiries at both the provincial and federal level had not properly addressed them. The answer seemed to be some form of government control of marketing, wherein the former competition, which existed among the large number of fish companies and the small number of fish buyers, could be removed.

In 1971, Dr. R.E. England completed an analysis of the social dimensions of the commercial fisheries on Manitoba’s three large lakes. His analysis became part of the Final Report of the Fisheries Adjustment Study (1971). The most significant finding of Dr. England was that the number of commercial fishermen had greatly decreased between 1961-69. This was basically accounted for by attrition, and not related to fishing competence. The average age level of fishermen also increased between these years, as a result of no new fishermen entering the occupation. Fishing was becoming as unattractive to the sons of fishermen as farming was to the sons of farmers. This was resulting in a fishing work force which was advancing in age, had little formal education, limited geographic mobility, lengthy association with the industry, and limited work skills to allow them to adjust to a new occupation. Many of the fishermen, like Manitoba’s farmers, had a strong attachment to their way of life, explaining that it was “*in their blood.*”³¹⁴

THE FRESHWATER FISH MARKETING CORPORATION (FFMC)

The 80-year domination of Manitoba’s commercial fisheries by American companies had gradually reduced the Lake Winnipeg fishery to chaos. Between 1945 and 1965, the average price of all landings increased by the pitiful sum of 10 cents per pound. In the mid 1960s, with seven major fish companies operating in the province, a fisherman’s average annual income, before expenses, was \$1000. Fish plants could not afford new equipment and fish stocks were at an all-time low.³¹⁵

In 1965, the fishermen begged the provincial and federal governments to intervene. The McIvor Commission was formed and, after a lengthy deliberation, recommended an overhaul of the fishing system. The Commission, led by George H. McIvor, found that the majority of the 9000 fishermen engaged in the inland commercial fishery across Canada were failing to make an income to allow for an adequate standard of living. While the Commission agreed that their annual catch of lake trout and sauger had declined over the years, landings of whitefish, perch, pike, smelt, and cisco had increased. The problem lay more in the profit realized from the sale of the fish than in the amount of the catch. The whitefish parasitic infection, called *Trienophorous crassus*, was on the increase, making marketing of Canadian fish on the American market nearly impossible. Of the 17.7 million pounds of whitefish which passed Canadian inspection, American inspectors had rejected an additional 15%.³¹⁶ This presented a considerable problem since over 95% of Canadian freshwater fish exports, or three-quarters of the total Canadian production, was exported to the United States. The domestic market remained small, partly because Canadians could readily catch their own fish, partly because saltwater fish were cheaper, and partially because the quality of fish offered on Canadian markets, (often the rejected whitefish catch), was inferior in quality. The Commission noted that American importers depended very heavily on Canadian fish, which represented 40% of the total American supply. Despite this, the *“Canadian freshwater fish industry has not taken advantage of the bargaining strength inherent in its position as the sole foreign supplier of freshwater fish to the United States market, which we control as much as 100 per cent of the major species....the potential bargaining power has been wasted, because the selling function is shared by too many individual exporters and dealers.”*³¹⁷

The Commission then concluded that the problem lay not in the supply so much as in the prices received for the catch. The Canadian export price was always low and the middlemen between the Canadian exporter and the American retailer passed on all the costs of risks and inefficiencies in the marketing system to the Canadian exporter and hence the producer. The Commission concluded: *“The Canadian industry catches, dresses, ices, packs and transports the product, yet it receives only fifty percent of the retail price.”*³¹⁸ Some blame for the low prices was attached to the producers, however. The quality of the fresh fish delivered to the Canadian exporter was not always dependable, and the producers had not taken responsibility for standardizing their product before selling it. Because the demand for fish fluctuated, the Canadian marketers frequently engaged in “distress selling” that is, selling not because market conditions warranted it, but because they needed to have working capital. The exporter did not commit himself to a price until the fish had been marketed. There was often a large spread between the price paid by the exporter-processor and the price paid to the fisherman.

The Commission concluded that, in the present situation, the western fisherman was essentially an indentured labourer for the fish companies. The western fishermen, mostly Aboriginals, lacked the training for an alternative employment. During fishing season, they either fished or remained idle. Many lived near remote lakes where there was only one buyer for their fish. Because they lacked the capital to undertake the fishing season, they were often equipped with a boat, motor, nets, etc. by the fish company. At the end of the season, the buyer would value the fishermen’s catch at less than they owed for the rental of the equipment, leaving them indebted for the next season. *“Fishermen in this situation do not negotiate a price. There is no bargaining. The fisherman’s prime concern is existing.”*³¹⁹ The only competition among the companies was confined to the terms of the outfitting policy, that is, how much the company would advance the fishermen for capital loans and equipment rental.

By 1960, a large proportion of freshwater fish were marketed in filleted form. This was the result of the widespread development of supermarkets across America. But marketing a filleted

product required a processor, and this function had been taken over by the exporter, or a paid middleman. At the same time, the processing function and its added value was removed from the role of the primary producer, the fisherman. He no longer dressed his fish or packed it for export, consequently dropping his return by as much as three cents for pound, or ten per cent.³²⁰

From its hearings, the McIvor Commission discerned that participation of Métis and Aboriginal fishermen in Manitoba's inland lakes was increasing, while the number of white fishermen was decreasing, especially in the three large southern lakes. This cultural change had significance for freshwater fish marketing. The Aboriginal fishermen were not necessarily familiar with *"the intricacies of the marketing process and therefore lack or have inadequate knowledge about marketing which impairs further their already weak bargaining position."*³²¹ They were often at the mercy of the 198 buyers the Commission identified as operating in Manitoba. The southern lakes had 114 dealers, mostly operating at fish stations, while the northern lakes had 84 people licensed to buy and sell fish. At this time, Manitoba had 3,361 fishermen who caught 29 million pounds of freshwater fish. This meant that there was *"one dealer for every 17 fishermen, and each dealer on average handled 150,000 pounds of fish."*³²² These dealers sold the catch to one of 13 firms in Manitoba which were licenced to export the fish product, each exporter averaging less than 2 million pounds per year. Since two firms handled 16-19 million pounds per year, this left marginal business for the other small exporters.³²³ All export firms operated filleting plants, although many of the smaller firms were inefficient because of out-of-date equipment, and poor cold storage facilities. As a result: *"The absence of enforced standardization in production and of quality control, and the inevitable lowering of quality which results, have undoubtedly affected adversely consumer acceptance of Canadian freshwater fish fillets."*³²⁴

The Commission concluded that: *The Canadian inland fisherman, in selling his fish, has a relatively weak bargaining position, and in most instances has no position at all except to threaten to quit. And for many inland fishermen this is an empty threat in as much as they are neither capable of having nor have alternative employment opportunities.*" Furthermore, *"fishermen in Western Canada have little or no influence in price determination, and must absorb the risks which result from the exporter's weakness in marketing and the additional costs which resulted from too many exporters and too many dealers, and from the inefficient operation of Canadian handling and processing facilities."*³²⁵ Fishermen in remote areas, the Commission concluded, were receiving only about 50-60% of the export price, or approximately one-quarter of the average price paid by the American consumer. To bring some standardization and control to the fish-marketing process, the McIvor Commission therefore, recommended the establishment of a Freshwater Fish Marketing Board under federal legislation. In 1969 the Freshwater Fish Marketing Corporation was established as the sole marketer of Canadian freshwater fish.

The Freshwater Fish Marketing Act (FFMC) gave the federal Crown agency the exclusive right to process and market the freshwater fish harvested from the Western Canadian Region in the domestic and export trade. The purpose of the FFMC was to *" a) market the fish in an orderly fashion i.e. process according to market specifications, b) maximize returns for fishermen and c) increase domestic and export trade in freshwater fish."*³²⁶ At the same time, provincial legislation was passed in all participating provinces, giving the FFMC a monopoly on the intra-provincial markets. The FFMC would therefore buy and market fish caught in the area from northwestern Ontario to the Northwest Territories. The new Crown monopoly was obliged to purchase the fishermen's catch.

The corporation's aim was to stabilize the market for freshwater fish and to rationalize the fishing industry from a marketing point of view. To keep the fish fresh for marketing, the fishermen covered them with ice immediately after catching them and delivered them to fishing stations located around the lakes. The stations were either owned by the Province or by fishermen co-operatives, where the local fishermen could share the station's profits. Agents at the stations were paid on a poundage basis to buy fish for FFMC at prices set by the FFMC. The prices were close to the anticipated market prices of the fish. The agents graded the fish according to size and quality standards set by the Corporation. Poor quality fish were not accepted. Graded fish were then boxed and packed in ice. Depending on what the Corporation directed, the fish could be moved directly to market, placed in cold storage, or filleted and stored.

At the end of the fishing season and after expenses had been deducted, the Corporation gave fishermen their final payment, which was the difference between prices paid at the station and prices for which the fish were sold on world markets. Only about 13% of the Corporation's products were consumed by the Canadian market. In the 1970s, most of the freshwater fish produced in Western Canada was exported to the United States, where Chicago was the largest single market, taking 29% of the freshwater catch. Other markets were New York (25%), Minneapolis (11.9%), Detroit (10.1%), Cleveland (4.2%) and Buffalo (2.2%). The Corporation worked hard to break into new European markets in France, Sweden and Finland.³²⁷

At its new Transcona processing plant, the FFMC started to develop new fish products and to find new markets for them. As well, the Manitoba Fisheries Training School was opened in Hnaua on Lake Winnipeg. The money to establish the training centre came from the Fund for Rural Economic Development (F.R.E.D.) and its objectives were to improve the productivity of fishermen so they could earn a more adequate income. The course was six-weeks long and was offered several times a year to 28 students at a time. There was no age limitation but preference was given to Manitoba residents, 25-40 years old. There was no tuition and only a modest boarding fee. The course topics included: management techniques; use of modern technological devices such as fish finders and depth recorders; basic biology and conservation; proper boat and motor maintenance; methods of lifting and setting nets; and the role of fishermen in the fishing industry.³²⁸

As the following chart illustrates, the number of fishermen and their incomes increased as a result of the efforts of the FFMC. Within two years, the fishermen's cheques doubled and continued to rise, although at a slower rate.

The rise in incomes led to an increase in the number of fishermen. Aboriginal and Métis fishermen were able to get loans from the federal government to obtain licences and fishing equipment and many Native fishermen were able to move from their role as paid labourers in the fishing industry to independent fishermen. In 1972, using federal government money, a Native-run fish agent of the FFMC, called the Big Black River Co-op, was established in the north basin of Lake Winnipeg. By 1974, the number of operators employed seasonally grew from 1202 in 1971 to 1841.³²⁹ Nine years later, the fishing season was extended into the fall. Between 1972 and 1983, both the number of fishermen and the number of fish caught increased dramatically.

In 1974, a task force was established to "*examine and make recommendations respecting the roles, objectives and activities of the participating provinces, the Northwest Territories, the Federal Government, and the Freshwater Fish Marketing Corporation as related to commercial*



Fisherman's school where young men were taught techniques to improve their fishing skills. (Source: Water Stewardship, Fisheries Branch Collection C10040.)

EMPLOYMENT AND AVERAGE FISHING INCOMES

YEAR	NUMBER OF OPERATORS	AVERAGE CURRENT INCOME	AVERAGE CONSTANT INCOME
1970-71	1,187	\$1,838	\$1,195
1971-72	1,437	\$1,663	\$1,018
1972-73	1,794	\$2,496	\$1,328
1973-74	1,842	\$2,737	\$1,113
AVERAGE	1,565	\$2,251	\$1,168

(Source: Employment and Incomes in the Freshwater Commercial fisheries, Department of Environment, Fisheries and Marine Service, Economics Branch, central Region, November 1974, p. 12.)

fisheries in the geographic area served by the Freshwater Fish Marketing Corporation."³³⁰ The reasons for the formation of the task force included the escalating operating costs and prices for products in the face of competition from alternative protein foods. While the FFMC had a monopoly on the purchase of fish, it did not have a monopoly in the sale of the fish products. In a competitive market, the fisherman's gross return was determined by the selling price minus the processing, handling, transporting and selling costs. The FFMC stressed that good sale prices depended on the quality of the fish, and this in turn depended upon the efficient and

timely delivery of the fish to lakeside fish-handling facilities, most of which were under the management of fish pools. Poor management at many of these lakeside pools posed a problem. The task force attributed this to the loss of leadership which, prior to the formation of the FFMC, had been supplied by the former fish companies.

The committee recommended that the fishermen and/or participating agencies be responsible for "*management of lakeside fish-handling facilities between the designated delivery points and actual fish-harvesting operations.*"³³¹ The FFMC's management responsibilities, which commenced at and included the facilities at the designated delivery points, ended with the orderly marketing of the fish.³³² Since the commercial fisheries within the jurisdiction of the FFMC were managed directly or indirectly by one federal, four provincial and one territorial government, it was recommended that communication and coordination among these agencies be improved, in order to avoid confusion and conflicting advice among the actual fishermen.

To improve the quality of the fish product, the task force recommended the establishment of grade standards for fresh, frozen or otherwise processed species marketed by FFMC. Environment Canada was to be responsible for policing the grade standards developed by FFMC managers.

To improve the fish-pricing mechanism used by the FFMC, it was recommended that the FFMC more clearly define the criteria for establishing pool accounts, initial prices, second and final payments for fishermen. Another financial problem for fishermen was the inconsistent criteria for administering credit. The FFMC was instructed to assume full and direct responsibility for providing short-term credit and for establishing uniform guidelines to help its agents to administer credit.

Beginning in 1974, a real effort was made by FFMC to develop new products to utilize the "rough" fish caught in the nets of fishermen. These were the species, such as the mullets, carp, tullibee, marias, drums and catfish, for which no real market had existed. Previously, especially in the North, fishermen dumped these accidental catches on the ground to rot, creating environmental hazards as well as wasteful conditions. In the south, fishermen were allowed to sell these by-products of their industry directly to pig and mink farmers for feed. Gradually new products, such as fish sausages, cocktail spreads, canned fish, fish sauces, and frozen breaded fillets were developed to use many of the rough fish. Other rough fish were ground into fish meal for livestock feed or use in fertilizers. The cash amount of incidental income from these by-products of the main catch represented less than \$200,000 in 1974, but has grown tremendously.³³³ Aided by the FFMC's reduction of red tape to facilitate special licensing arrangements with private developers, the role of the private sector in developing rough fish markets has increased. Fishermen are allowed to sell rough fish directly to private companies.³³⁴

In 1983-1984, the 3,708 fishermen involved in Manitoba's freshwater fishery yielded 15.9 million tonnes of fish, with a market value of \$28.2 million.³³⁵ Nevertheless, the valuable species continued to suffer great fishing pressures, while fishermen, faced with costs rising faster than returns, found themselves financially jammed by their quota limits.

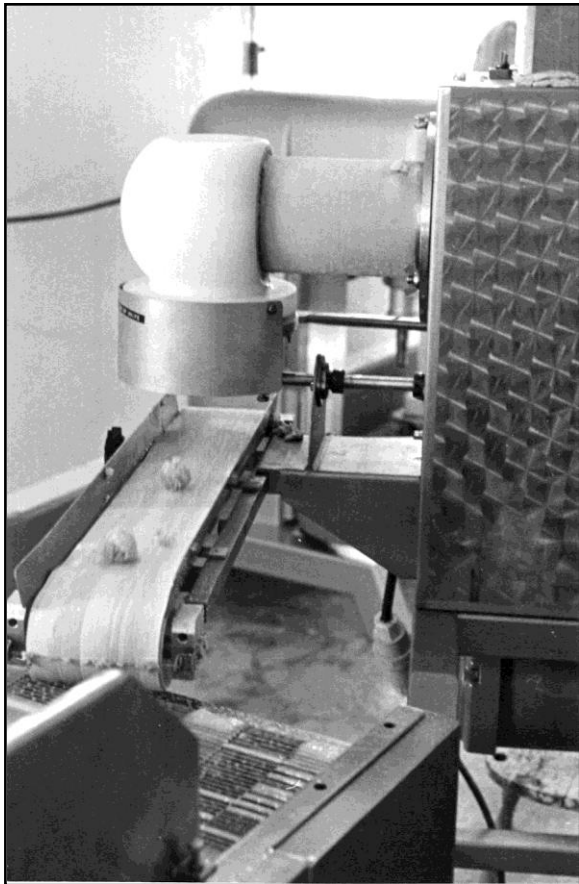
In 1985, the licencing permit system was inaugurated. It allowed fishermen to buy quotas from other fishermen in the same area, and to hold up to four quotas per year. This was intended to reduce the number of fishermen and allow the remaining fishermen to earn more money. In 1985, summer quotas allowed catches of 15,800 kg of whitefish; the fall quota allowed 3,600 kg



Rough fish being ground into new fish products at Transcona plant. (Source: Water Stewardship, Fisheries Branch Collection C149.)

of pickerel and sauger; and winter quotas allowed 4000 kg of pickerel and sauger.³³⁶ The total quota for Lake Winnipeg in 1987 was 6,800,000 kg of pickerel, sauger and whitefish. Biologist, Walter Lysack conducted a 10-year study of pickerel and sauger populations. He believed that if the latter number of fish were removed from Lake Winnipeg every year, another economic collapse, similar to that of the 1960s, was imminent. An added worry was the increasing population of the white bass which successfully competes with the pickerel and sauger for the same lake food. He expected that in *“30 to 40 years down the line, 80 percent of the fish will be bass.”*³³⁷

The FFMC faced opposition to the centralization of processing operations at the Transcona plant because it increased transportation costs and caused unemployment in northern communities. The corporation maintained that any reduction in the through-put at Transcona would increase overhead costs and reduce fishermen’s returns. While pressured to increase these returns for fishermen, the FFMC also faced the problem of having to accept all fish delivered to its plants by licensed fishermen. Often there was no market for the large quantities which then had to be frozen for preservation, thus lowering their market value. By paying the fishermen prices that reflect the costs of storing and holding products, the corporation tried to control the variable pricing on a seasonal basis. It remained up to the provincial governments to set the quota limits which would help control these production variations.



Equipment in Transcona FFMC plant to produce new fish products. (Source: Water Stewardship, Fisheries Branch Collection C146.)

A 1989 study of the effectiveness of the FFMC examined: how efficiently it was managed financially; the extent to which the corporation had met its goals; and the level of satisfaction among its clients. The study found that since the FFMC returned the majority of its earnings to the fishermen, it suffered a working capital debit, leading to a heavy reliance on debt financing. This was not due to bad financial management but rather to a management decision to maintain its goal of increasing returns for the fishermen. Efficiency with respect to assets was generating a consistently high level of profit performance.³³⁸ In terms of marketing the product, the FFMC had increased the value of payments to fishermen for species which made up 50% of the marketed volume. However, exported whitefish, lake trout, arctic char and sauger had resulted in either no increase or a decrease in final payments to the fishermen. This was due in part, the study found,

to *“a lack of coordination of the timing of the harvest of these species with periods of peak market demand.”*³³⁹ There had been, however, increasing returns for fishermen through increasing market values of specific species. The portion of sales paid to fishermen had grown in both a proportional and absolute sense over the corporation’s thirteen-year-life.³⁴⁰ The study concluded that while the corporation had increased inter-provincial trade in fish, and diversified international markets, this had been achieved by shifting volumes from the American market, and not by increasing sales in general. Increasing the volume of fish marketed would have required raising the quotas. This was the responsibility of provincial fish management officers, and not the FFMC.³⁴¹

Were fishermen better off under the central marketing board? Over one-half of the fishermen interviewed thought that the corporation’s investment in efficient processing technology and generally good command of markets had improved fishermen’s profitability. The remainder believed they had little control over what the agency did, believing that the Advisory Committee on which their colleagues were represented, did not adequately represent fishermen on issues concerning management and marketing.³⁴²

FISH HATCHERIES

In the natural breeding process, fish deposit tremendous numbers of eggs every year, the whitefish for example producing 10,000 eggs to every pound of body weight, and the pickerel, whose eggs are smaller, producing 45,000. If all these eggs reached maturity, the lakes would be overflowing. Unfortunately, from the moment they are laid, the eggs are beset by attack from

many predators, including their own parents. Consequently, rarely do more than one per cent of the eggs attain maturity.³⁴³ The idea of artificial propagation in hatcheries is to provide protection for eggs and fry and thereby increase this percentage.

The artificial propagation of fishes is of value in places where the facilities for the natural reproduction of certain species has been destroyed and is no longer accessible for natural breeding. Fish hatcheries where this artificial breeding takes place are also "*a solution where the fishing demand exceeds the productive potentialities of any body of water.*"³⁴⁴ Fish culture dates to ancient China but more recently to a French 4th Century monk. In Canada, the first fish hatchery was established near Quebec City in 1857. The Canadian Government constructed its first hatchery in Newcastle, Ontario in 1868. Faced with a decreasing stock of commercial food fish, regulators of the fishing industry decided that fish populations could be enhanced through fish hatcheries. It was successfully demonstrated that eggs of various fish species could be successfully fertilized, incubated, and hatched by thousands and millions.

Different arrangements had to be set up for hatching whitefish and pickerel. Whitefish spawn in fall which means their eggs have to be tended throughout the winter before they hatch close to the time of spring break-up. Pickerel lay their eggs in spring when the water is warming up and incubation takes only three weeks. But the fish eggs have to be laid by fish in the first place. By removing them to a hatchery rather than leaving them on a stony bed, the chances of their surviving and hatching greatly increases, because it is the young fry that are eaten by other fish.

The process for collecting and fertilizing eggs requires male and female fish to be trapped. The actual spawning process proceeds as follows: "*A female fish is grasped by the tail with one hand and the other is run gently but firmly along the body forcing the eggs out in a steady stream. One or two males are then treated in a similar manner and the male fluid, or milt, is spread over the eggs. About half a dozen fish and female and male are so treated, then a small quantity of water is added and the whole mess gently stirred to bring the spermatozoa and male fertilizing element into contact with every egg. After two to three minutes, which is the life span of a spermatozoa in water, the fertilized eggs are transferred to a larger container.*"³⁴⁵ To keep the eggs from sticking together and killing the inner eggs, the eggs are carefully stirred and placed in fresh water over a 24-hour period, by which time "*the outer egg membranes have become turgid by the absorption of water, thus forming a protective covering for the contained embryo.*"³⁴⁶

By 1930, there were 42 hatcheries spread across Canada. Manitoba's first fish hatchery, the largest in Canada, was built by the Federal Government at Selkirk in 1893, to breed whitefish. Twenty-one million eggs were collected and placed in the building. Out of these, 14.5 million were distributed in spring 1894, 11,000,000 of these to Lake Winnipeg and the Red River, two million shipped to a hatchery in New Westminster, and more planted in the lakes of the Okanagan and Qu'Appelle areas.³⁴⁷

The taking of the eggs presented much difficulty, according to Inspector of Fisheries, R. Latouche, who reported in 1895: "*On the 10th of September we went to the lake to select a place to fish and decided to set a pound net off Grand Marais. As I had been asked to keep down expenditures, I decided to try this location for another year. I left five days earlier to cut my own stakes and on the 15th, the stakes were driven for the first net. The net was old and unable to stand the heavier storms we experienced. On the 25th the fish were coming in nicely but on the 26th it blew a gale from the north west and piled the water over our nets taking out some stakes and releasing the fish. On the 30th we again lifted and found the whitefish coming in but on the 1st of October there was another heavy storm which caused us a loss again. On the 7th there*

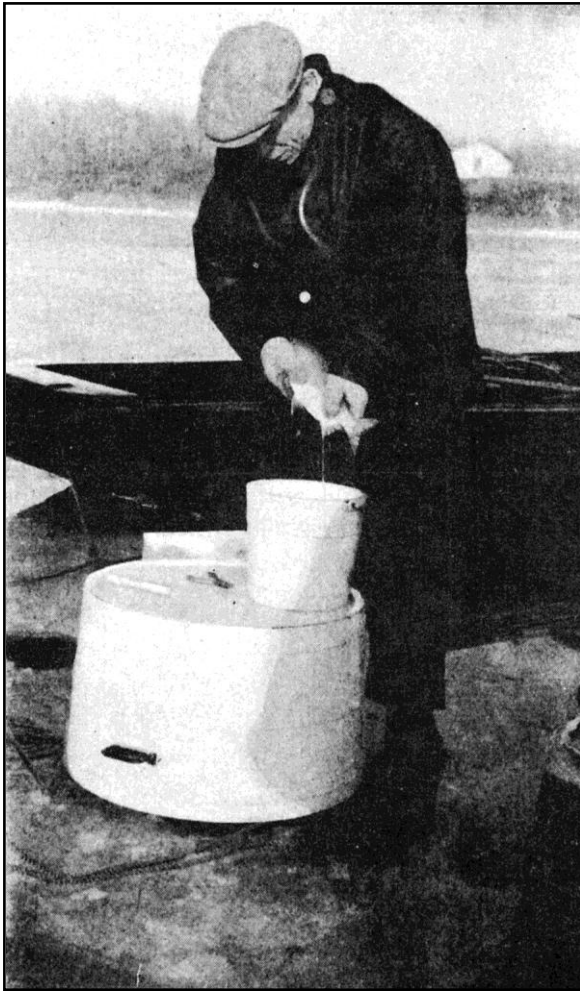
*was a gale and heavy snow. On the 8th we lifted again and got 18 ripe fish and on the 16th, 56 spawned fish. There was so much storm and our nets had been so damaged and cleaned out of fish that on the 17th we lifted again and got only 12 quarts of eggs.*³⁴⁸

Having so little success at this site, Tupper decided the crew should try Black River. Storms there caused them to try Mink Point, eight miles from Black River. *“We sent out a sailboat to Mink Point and moved our nets off the mouth of the river inland. That night the river froze over, and on the 24th we started the tug to break ice out of the river. We had suffered in the tents for four days now with insufficient clothing and wet, but there was no complaint if we could only get eggs, but we had to hurry out of the river as it was becoming too heavily coated with ice for the tug to break up, and it was plain that the fish had spawned and left shore. We had collected 4,260,000 eggs.”*³⁴⁹ The record of this first hatchery and fry distributed was recorded as 19 million in 1895. The hatchery did not function in 1896 but in 1898, 30 million eggs were taken from Lake Winnipeg. Owing to dirty river water, only nine million of these hatched in spring 1899. In 1899, 32 million whitefish eggs were obtained from Lake Winnipegosis by fishermen, in exchange for keeping their rough fish catch.³⁵⁰

In fall 1900, 32 million fry were taken from Lake Winnipegosis, where Federal Fisheries staff had a spawning operation at Whiskey Jack Harbor, from which they collected an additional 75 million eggs.³⁵¹ At Selkirk, an early freeze-up on the river destroyed most of the eggs incubating there, but the hatchery staff did manage to distribute eggs to the Qu’Appelle region and Lake Winnipeg, as well as Pelican and Killarney lakes in southwestern Manitoba. In 1902 and 1903, millions of whitefish eggs were brought from the Detroit River, Ontario and taken to the Selkirk hatchery. These were all whitefish eggs because that was the species which was most needed to keep the commercial fishery lucrative. Settlers in southern Manitoba, however, had begun to make requests for pickerel fry for their lakes.³⁵²

By now, all the eggs were being collected in the northern areas of Lake Winnipeg and it seemed sensible to open a hatchery in that region. In 1906, a second whitefish hatchery was built at Berens River. The men in charge experienced incredible difficulties in trying to collect whitefish spawn during the fall season and get them to the hatchery. The freeze-up came early. Their boat and tug got caught in the ice on the Little Saskatchewan River where they were collecting whitefish for spawn. On November 13, 1906, the men gave up their expedition to Berens River, released the eggs and whitefish they had collected, put the boats on shore for winter and headed back overland with Native dog teams and horses to Selkirk. The collection for 1907 was better and both hatcheries were filled to capacity, the spawn being taken from Dauphin River, Berens River, and Pigeon Bay.³⁵³ Due to the continuing difficulty in obtaining eggs before freeze-up, this hatchery did not operate for very long.

George Bradbury, MP for Selkirk, in a speech in Parliament in 1909, charged that the hatchery at Selkirk was badly run by *“a man who knew nothing about fish culture, who had driven a dray in Selkirk for 30 years.”*³⁵⁴ In 1907, according to Bradbury, the government had spent over \$10,000 in trying to secure spawn in Lake Winnipeg, but had failed due to the manager’s lack of knowledge. Although spawn was acquired in Ontario and sent to Selkirk, the spawn died because of negligence.³⁵⁵ Bradbury requested that the hatchery, which was closed at the time, be moved to a new location, such as Big Island, at the south end of the lake. In 1909, a new whitefish hatchery was established on Snake Island on Lake Winnipegosis. The spawn was taken from the mouth of the Waterhen and Dauphin rivers. To avoid the early ice problem, the whitefish parents were transported from the Waterhen to a lagoon near the hatchery and held there until they spawned. A hatchery was also opened at Gull Harbor around 1915, replacing the Selkirk hatchery which was closed in 1914.³⁵⁶ In these hatcheries both whitefish and pickerel



A female whitefish yields her eggs to the fish hatchery worker, on ice-covered Lake Dauphin. (Source: David Hinks, *The Fishes of Manitoba*, p. 32.)

were incubated, the whitefish hatching during the winter and early spring, after 180 days, the pickerel spawning in the spring, in two to three weeks. This natural difference in hatching seasons allowed economy in the operation of the hatcheries.

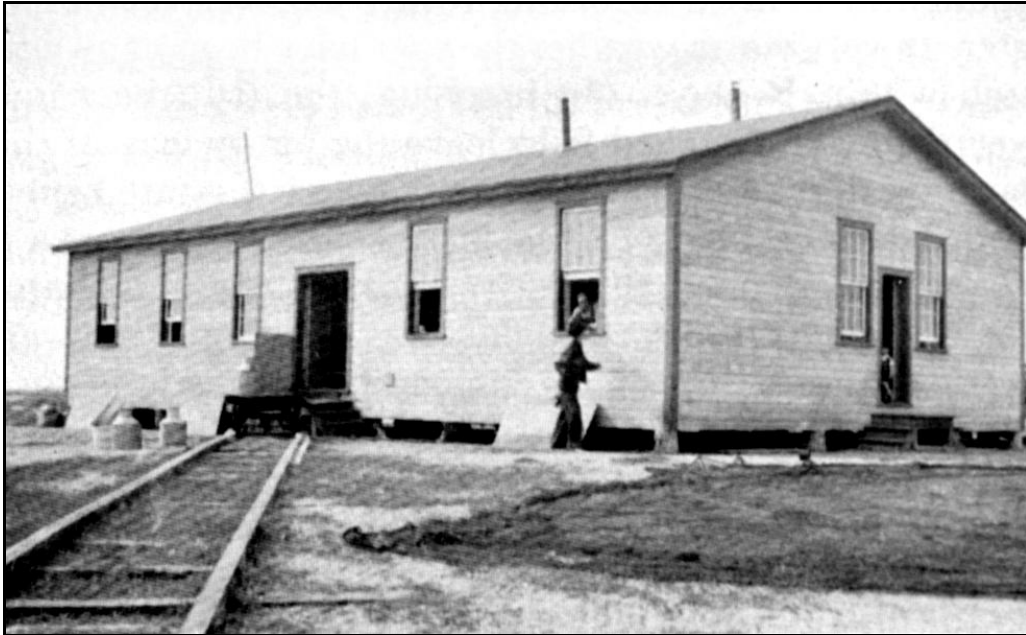
Both the Gull Harbor and Snake Island hatcheries had a capacity of 90,000,000 whitefish eggs in 1926.³⁵⁷ The Snake Island hatchery operated with fair success until 1932. It was probably closed because of the changing ecology of Lake Winnipegosis as the whitefishery was replaced by a pickerel fishery.³⁵⁸ The Gull Harbor hatchery was closed in 1935, by which time it had also been supplying pickerel fry for southern lakes. In 1929, it was decided that this function could be better filled by a hatchery in the southern region, at Swan Creek.

In 1913, using the equipment from the Berens River hatchery across the lake, a federal fish hatchery was established at the mouth of the Dauphin River, the first hatchery to be located at

the spawning grounds of species whose eggs were required. This large, well-equipped hatchery was destroyed by fire in 1924, but a fall spawning camp was established at the location to collect whitefish eggs for the Gull Harbor plant. The hatchery was rebuilt at the site in 1936. It was supplied with whitefish eggs from Dauphin River until 1945. After that, eggs were flown to the plant from Clearwater Lake north of The Pas by Manitoba Government Air Services.³⁵⁹ In 1939, a refrigeration plant was established at the hatchery. This allowed the hatchery water to be cooled to retard the hatching of the eggs until the ice had left the lake and they could be released into Dauphin River. This experiment was not too successful, and was discontinued in 1944. After that, half of the eggs were deposited as "advanced eyed eggs" on sections of Lake Winnipeg, such as Georges Island, Long Point, Poplar River, Reindeer Lake, Grand Rapids and Hecla Island. Holes were cut in the ice and measured quantities of eggs were placed in the water below.

The hatcheries had a better rate of success hatching fry than those spawned under natural conditions. In hatchery methods, 90% of eggs taken were fertilized. Of these 60-90% hatched. There seemed no good reason why their rate of survival in the lakes should be less than naturally hatched eggs. Pickerel fry were released by the thousands into prairie lakes in Manitoba from Gull Harbor hatchery. The Dauphin River and the Snake Island hatcheries produced millions of whitefish fry to be released in the big lakes.³⁶⁰ One air freighter remembered flying nine crates of whitefish eggs, each crate weighing 100 pounds, from Clearwater to Dauphin River in the mid -1950s.³⁶¹ During its final year of operation, Snake

Island was used to incubate 109,000 lake trout eggs which were planted in Clear Lake.³⁶² In 1928, the Federal Government opened the first walleye (pickerel) hatchery in Manitoba, at Swan



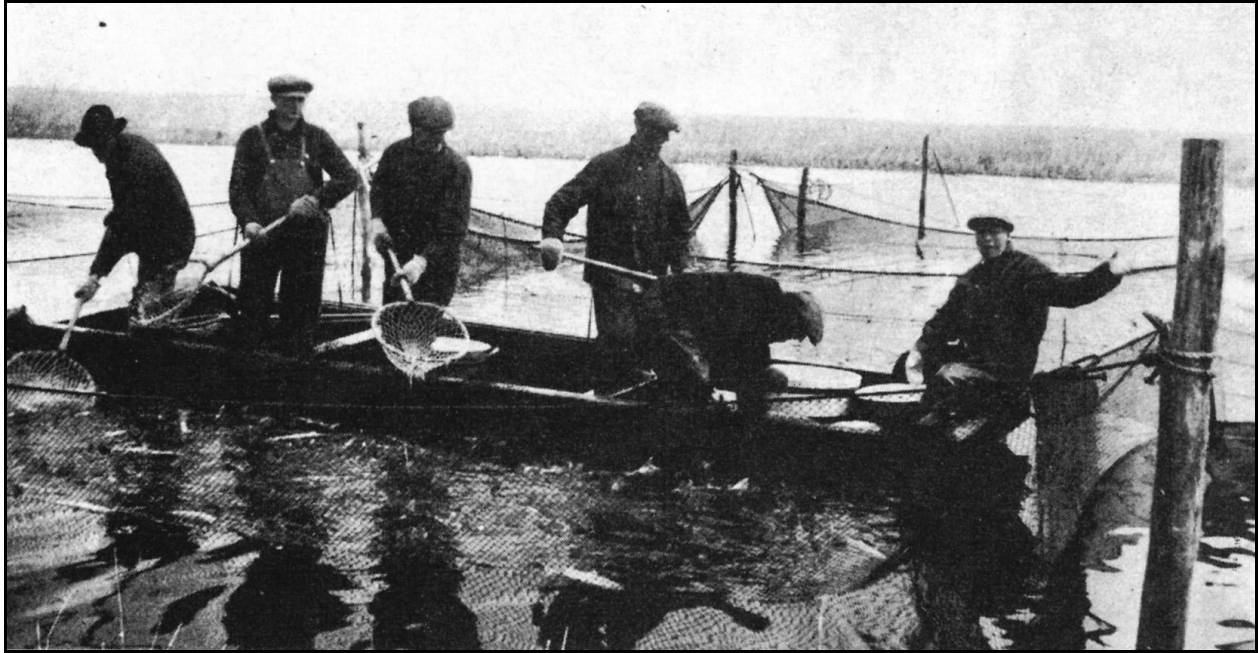
The fish hatchery at Swan Creek in 1940. (Source: Lundar and District Historical Society, *Wagons to Wings*, p. 89.)

Creek, on the east side of Lake Manitoba, southwest of Lundar. It operated from April 15 to June 15, and was very successful at raising fry. These were placed in about thirty lakes across the province, and benefited the sport-fishing industry, as well as the commercial fishing industry. Some eggs were even exported to the United States in return for other species of eggs. In 1966 this hatchery experimented with polyethylene tanks in order to keep the fry until greater maturity. This idea was abandoned after a few years.³⁶³

The first attempt at sturgeon culture was made in June 1924, at Pigeon River, by Superintendent Paulson and P. Geary of the Gull Harbor hatchery. Given the size of sturgeon, the time of year when they spawn and the method, it was a remarkable feat, accomplished by capturing eleven male and three female sturgeon and getting them to drop their eggs and sperm. The crew was able to collect and incubate enough eggs to hatch 8000 fry. The adult fish were set free with no harm done to them.³⁶⁴

After 1930 when the Provincial Government received control of its natural resources, the Provincial Government opened a walleye (pickerel) hatchery on Hatchery Island, at the mouth of the Duck and Drake rivers on Lake Winnipegosis. The goal of the hatchery was to bolster the commercial walleye production on Lake Winnipegosis. It averaged over 50 million eggs annually until 1961 when the parent fish became too small to be successful. Eggs were then brought from Toutes Aides and St. Rose. The facility burned in 1982.

Lake Manitoba had a hatchery at Ebb and Flow, built in 1936 and operated successfully for 18 years. But the site lacked good water, and good parent fish, and was subject to flooding, so operations ceased in 1954.³⁶⁵



Three thousand pike-perch ready to participate in spring spawning at Swan Creek Hatchery on Lake Manitoba. (Source: David Hinks, *The Fishes of Manitoba*, p. 66.)

A sport fish hatchery was started in 1942 on the northern end of West Hawk Lake where a dam was constructed to ensure a good supply of gravity flow water. Here, speckled, brown, rainbow, and lake trout eggs were incubated, and the fry reared to the fingerling stage. The lake trout eggs were collected at Clearwater Lake, north of The Pas, and the fry were released into water in the Whiteshell. Most of these experiments were failures, probably because there were many predacious fish in the waters. Releasing brook trout into the streams and lakes of the Duck and Porcupine mountains in the 1950s was more successful. The only streams where hatchery planted brook trout have reproduced successfully however, are North Pine River (Duck Mountains), Birch River (Porcupine Mountains), Stoney Creek (Franklin) and Beaver Creek (St. Lazare).³⁶⁶

By 1947, there were five fish hatcheries in Manitoba, four devoted to the improvement of commercially fished waters and the fifth entirely given over to the production of game and sport fish. Because the brook trout area of Manitoba was quite remote it was considered desirable to establish the species in southern waters. In 1934, the first brook trout eggs were imported from the United States, incubated at Gull Harbor hatchery, and stocked unsuccessfully as fry in West Hawk Lake in 1935. The next attempt involved 38,000 brook trout eggs from a stream at Mile 336.5 on the Hudson Bay railway. These were hatched at Dauphin River hatchery and unsuccessfully stocked as fry at Clearwater Lake, north of The Pas.³⁶⁷

Other sport-fishing species were purchased from the U.S.A. In the 1940s, an annual exchange of fish cultural products took place between the Province of Manitoba and the State of North Dakota. Manitoba supplied North Dakota with 5-10 million pickerel eggs annually. North Dakota supplied Manitoba with 4-8 million largemouth bass fingerlings each fall. This exchange resulted in Lake Minnewasta at Morden becoming a great fishing site for bass anglers.³⁶⁸

In 1945, the staff at the Whiteshell (West Hawk) hatchery expressed a desire to raise a small number of lake trout to the fingerling stage, rather than releasing them all as fry. The water for

the hatchery was piped from West Hawk Lake about one-quarter mile away. In July, the water warmed to a temperature which was lethal for fry and therefore they had to be planted in lakes while still in the fry stage. To allow the fry to be raised to fingerlings, the waters from a small spring source stream close to the hatchery were examined and pronounced a suitable source for cool water throughout the summer. Holding tanks were built at Crescent Beach, where cold water could be pumped from a depth of fifty feet, thus allowing small fingerlings to be reared during the hot summer weather. In 1954, with the use of a special distribution tank, made of planking and equipped with an aeration pump, increased the successful transfer of fingerlings into lakes. That year for the first time, fingerlings from here were planted in the lakes of the Duck Mountains. More transfer tanks were added as the hatchery began to increase the number of lakes across the province which it supplied with trout. Aircraft were also used to reach more remote lakes. In 1956, a rear building containing six concrete tanks was added, making it possible to care for fingerlings over the winter months. Each summer, rainbow, brown, lake and speckled trout were transferred from the hatchery to the outdoor pools with a very low mortality rate.³⁶⁹ Many of the Whiteshell lakes were seeded with these sport fish, although no brown trout were planted after 1962.³⁷⁰



Fisheries officers releasing fingerlings into a northern lake from an aircraft float in 1957. (Source: Gord Emberley.)

In 1966-67, the Whiteshell hatchery was expanded by installing a 3500-foot pipeline from the 45-foot level of the deep, cold West Hawk Lake. Dual piping was installed throughout the complex and the two sources of water created varying temperatures of water which allowed different varieties of trout to be raised. As well, the tanks from the Crescent Beach station were moved to the hatchery proper. The planting of yearling trout into lakes and streams in the Whiteshell area increased from 3,400 in 1956 to 225,000 in 1968.³⁷¹ In 1969, the first eggs from brood stock of both brook and rainbow trout, raised and held at the hatchery, were hatched. The hatchery continues to produce fry and fingerlings for Manitoba's sport-fishing lakes.

To obtain trout eggs for its hatcheries, the government created spawning camps across the province. In 1943, a spawning camp for lake trout eggs was established at Clearwater Lake, which operated for two months every year. About two million trout eggs were incubated at the camp until they reached the "eye up" stage and were transferred on ice to the Whiteshell

hatchery. Beginning in 1945, about 100 million whitefish eggs annually were also collected here and sent to the Dauphin River hatchery.

In 1955, the Whiteshell hatchery developed its first hybrid fish. Called a splake, it was produced by cross-breeding lake trout females with brook trout males. Eggs came from a hatchery at Banff. The fish has characteristics of both parents and can exist in warmer and shallower waters than lake trout. While the species may reproduce in the wild, its off spring may revert to either brook or lake trout. Splake was planted first in Hunt Lake, but eventually into the Whiteshell area, the Duck Mountains and into many northern lakes.³⁷²

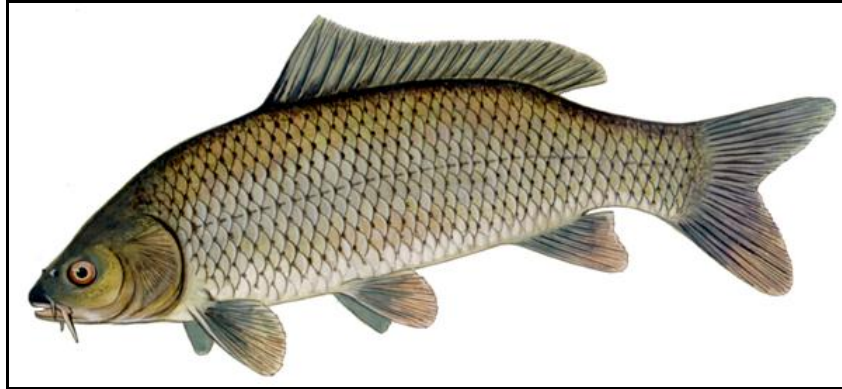
Another spawn camp, for pickerel eggs, was established on the Whitemud River on the west side of Lake Manitoba. These were also sent to the Whiteshell for incubation. Many of the eggs were traded for eggs of other fish varieties such as largemouth and smallmouth bass. In 1960, because local Game and Fish associations claimed that the collection of eggs was detrimental to angling on the Whitemud, the Whitemud camp was moved to the opposite shore of Lake Manitoba. Called the Marshy Point Pickerel Spawn camp, it supplied 20 million eggs annually to the Duck Bay hatchery. Another collection camp was located at Toutes Aides.

Lake Winnipeg has three spawning camps: Rice River, about 3 km from the river mouth, collects pickerel, as does Limestone Bay which supplies pickerel for Grand Rapids hatchery. Williams Lake, about 100 km north of Grand Rapids, is a good producer of whitefish eggs for the Grand Rapids hatchery.

SPORT FISHING

Fishing in Manitoba was already a popular sport in southern Manitoba by 1926. The Fisheries Department in its annual reports, first mentioned sport fishing in 1940-41, when it was noted that: "*The importance of sport fishing as a tourist attraction and as recreation for resident anglers is year by year becoming more apparent.*"³⁷³ In the 1940s and 1950s biological research was made on many of the lakes in the Whiteshell and Duck mountains with the idea of reclaiming them for angling purposes. In 1965 and 1966 studies led to recommendations which helped hatchery personnel raise species for these lakes. Before these fish species could be deposited in the lakes, however, the lakes had to be purged. The first fish eradication program was carried out at Camp Lake in the Whiteshell in 1951 with a chemical called rotenone. By 1968 a better chemical, called Pro Noxfish, was used because it detoxified the lake in a couple of months, after which the lake could be safely restocked. Another way of removing undesirable species was by using trap nets, which were already in use to remove carp and suckers in hatchery spawning areas.

The necessity of increasing fish culture and hatchery efforts to stock the lakes of southern Manitoba increased rapidly after the 1950s. Until 1950-51, residents did not require a licence to angle. That year the first licences, 921 in number, were issued for winter fishing on ten lakes and three rivers in the province. In 1955, a law was passed requiring all residents over 16 to purchase an annual angling licence. There were approximately 56,000 resident and 10,000 non-resident licences issued that year. By 1968 the number had grown to a total of 119,854 licenced fishermen.³⁷⁴ Of this number, 98,898 were Manitoba residents, and 22,956 were non-residents.



Carp, an invasive species in Manitoba waters. (Source: Water Stewardship, Fisheries Branch Collection EX3123.)

Annually, since 1913, millions of pickerel fry have been planted in the many southern lakes, ringed by settled country side.³⁷⁵ Commercial fishing was not allowed in the many lakes and rivers across southern Manitoba. Important sport-fishing lakes were found in the Porcupine, Duck, Riding and Turtle mountains. Prairie lakes, such as Killarney, Rock and Pelican, became week-end getaways for sport fishing. The Red River at St. Andrews Rapids, and later St. Andrews Locks, has long been a favourite site for anglers. Here, goldeye, catfish, pickerel and pike were the principal species taken. A disastrous attempt was made to introduce the catfish to other lakes.

Around 1920, after pike and pickerel stocks had been depleted in Killarney Lake, some “over enthusiastic angler” conceived of the idea of stocking the lake with channel catfish. This large, fork-tailed fish reaches 20 pounds in weight and is highly regarded as a fighter at the end of a line. For several years thousands of young catfish were taken from the Red River and shipped to Killarney. Over time, as the fish failed to mature to over a pound in weight, it became obvious that the stock was not channel catfish, but rather common bullheads, which had no value as game fish. By then, the bullheads had taken complete possession of the lake, and any attempt to restock the lake with pickerel was abortive due to the colossal population of bullheads.³⁷⁶

In 1935, an attempt to deplete the bullheads from Killarney Lake was made by netting them. After “*some four million fish were removed, without however, making any appreciable difference to the density of the population,*” it was decided to use poison to kill the bullheads.³⁷⁷ At that time, the common poison used for this purpose was copper sulfate. That would have destroyed every living thing in the lake. A new poison, called Rotenone, had been developed by American fisheries officers. This poison was contained in Derris Powder and was deemed more suitable for use in Killarney since, if mixed in the proper proportions it “*was harmless to invertebrates, aquatic plants and warm blooded animals.*”³⁷⁸ In summer 1939, Derris Powder was used as an experiment in an area of Killarney Lake known as The Bay. Within moments of its release in the water, thousands of bullheads and a few pike showed signs of distress. Three days later, the lake shore was littered with dead fish, but not very many of these, unfortunately, were bullheads. It appeared that the bullheads required a stronger dosage. Eventually the whole lake was treated and restocked with more suitable game fish. The lake however, never regained its reputation as a game fish lake.

Goldeye, although not numerous, make a surprisingly good game fish. Small in size, they are strong fighters and provide interesting sport when taken with light tackle. Various artificial flies, grasshoppers, and live insects provide satisfactory lures when goldeye rise to the surface to

feed on quiet summer evenings. As early as the 1940s, the goldeye was considered a sport fish as well as a commercial catch.³⁷⁹

The northern and eastern portions of the province are the strongholds for lake trout, considered the “gamiest” fish, as well as the speckled trout and the grayling. While the lakes in eastern Manitoba, in the area now known as the Whiteshell, were recreational angling sites for pickerel, pike and goldeye, lake trout soon became their trademark. The lake trout, prized for its size, fighting ability and gourmet quality, normally inhabits only lakes with a depth greater than 50 feet because this provides it with cold water, even in the summer months. Fish culturists started in 1932 to produce fry for stocking Manitoba’s lakes. The first 100,000 eggs came from Ontario and were hatched at Snake Island hatchery near Winnipegosis, and planted in Clear Lake and West Hawk Lake. In 1943, they were planted in the lakes in the Duck Mountains. In 1947, they were added to lakes in The Pas area. In 1944, it was decided to introduce rainbow trout to lakes in the Whiteshell. All of the plantings failed because there were too many predators in the lakes. In 1950, after the “poisoning out” of the first lake in the Whiteshell, the species was successfully introduced in that region, as well as into streams in the Duck Mountains. All lakes planted with rainbow trout have to be restocked with yearlings every year or two, since this species can only reproduce in clear, running water. In lakes with plenty of food, rainbow trout grow at a very rapid rate, a large catch being 10 lbs, 6 oz., which was caught in Williams Lake in 1963. Since the lake had only been stocked in 1958, this fish was probably only five years old. Today, with improved culturing processes, the trout are planted as yearlings.

In southern Manitoba, pickerel and wide-mouth bass were introduced as game fish. Black bass was introduced into West Hawk Lake in 1924. The lake was closed for three years to allow them to reproduce. The depth of the lakes in this region was thought to be ideal for bass procreation.³⁸⁰ Since 1985, pickerel has been the most important species for lodge operators all over Manitoba. In northern regions, where pickerel is less plentiful, northern pike have become very acceptable because of their trophy potential. Northern pike do not require the same skill level to be hooked as pickerel. For this reason less skilled anglers from outside Canada can visit a northern lodge and return home with a trophy fish. The pike’s aggressiveness, fighting qualities, and sheer size all combine to give most visiting anglers the thrill they were expecting.

Another sport-fishing species, available in the Nelson River and its tributaries as far south as Kettle Rapids, is the speckled trout. This species needs cold water to breed and survive. Undisturbed breeding conditions exist only on the smaller streams and creeks, at elevations far removed from the ice hazards of the main Nelson River. The stock of large trout in the Nelson River is maintained by recruits of young fish from the nursery creeks, so it is important to keep the mouths of these creeks open at spawning time. Because the waters of the Nelson River are too turbid for fishing, the speckled trout are not readily taken by anglers in the Nelson itself. But in the smaller streams, the trout readily respond to fly fishermen, displaying a vivacity and strength which will satisfy the most exacting angler.

There are two categories of game fishermen in Manitoba. About 80% are resident anglers who live in Manitoba or other parts of Canada. The other 20% are non-residents, mostly American, who use commercial facilities such as sport-fishing lodges, thus providing a burgeoning service industry. These two categories can be divided into occasional anglers who seek escape from work, and fish infrequently. These anglers are pleased if they catch any size or species. The generalist anglers are novice fishermen who become more skilled and then become more interested in reaching their “creel” limit. They support liberal limits for catches, supported by fish stocking. The specialist fishermen are skilful anglers who emphasize angling ability, fish frequently and want the conservation officers to assure a reserve of trophy-sized fish of their



An angler with a 45 lb Northern Pike. (Source: Water Stewardship, Fisheries Branch Collection A80.)

target species. They support restrictive regulations and the idea of catch and release.³⁸¹ Resident anglers under 16, and over 65, do not require a licence for sport fishing. The cost of licences for non-resident anglers has increased substantially over the years to provide an economic base for protecting the resource and policing the sport.

Market potential for sport fishing has indicated a growing market for lodge facilities in the industry, an increase of over 20% between 1980 and 2000.³⁸² The industry has developed into a multi-dimensional activity which encompasses biological, socio-economic and political areas of interest and concern. As revenues from recreational fishing increase, economic contributions of the industry to the province will be closely linked to investment. Between 1975 and 1985, total expenditures by licensed anglers in Manitoba increased from \$193 million to \$283 million, thus contributing considerable revenue to the provincial economy.³⁸³

Since 1967 there has been a marked shift to angling in northern lakes and therefore there has been an increase in lodge facilities in this region. The rate of angling success is perceived to be higher in northern lakes, and better roads have increased the accessibility of many of these lakes. The market growth is therefore predominantly in northern Manitoba.



Two fishermen enjoying themselves fishing on a Manitoba lake. (Source: Manitoba Tourism.)

The Manitoba Fisheries Branch began to track statistics for sport fishing in the 1970s. In the 10-year period from 1973-82, they were able to discern a 2% increase per year in angling licences. In that period the number of resident licence holders jumped from 130,000 to 164,000, while non-resident holders increased from 30,000-40,000 between 1973-1976. The latter dropped substantially in 1982 to 32,000 because there was a substantial increase in non-residents' licence fees, as well as a downturn in the economy.³⁸⁴ By this time, it was already evident that the number of sport fishermen would continue to increase and the amount of money they spent on the sport would grow to be a significant contribution to Manitoba's economy. As well, there was a visible trend by anglers to release a greater portion of their catch.³⁸⁵ In the 1980s the greatest amount of angling was still centered in southern Manitoba, but the forecast pointed towards higher quality and trophy-fishing potential in northern Manitoba. It was important then that drive and fly-in lodges in the North promote the region as a wilderness experience and as an opportunity to catch trophy fish. The government was prepared to designate certain lakes as lodge lakes, and, in return, the lodges were expected to implement a policy of one trophy fish per angler and to reduce catch limits on lodge and out-camp lakes.

In recent years, the trend has been to encourage sport fishermen to release their catch, rather than taking it home with them for future consumption. The following chart illustrates developing trends in the sport-fishing industry.



View of Thunderbird Lodge in northern Manitoba. (Source: Water Stewardship, Fisheries Branch Collection EN490.)

SPORT FISHING TRENDS

	1975	1980	1985
Number of Licensed Anglers	178,909	195,800	187,172
Angling Effort (Days x Millions)	2.5	2.9	2.7
Fish Caught (no. x millions)	8.4	10.7	9.6
Fish Kept (no. x million)	4.9	5.6	4.3
Percentage Released	42%	48%	55%

Source: DFO "Sport Fishing in Manitoba" Survey Forms from 1975-1985 quoted in "An Assessment of the Attitudes and Perceptions of Northern Manitoba Sport-Fishing Lodge Operations" by John Cowan, M.A. Thesis, University of Manitoba, 1992, p. 8.)

Resident and non-resident anglers appear to be placing increasing emphasis on the purely recreational aspects of the sport, as efforts are made to lower resource consumption. For recreational fishing, Manitoba has been divided into three divisions, Northern (Three), Northwestern (Two), and Southern (One). In Divisions One and Two, management policies are aimed at maintaining angling quality and diversity and enhancing lodge/fly-in facilities, placing emphasis on marketing the opportunity for quality trophy fish. In some of the northern lakes, these aims are at odds with the existing commercial fishery. Provincial governments in the Western region had definite policies which favoured recreational fisheries, based on the

accepted idea that the sport fisheries generated more income for communities. Recreational fishermen purchased equipment, supplies, food, and lodging which could run to a substantial amount of money. In 1985, anglers' expenses in Manitoba were estimated to be worth \$83.9 million.³⁸⁶ A Senate Committee in 1986 recommended that efforts be made to insure that the incomes of commercial fishermen not be effected by decisions concerning the sport fishery. Commercial fishermen often complain that commercial fisheries are closed for the benefit of sport fishermen.

The Fisheries Department was encouraged to undertake stock enhancement programs to increase quantities of the highly valued species, and to allow northern commercial fishermen to take sport-fishing species as well.³⁸⁷ Efforts have been made to restock the lakes as much as possible, to maintain adequate stocks for both types of fishing. More importantly, the harvesting of under-utilized species by the commercial fishermen has been encouraged. Steps have been taken on some large lakes, which support both sport and commercial fisheries, to limit net fishing either to certain areas of the lake or to the winter season, when lodge operations are closed. In some areas, commercial fishermen are restricted to harvesting species such as whitefish while game fish, such as sauger, pickerel, pike and perch, are reserved for sport fishermen. This has led to a decrease in the incomes of commercial fishermen.

As a way to track the importance of sport fishing and to help manage the resource, the federal Department of Fisheries has undertaken a national survey of sport fishing every five years since 1975. In 1985, there were 187,172 licensed adult anglers (excluding seniors who fished free) in Manitoba, 78% of who were residents. In 2000, there were 174,765 licensed anglers (excluding 8,534 senior licensed anglers), of whom 77% were Manitobans. In 1990, anglers fished for 2.36 million days, for an average of 14 days per angler. They caught 11.6 million fish, and released 72% of these, retaining 3.2 million fish. There were two types of licences available, regular and conservation, the latter allowing a lower limit to the catch. In 2000, anglers spent 2.71 million days fishing and caught 14 million fish, retaining 3.1 million. The release rate was 77%, an increase since 1985. The chief species caught were walleye, pike and perch, with walleye being the chief catch retained.³⁸⁸

Fishing lodges, of which there were at least 106 in 1983, have come to realize the importance of protecting the fishery resource, from which they make their living. In an attempt to gear the level of development and investment to the size and value of the resource, the Manitoba Government applied lake capacity guidelines for commercial sport fisheries development. Lodge operators were given some security of access to the resource but they were expected to meet performance standards in terms of occupancy, employment and local benefits. The Department restricted cottage development on lakes where the resource base was too small for commercial development, these being lakes of 200 ha. and 600 ha. in size in eastern and northern Manitoba respectively. Neither is commercial development allowed on remote lakes below the specified minimum size.³⁸⁹

Fishing lodges and other tourist establishments are considered commercial users. Therefore major requirements for the allotment of resources to such establishments include employment and economical benefits for the entire province. *"The former image of lodge operations as tax write-offs or private holiday resorts for rich Americans are no longer valid and few such operations exist. The current trend is toward owner-operator businesses which perform well with respect to allocation criteria and typically exhibit high occupancy and return rate of guest, sustained employment and good relations with local communities and good resource management policies."*³⁹⁰ In northern regions, where the viability of commercial net fishing on

remote lakes has declined, it is the commercial sport-fishing industry which can now provide employment for the local people.

Figures gathered from the federal five-year surveys showed the economic benefits to the Manitoba economy from the sport-fishing industry. In 2000, excluding residents over 65, anglers spent \$117 million, almost double the \$85.4 million spent in 1985. The surveys confirmed that sport fishing had become a significant form of outdoor recreation and an important socio-economic component of the natural resource sector in the province.

An outfitting industry has developed around the recreational fishery. In 1989, Manitoba recorded \$21.6 million in angling-related packages, of which \$16.4 million consisted of angling packages. The outfitting sector is dependent on American tourists, although the number of European clients is constantly increasing.³⁹¹ It was estimated that the number of lodge facilities increased by 20% between 1980-2000, with the greatest growth being in northern Manitoba.³⁹² Such increases have led to a need for a management plan for the fishery resource. It is important to protect the waters in which the resource resides, as well as the fish supply. It is also important to manage the people involved in providing the services to foreign anglers.

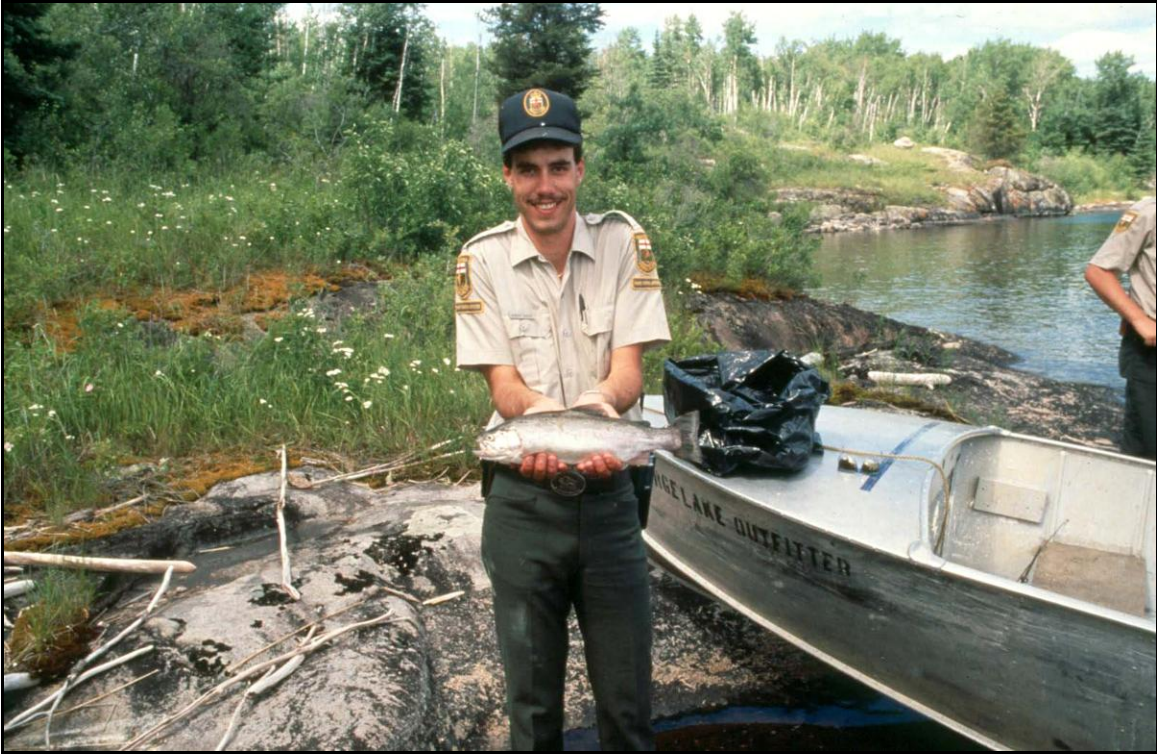


An angler enjoying a day on one of Manitoba's many waterways. (Source: HRB.)

To manage the outfitting industry, the Department of Natural Resources divided Manitoba into three regions. The southern region runs as far north as Grand Rapids and includes the Whiteshell, Nopiming, Riding and Duck Mountain regions. Division 2 includes the region from Grand Rapids as far north as South Indian Lake and Division 3 includes the remaining northern region of the province, as well as an eastern area as far south as Bloodvein River. Division 2 has major centres such as Thompson, Flin Flon and The Pas within it and road access is possible, although likely charter flights deliver fishermen to their destinations. Division 3 has little or no road access and float planes are the general mode of transporting anglers to the area. Management strategies for each division are similar, in that they seek to conserve the fishery resource base.



Fishermen arriving on a float plane to spend time at a wilderness fish camp. (Source: Water Stewardship, Fisheries Branch Collection A246.)



A Fisheries Officer checks the size of a fisherman's catch to make sure he has not kept breeding stock. (Source: Water Stewardship, Fisheries Branch Collection A1594.)

Manitoba leads other provinces in offering established resort operators assurance of tenure and protection against encroachment by new resource users.³⁹³ This is done through the licencing system, which gives priority first to subsistence fishing, then resident angling, and thirdly commercial users, which include outfitters and lodge operators. The needs of the first two categories are small in comparison to those of the commercial category. Existing commercial users who had prior access to the resource base are recognized as having some form of tenure. In return for continued resource allocation, commercial users must meet specific performance standards. Even with the development of tenure, situations arise where a tiered multiple-use approach is applied to allow for a more beneficial use of the resource. It does not work in all situations, however, and conflicts do arise. These are resolved by developing specific lake plans in consultation with each user group.

Annual licensing of commercial users depends on their meeting prescribed standards and criteria. To oversee the issuance or suspension of licences to operate sport-fishing facilities, a Licensing Advisory Committee (L.A.C.) was established in 1984, with representation from six different branches of government. It is intent on insuring that all tourism developments are consistent with interdepartmental policies, regulations, and agreements. Under the L.A.C.'s general guidelines, lodge operators must be financially viable, compatible with, and not excessively intrusive upon, the carrying capacity of the resource base. Priority is given to Native northern Manitobans, Manitobans, other Canadians, and lastly, foreigners. Capital investment and employment generated may modify these priority criteria.



View of North Country Lodge in northern Manitoba. (Source: Water Stewardship, Fisheries Branch Collection EN511.)

Where conditions permit lodge development, the rule is one lodge per body of water or water system, but the operator is encouraged to expand to the maximum potential of the resource base, which may include out camps on lakes in close proximity to the original lodge. Only Aboriginals, however, may establish more than one out camp per water system. The resource tenure is for one year but may be extended. Minimal use or non-use of the resource base for two years will lead to cancellation of the licence.

Over the years, the regulations placed on sport fishermen licences have reduced daily catches, reduced maximum retained-fish limits, and introduced retained-fish slot sizes. The latter regulation limits the capture of breeding fish. Another important regulation was the banning of barbed fish hooks. This made “catch and release” more feasible. The fish could now be released without significant damage which previously might have resulted in its death. Anglers who catch trophy fish are encouraged to release the fish, after making application to the Master Angler Program, and to purchase a replica mount to take home with them. Operators and the Tourism Branch together have successfully marketed Manitoba as a “wilderness-angling experience”, rather than a place to catch fish to fill freezers, a concept that was prevalent in the 1970s among American fishermen visiting Manitoba.

Most of these lodges offer additional services which include all or some of the following: dining, cocktail lounges, beer vending, conventions, saunas, stores, beaches, canoes, motors, guides, fish processing, tackle and bait, licences, charter flights. All these facilities provide extra employment opportunities as well as income for the lodge. A newly established five-star lodge with most of these facilities, 32 beds and a private airstrip was estimated to cost \$1.2 million in 1997.³⁹⁴

BED CAPACITY OF MAIN LODGES AND OUTCAMPS

	1981	1988	%Change
Northern Region			
Main Lodge	1,318	1,743	32.2%
Out camp	208	298	43.3%
Total	1,526	2,041	33.7%
East of Lake Winnipeg			
Main Lodge	294	330	+12.2%
Out camp	94	116	+23.4%
Total	388	446	+14.9%

Source: Manitoba Department of Natural resources Update of Economic Survey Data, 1988

STATE OF THE FISHERY IN 21ST CENTURY

The creation of the FFMC has had a tremendous effect on the fishing industry in Manitoba. In 2002, in addition to the three major water bodies, there were 295 lakes being commercially fished. The total quota for commercially fished lakes was 13 million kgs but a significant amount of non-quota species were also harvested. Most lakes had their allotted quotas set years ago, based on traditional harvests, and adjusted by maximum sustainable yield estimates. Even northern lakes have quotas and a set number of fishermen are licensed. Generally, local

fishermen's associations recommend to the Manitoba Conservation fishery managers which individuals should be given vacant licences. On lakes Winnipeg and Winnipegosis, the individual quota entitlements may be bought and sold, but a potential buyer must meet certain criteria such as experience and residency. In order to use the access rights they have purchased, fishermen must still be licensed, with individual quotas specified on the licence.

Fishing seasons are categorized as open water or winter. Lake Winnipeg has two open water seasons: fall and summer. Opening dates and closing dates are set to avoid spawning seasons, and in winter, to avoid unsafe ice conditions. Not all lakes are fished every year, depending upon conditions such as ice breakup, freeze up, water levels, fish prices, transportation costs, market demand. Some lakes are absent from the harvest schedule for longer periods, or permanently, due to remoteness, mercury contamination, disease infestation, domestic or sport-fishing purposes, or small size.

In the decade between 1992-2002, Manitoba's fisheries have produced an average of 12 million kg of fish annually, 27 % of this being pickerel, which is considered to be the most valuable species in our lakes. That annual catch alone averages \$14.6 million or 57% of the value of the total catch.³⁹⁵ Compare this with the annual catch of 12.5 ml kg in 1929, and the fishery does not appear to have diminished. Neither has the proportional value per species. Pickerel, tullibee, pike and whitefish, in that order, represented the main species taken in 1929. Importation of tullibee to the United States was forbidden in 1931 due to parasite infestations in Manitoba's fish, closing the demand for that species. Today, the proportion of the harvest per species ranks pickerel at 57%, sauger at 16%, and pike and perch at 5% each.³⁹⁶

Lake Winnipeg still represents the largest commercial fishery, with 40 % of the provincial's production; 85% of this harvest coming from open water season. Northern lakes are primarily summer harvests, but this fishery has grown greatly in importance, now representing 24% of total production. Since the 1920s, Lake Manitoba has only had a winter harvest season, although carp and sucker (mullet) can be taken in summer. The market for these fish, however, is limited. Lake Winnipegosis is commercially fished during both summer and winter, although the summer fishery of pickerel has been closed on occasion (1986-88) due to low numbers of pickerel. The main production on this lake is 84% mullet. This species represents 23.7 % of Manitoba's total production and the FFMC has discovered new ways to market this species. Pickerel production on Lake Winnipegosis remains around 6-7%, either season, and this has led to a reduction in the number of fishermen on that lake.³⁹⁷

The importance of the commercial fishery to Manitoba's economy can not be overstated. The industry yields \$30 million worth of products which are mostly marketed outside Manitoba. An average of 3,222 licensed fishermen and hired helpers have been employed annually in the province. Over 30% of these are employed on Lake Winnipeg. The average annual income per fisherman is \$7,926, although on Lake Winnipeg it runs as high as \$14,654. While most fishermen, especially on lakes Winnipegosis and Manitoba, rely on fishing to supplement their incomes, in the north, fishing may represent the only economic opportunity for Aboriginals. There, individual income for the 718 fishermen and hired hands averages \$6,894. While this is well above the average individual employment incomes of \$4,917 for people living in northern First Nations communities, it is well below the poverty level for the rest of the province.³⁹⁸

Although the FFMC has had exclusive rights to inter-provincial and export trade in freshwater fish products from Northern Ontario, Manitoba, Saskatchewan, Alberta and North West Territories since 1969, today, fishermen may sell fish outside the FFMC directly to final consumers. They may also have a representative sell fish on their behalf, as long as this has

been authorized in writing by the Director of Fisheries. Manitoba allows representatives to sell directly to final consumers as a way to market underutilized species. Special licences are also given to legalize sales in local markets and markets outside Manitoba where FFMC sales will not be jeopardized. The number of these Special Dealer Licences has increased in recent years, as have the number of Export Dealer Licences, which were first introduced in 2002. Some northern communities, such as Island Lake, have been allowed to market their fish outside the FFMC for a trial period. This situation is the result of northern communities complaining that shipping their harvests to the main FFMC Transcona plant for processing is not as economical as processing in local communities for regional sales.³⁹⁹ Island Lake fishermen usually fly their fish directly to Winnipeg for distribution.

In 2002, a new body representing Manitoba Fishermen was formed. Called the Manitoba Inland Commercial Fishers Federation, it was launched in October 2005 by several hundred fishermen who were unhappy with the way the FFMC runs the industry. The organization would like to see the FFMC provide more local jobs in communities and it would like an elected board of directors to govern the marketing board. Although the organization has a long way to go before it includes all of Manitoba's fishermen, it wants to see better conditions for fishermen who live more than 200 miles from the Transcona processing plant. Most of these fishermen are Aboriginal and they have to pay transportation costs to move their fish there. They often *"catch millions of pounds of whitefish, northern pike, trout and mullets but are forced to throw this high protein fish to waste because it costs more money to transport than what the FFMC will pay."*⁴⁰⁰

Packing stations are located at 30 points across Manitoba during the summer and 29 stations in the winter. (See map, p. 135) From these stations, fish are flown, trucked or sent by train to Winnipeg. On Lake Winnipeg, a fish boat operated by FFMC, stops at many of the 14 collection points on the lake and delivers the fish to Matheson Island from where it is trucked to Transcona. In winter, the fish are transported by snow machines or bombardiers to the nearest point with road connections. On lakes Winnipegosis and Manitoba the fish are shipped by snow machines in winter or boats in summer to the nearest packing points and then trucked to Transcona. Since 1976, certain lakes have been eligible under Manitoba's Northern Fishermen's Freight Assistance Program (NFFA) for transportation subsidies to assist marginally viable commercial operations. Total NFFA Program expenditures were set in 2001 at \$410,000. An extra 7cents/kg on suckers was added to the program by Manitoba Conservation as a way to make use of this abundant species in northern lakes.⁴⁰¹ This subsidy program does not represent the true costs of transporting the fish, but the actual costs for northern fishermen are estimated and reflected in the fish prices paid to the fishermen.

Two big issues are facing the commercial fishing industry in this century. The biggest concern is the role of Native people in fishery resource allocation. A major investigation of Manitoba's commercial fishery concluded that: *"Recent Supreme Court decisions have provided native people with a strong basis for pursuing a transfer of management authority over the fisheries from Federal and Provincial Governments to Native people and organizations."*⁴⁰² As this occurs over the next decades, Native people will, at the very least, receive specific allocations of the resource for domestic purposes, but will likely also receive control over where this allocation would be and how it should be used. The potential implications for the commercial fishery of these developing conditions are far ranging, from conditions for harvesting, marketing practices, processing locations, and management expertise. In order for Native people to assume this power, some management training will need to be provided. While it is important for licensed users of the fishery to understand and respect the constitutionally protected rights of the Aboriginals, it is equally important for First Nations people to respect the value that other users



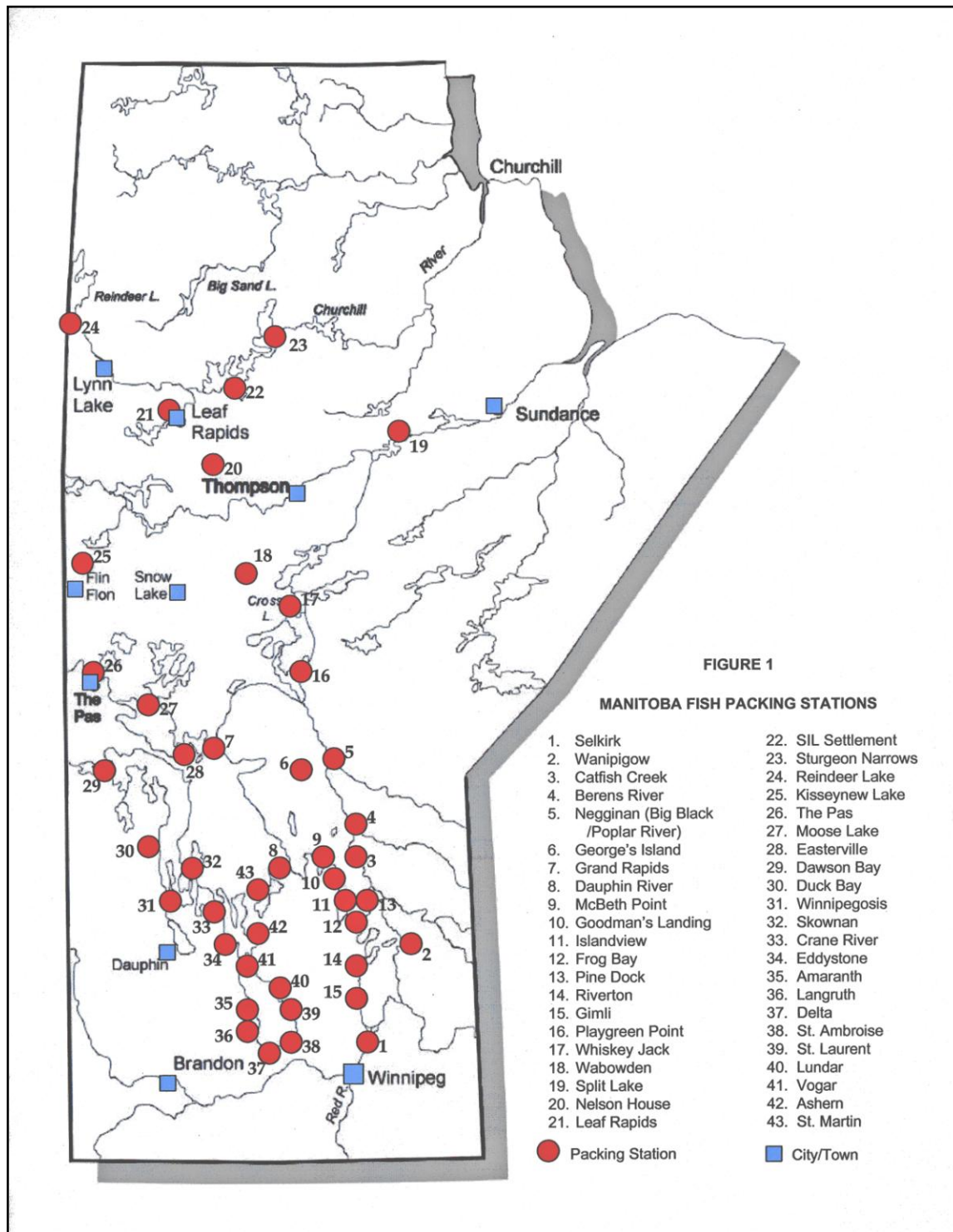
A modern boat, more often used by fishermen today. (Source: Water Stewardship, Fisheries Branch Collection EX21.)

place on natural resources, and respect their rights as licence holders to participate in the use of the natural resource.

The second big issue is the public image of the commercial fishery, a relatively new concern which only surfaced in the 1990s. While many Manitobans remain unaware of the existence of the commercial fishery, environmentalists have begun to direct criticism towards what they see as the destruction of the natural resources of the province. This group, unfortunately, were not visible during the destruction of the whitefishery in the industry's early years but they are determined now to make their voices heard. Along with these voices of concern, are the anglers who see the sport fishery as a much more environmentally friendly and more lucrative use of the fishery resource.



The days of frozen fish heaped in sleds and dumped into small airplanes has passed, as the fishing industry goes high-tech in the 21st century. Here, the pilot's children stand beside their father's plane as it is being loaded for take-off from Pukatawagan in 1955. (Source: Gord Emberley.)



Packing stations in Manitoba in 2006. Note the smaller number in the North, in spite of the high percentage of fish taken out of that region. (Source: Water Stewardship, Fisheries Branch., "A Profile of Manitoba's Commercial Fishery", 2006.)

CONCLUSIONS

Manitoba has been blessed with large bodies of water which support numerous species of fish. For almost 120 years these waters have supplied fishermen with surplus product to market. Shortly after the establishment of Manitoba as a province, companies from Ontario and the United States arrived to take control of marketing the lucrative whitefish supply in Manitoba's major lakes. The Aboriginal people soon found themselves reduced to a labour force for harvesting a resource they had always considered theirs, according to the treaties they had signed with the Crown. As long as the supply of fish was plentiful, fishermen were able to make a living but once the seemingly inexhaustible supply began to dwindle, their incomes dropped to near poverty levels. This was mainly attributable to the low prices paid to the producers by American fish companies who controlled the very important American market. Not until 1969, and the establishment of the Freshwater Fish Marketing Corporation did wages for fishermen begin to reflect the amount of labour required to harvest the resources. By then, the whitefishery was depleted, but other species still provided a reasonable return.

Manitoba's commercial fishery remains an important provider of employment in northern and Interlake communities. In the north, especially, commercial fishing is critical to the economies of Aboriginal communities. In addition to the direct income of \$30 million paid annually to the fishermen, Manitoba also benefits from the annual sales of the FFMC of over \$60 million in value-added processed fish products.⁴⁰³ Manitoba's fishing industry includes more than 3,200 commercially licenced fishermen, many of whom have more than 50 years experience. This distinction will be annually honoured in a program established in 2007 by the Manitoba Commercial Inland Fishers Federation (MCIFF).

In spite of predictions of the early 20th century to the contrary, Manitoba's commercial fishery has endured, albeit in a different form and dependent on different species. Although the whitefish and sturgeon stocks of the 19th century suffered severe setbacks, fish culture practices have helped these species make a limited recovery. Fish culture today plays an important part in maintaining fish populations throughout the province. With the reduction of whitefish and sturgeon stocks, on which Manitoba's commercial fishery was originally based, pickerel has become the fishery "darling", a product from our lakes which favourably compares with specialty fish on the global market.

Land use and resource rationalization have contributed greatly over the past century to the degradation of fish habitat. This in turn has had an effect on fish populations and harvest levels. Such problems have been most severe in southern areas of the province where land clearing, drainage, increased sedimentation and intensive farming practices have altered the hydrologic regime and reduced the volume of water in many lakes. In northern areas, hydro-electric projects have affected water levels and fish habitat. Logging and mining activities have had an impact on the fisheries in the parkland belt. Activities which involve water management and liquid waste disposal pose the greatest number of problems and in some cases the most difficult and costly to the management of fish resources. Increased human populations and contingent development may result in further diminution of the fisheries. The most noticeable ecological changes have taken place on Lake Winnipeg which is Manitoba's largest fishery. Most experts agree that Lake Winnipeg is under siege and drastic action must be taken to restore its health.

Rationalization has greatly reduced the number of fishermen involved in the fishery since its early days but they now earn a much better wage than their predecessors. The FFMC has proven to be a much fairer marketer of the fishery's products than the American companies who controlled the market place for nearly a hundred years. Although most fishermen support the

FFMC, at least in principle, there are some problems with the way the system works. Fishermen feel that their participation on the Commission's board is essential to affect good policy decisions.

A major issue facing the fishery today is the conflict between the rights of non-Native fishermen versus the Treaty rights of Native fishermen. Many Icelandic fishermen feel strongly that they too were given rights when their ancestors settled along the shores of Lake Winnipeg in 1874. The use of the fishery by Natives during the closed season, which they interpret as their right, and which the Canadian courts tend to support, is viewed by many fishermen and conservationists as a direct contradiction of the goals of sustainable management of the fishery resource.

Today, Manitoba benefits from a second "commercial" fishery, as thousands of anglers fly into northern lakes to stay at lodges for a week of catching and releasing game fish, returning to their homes in foreign countries and other provinces with photos to prove the big one never "got away." This developing sport fishery may prove to be more lucrative than the whitefishery on Lake Winnipeg which sparked Manitoba's commercial fishery 125 years ago. However, anglers pursue the same species as the commercial fishermen. Consequently, as the sport-fishing industry grows, direct and increasing competition between the two user groups for a limited or finite resource may be anticipated. For now, resource depletion and commercial/recreational conflicts can be circumvented by judicial allocation of the resource. However, "*if the relative economic values of commercial and recreational fishing without access limitations are considered, optimal regulation (i.e. allocation) may require...the prohibition of one type of fishing.*"⁴⁰⁴ In most cases, then, the recreational fishery would prevail because of its greater economic return. This raises the possibility that sometime in the future Manitoba's commercial fishery may come to an end.

Fishing remains a hard life, although shorter seasons and better technology have tempered it somewhat. The men who brave the storms on Lake Winnipeg and the frigid temperatures of winter ice fishing remain a hardy lot who have fishing in their veins and can not picture a life away from the water.

APPENDICES

APPENDIX 1

RELATION OF MANITOBA FISHERIES TO AMERICAN INLAND FISHERIES 1924

Manitoba	\$1,232,563
Minnesota	230,425
Lake Superior	484, 273
Lake Michigan	1,932,836
Wisconsin	285,836
Nebraska	15,477
Illinois River	617,254
Mississippi River & Tributaries	4,503,521
Mississippi River	1,410,521

Source: Prepared by Natural Resources Intelligence Service Department of Interior, as quoted in Skaptason, p. 21.

APPENDIX 2

COMMERCIAL CATCHES 1924

	<u>ALL CANADA</u>		<u>PROVINCE OF MANITOBA</u>	
	<u>Pounds</u>	<u>Value</u>	<u>Pounds</u>	<u>Value</u>
CATFISH	643,700 lbs	\$69,529	139,000 lbs	\$15,559
GOLDEYES				
FRESH	458,700	\$18,173	452,300	\$17,405
SMOKED	100,500	\$18,890	100,500	\$18,090
MULLETS	1,366,400	\$32,050	981,200	\$15,992
PERCH	2,806,400	\$172,487	217,000	\$15,677
PICKEREL	13,121,100	\$1,178,321	6,248,600	\$528,426
PIKE	5,399,500	\$230,261	3,031,400	\$104,973
STURGEON	685,900	228,300	235,900	\$118,028
CAVIAR	9,783	\$13,436	3,980	\$4,223
TROUT	7,563,100	\$972,022	23,700	\$2,370
TULLIBEE	4,225,600	\$174,728	3,436,300	\$125,258
WHITEFISH	16,770,600	\$1,747,528	2,790,400	\$265,076

Source: J.B. Skaptason, Inspector of Fisheries, Dominion Government, "The Fish Resources of Manitoba," Industrial Development Board of Manitoba: Winnipeg, 1926, p. 20.

APPENDIX 3
ANNUAL FISH PRODUCTION IN MANITOBA 1919-2005

YEAR	LAKE WINNIPEG	LAKE WPGOSIS	LAKE MANITOBA	NORTHERN LAKES
1929	12,268,500 lbs	7,178,100 lbs	6,085,000 lbs	1,937,500 lbs
1930	11,884,200	4,997,500	3,658,400	2,480,000
1931	9,910,400	3,505,300	3,210,600	1,787,900
1932	9,789,600	2,729,600	4,496,800	957,300
1960-61	10,024,800	6,914,000	5,569,500	8,469,700
1965-6	8,843,800	3,935,000	563,000	10,995,800
1966-67	8,063,600	4,330,100	6,510,200	10,367,300
1967-68	6,379,400	2,980,600	2,204,900	8,914,500
1968-69	7,951,800	4,119,100	3,839,900	9,526,000
1969-70	5,697,800	3,044,400	3,574,000	8,690,700
1970-71	431,160	3,539,200	3,269,500	6,320,000
1992-93	4,644,650 kg	879,700 kg	1,099,950 kg	2,625,750 kg
1993-94	4,217,700 kg	1,074,350 kg	710,350 kg	1,867,550 kg
1994-95	4,655,500 kg	775,350 kg	821,000 kg	2,572,500 kg
1995-96	4,836,400 kg	1,385,000 kg	2,027,500 kg	3,081,050 kg
1996-97	4,312,600 kg	1,635,650 kg	1,344,450 kg	3,339,650 kg
1997-98	3,991,600 kg	1,465,050 kg	1,518,000 kg	2,621,550 kg
1998-99	4,825,600 kg	2,106,550 kg	1,734,450 kg	2,761,800 kg
1999-00	5,419,050 kg	2,719,850 kg	1,943,950 kg	3,235,650 kg
2000-01	6,217,850 kg	2,753,550 kg	2,342,400 kg	3,318,650 kg
2001-02	6,237,950 kg	2,577,000 kg	2,115,750 kg	3,188,100 kg
2002-03	6,204,150 kg	2,681,150 kg	2,286,850 kg	3,260,350 kg
2003-04	6,543,300 kg	23,221,550 kg	1,995,650 kg	3,025,250 kg
2004-05	6,380,100 kg	1,079,350 kg	1,362,650 kg	2,813,900 kg

Source: Manitoba Fish Commission Papers; Manitoba Commercial Fishing Handbook, pp. 21-24; A Profile of Manitoba's Commercial Fishery, 2003; A Profile of Manitoba's Commercial Fishery, Manitoba Water Stewardship, Website, 2006.

APPENDIX 4

AVERAGE RETURNS FROM FISHING IN MANITOBA 1929-1932

AREA	YEAR	NO. OF FISHERMEN	TOTAL CATCH	LBS PER MAN	TOTAL VALUE	VALUE PER MAN	TOTAL VALUE	MARKETED PER MAN
North Mb lakes	1929	212	1,937,500	9,139	\$147,847	\$697	\$188,215	\$897
	1930	328	2,480,000	7,560	170,377	519	207,993	634
	1931	235	1,787,900	7,608	111,107	472	141,531	602
	1932	152	957,300	6,298	58,546	385	74,524	490
Lk. Wpgosis	1929	688	7,178,100	10,433	\$423,208	\$615	\$527,590	\$767
	1930	663	4,997,500	7,538	254,788	348	334,349	504
	1931	431	3,505,300	8,133	176,256	409	237,349	552
	1932	345	2,729,600	7,912	115,256	339	151,157	438
Lk. Wpg	1929	2,456	12,268,500	6,624	\$1,031,392	\$420	\$1,400,700	\$570
	1930	2,531	11,884,200	4,695	743,297	254	955,561	378
	1931	1,717	9,910,400	5,772	430,211	256	608,385	348
	1932	1,382	9,789,600	7,083	451,192	326	672,697	487
Lk Mb	1929	1,048	6,085,000	5,718	\$289,123	\$277	\$340,318	\$322
	1930	908	3,658,400	4,029	143,841	158	183,056	201
	1931	789	3,210,600	4,069	156,456	199	197,890	250
	1932	789	4,496,800	5,700	216,300	274	265,507	336

Source: Manitoba Fish Commission Papers, quoted in Judson, p. 128.

APPENDIX 5
AVERAGE INCOME PER FISHERMAN BY REGION 1992-2002

Year	Northern Lakes		Lake Winnipeg		Lake Manitoba		Lake Wpgosis		Other Lakes			
	No. Fisher men	Average income	No. Fisher men	Average Income	No. Fisher men	Average Income	No. Fisher men	Average Income	No. Fisher men	Average Income		
1992 /93	726	\$7095	1,057	\$13,428	977	\$3,845	335	\$2,613	373	\$4,737	3,354	\$7,675
1993 /94	643	\$4,510	1,021	\$9,536	938	\$2,062	301	\$1,940	363	\$5,348	3,354	\$7,675
1994 /95	679	\$6911	979	\$13,777	913	\$3632	287	\$1,835	362	\$6,374	3,125	\$7,786
1995 /96	780	\$7,589	1,048	\$13,665	925	\$4,402	282	\$2,751	407	\$4,496	3,345	\$8,047
1996 /97	812	\$6,082	1,024	\$9,963	924	\$2,293	293	\$2,681	417	\$3,007	3,325	\$5,804
1997 /98	823	\$4,879	944	\$9,948	876	\$2,838	292	\$3,250	397	\$2,056	3,237	\$5,455
1998 /99	632	\$7,655	938	\$16,739	888	\$2,861	307	\$6,855	307	\$4,611	2990	\$8,896
1999 /00	714	\$7,774	983	\$18,849	876	\$3,010	349	\$7,084	383	\$2,711	3,216	\$9,399
2000 /01	694	\$8,599	1,059	\$20,483	848	\$3,572	343	\$6,217	375	\$3,210	3,224	\$10,554
2001 /02	679	\$8,158	1,073	\$19,697	859	\$4,584	331	\$5,785	393	\$2,420	3,229	\$10,368
2002 /03	738	\$8,454	1,0951	\$20,704	838	\$3,726	341	\$4,507	271	\$3,314	3186	\$10,818
2003 /04	872	\$5,969	1,105	\$16,429	803	\$2,645	329	\$3,601	304	#6,427	3,340	\$8,569
2004 /05	873	\$5,146	1,092	\$16,005	762	\$1,436	312	\$2,820	325	\$5,873	3,272	\$7,901

Source: Manitoba Conservation, A Profile of Manitoba's Commercial Fishery, 2003, 2006, last page. Note: The number of fishermen includes licenced fishermen plus their hired help.

APPENDIX 6

COST OF OPERATION OF WHITEFISH BOATS ON LAKE WINNIPEG, 1933

	Four-Man Boat	Three-Man Boat
Nets at \$17.50 per net, 75% depreciation	\$413	\$320
Rent on corks and leads	25	15
Lines	10	10
Boat rent	100	100
Workman's Compensation	30	18
Board for men at 85cents/day for 10 wks	238	182
Gas and Oil	200	100
Wages 1 st helper @\$100/season, 2 nd , 3 rd @ \$90	280	180
License	50	10
Other	25	20
Total	1370	945
Wages to boat operator	100	100
TOTAL	\$1470	\$1045

Source: Judson, p. 145a, who compiled it from information supplied by fishermen and dealers given to Manitoba Fish Commission, 1933. A skiff, with one man was cheaper at \$321.

APPENDIX 7

REFRIGERATION PLANTS HANDLING FISH 1924

FIRM	LOCATION	CAPACITY	TYPE
Riverton Fish Co.	Gimli	18,200 cu. ft.	Ice & salt
	Hecla	5,000 cu. ft.	Ice & salt
	Hnausa	6,000 cu. ft.	Ice & salt
Armstrong Independent Fisheries Ltd.	Portage la Prairie	unknown	unknown
	Victoria Beach	6,000 cu. ft.	Ice & salt
	Winnipegosis	6,000 cu. ft.	Ice & salt
Manitoba Transport Co.	Selkirk	36,000 cu. ft.	Ice & salt
	Big Black River	23,000 cu. ft.	Ice & salt
	Horse Island	7,800 cu. ft.	Ice & salt
	Warren's Landing	8,600 cu. ft.	Ice & salt
Northern Fish Co.	Selkirk	60,000 cu. ft.	Ice & salt
	Big Black River	8,000 cu. ft.	Ice & salt
	Warren's Landing	8,000 cu. ft.	Ice & salt
W.J. Guest Fish Co.	Winnipeg	30,000 cu. ft.	Mechanical
Winnipeg Fish Co.	Winnipeg	67,627 cu. ft.	Ice & salt
Armstrong Trading Co. Ltd.	Winnipegosis	8,000 cu. ft.	Ice & salt

Source: *Canadian Fisherman*, June 1924, p. 156.

APPENDIX 8

DISTRIBUTION OF FISH FRY FROM MANITOBA HATCHERIES 1924

Hatchery	Lake/Location	Pickereel	Whitefish
Gull Harbor	Lake Killarney	200,000	
Gull Harbor	Fish Lake, Angusville	175,000	
Gull Harbor	Clear Lake, Erickson	175,000	
Gull Harbor	Goose Lake, Roblin	175,000	
Gull Harbor	Madge Lake, Kamsack	175,000	
Gull Harbor	Elbow Lake, Hyas	175,000	
Gull Harbor	Max Lake, Turtle Mtns	75,000	
Gull Harbor	Bella Lake, Turtle Mtns	75,000	
Gull Harbor	Williams Lake, Turtle Mtns	75,000	
Gull Harbor	Hooper Lake, Uno	200,000	
Gull Harbor	Rock Lake, Glenora	300,000	
Gull Harbor	Minnedosa Lake	175,000	
Gull Lake	Crescent Lake, Portage la Prairie	50,000	
Gull Harbor	Red River, Selkirk	200,000	
Gull Harbor	Lake Winnipeg	8,995,000	17,925,000
Dauphin River	Lake Winnipeg		71,350,000
Snake island	Lake Winnipegosis		73,360,000

Source: J.B. Skaptason, *The Fish Resources of Manitoba*, Industrial development Board of Manitoba, Winnipeg, 1926, p. 34.

APPENDIX 9

COMMERCIAL FISHING PRODUCTION BY SPECIES 1995-2005

TABLE 1. COMMERCIAL FISHING PRODUCTION BY SPECIES

SPECIES	PRODUCTION (KGS ROUND WEIGHT)															% OF TOTAL
	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	AVERAGE					
BASS	24,200	83,150	45,100	25,850	45,450	28,650	34,550	27,900	16,100	15,150	34,610					0.3%
CARP	784,400	442,700	569,950	397,050	652,600	487,200	628,450	976,000	435,200	534,950	590,850					4.4%
CATFISH	0	350	250	500	50	50	0	0	0	50	125					0.0%
GOLDEYE	10,250	16,200	17,500	16,150	8,500	9,300	5,850	5,500	10,300	7,700	10,725					0.1%
MARIA	53,650	77,300	Trace	102,450	2,450	48,000	4,450	26,850	14,950	0	33,010					0.2%
MULLET	2,912,400	3,628,700	2,716,050	3,289,150	4,206,850	4,719,850	4,131,050	4,114,650	3,832,550	2,297,300	3,584,655					26.7%
PERCH	506,350	277,750	229,850	246,400	226,200	161,200	562,350	478,900	277,600	185,050	315,165					2.3%
PICKEREL	2,451,900	2,108,950	2,239,750	3,219,600	4,156,450	5,270,600	4,584,300	4,502,200	5,161,550	5,253,650	3,884,895					29.0%
PIKE	1,449,500	1,518,800	1,674,350	1,796,900	1,753,250	1,728,500	1,545,400	1,573,950	1,665,800	1,279,700	1,598,615					11.9%
SAUGER	1,314,900	1,113,250	965,750	1,117,950	984,400	582,700	682,750	775,550	765,250	585,300	888,780					6.6%
STURGEON	600	0	0	0	0	0	0	0	0	0	60					0.0%
TROUT	57,250	55,150	54,100	44,650	40,550	26,050	39,250	31,050	33,050	40,700	42,180					0.3%
TULLIBEE	84,350	93,100	75,100	101,950	116,200	128,250	103,250	108,500	53,900	63,900	92,850					0.7%
WHITEFISH	2,875,500	2,408,750	1,924,150	1,844,800	1,904,100	2,334,350	2,499,550	2,472,700	2,690,700	2,486,350	2,344,195					17.5%
TOTAL	12,525,250	11,823,150	10,511,900	12,203,400	14,097,050	15,524,700	14,821,200	15,093,750	14,956,950	12,749,800	13,430,715					100.0%

Source: Water Stewardship, Fisheries Branch, "A Profile of Manitoba's Commercial Fishing Industry," June, 2006.

APPENDIX 10

COMMERCIAL FISHING PRODUCTION AND VALUE BY REGION 1995-2005

TABLE 3. COMMERCIAL FISHING PRODUCTION AND VALUE BY REGION

YEAR	NORTHERN LAKES		LAKE WINNIPEG		LAKE MANITOBA		LAKE WINNIPEGOSIS		OTHER LAKES		TOTAL	
	WEIGHT (KGS)	VALUE (\$2006)	WEIGHT (KGS)	VALUE (\$2006)	WEIGHT (KGS)	VALUE (\$2006)	WEIGHT (KGS)	VALUE (\$2006)	WEIGHT (KGS)	VALUE (\$2006)	WEIGHT (KGS)	VALUE (\$2006)
1995/96	3,081,050	\$6,291,813	4,836,400	\$15,222,375	2,027,500	\$4,327,813	1,385,000	\$824,688	1,195,300	\$1,944,875	12,525,250	\$28,611,563
1996/97	3,339,650	\$5,247,282	4,312,600	\$10,940,733	1,344,450	\$2,250,870	1,635,650	\$834,698	1,190,800	\$1,332,275	11,823,150	\$20,505,858
1997/98	2,621,550	\$4,268,203	3,991,600	\$9,983,040	1,518,000	\$2,642,737	1,465,050	\$1,008,832	915,700	\$867,885	10,511,900	\$18,770,696
1998/99	2,761,800	\$5,142,291	4,825,600	\$16,689,072	1,734,450	\$2,700,634	2,108,550	\$2,237,112	775,000	\$1,504,686	12,203,400	\$28,273,795
1999/00	3,235,650	\$5,901,500	5,419,050	\$19,700,860	1,943,950	\$2,803,662	2,719,850	\$2,628,850	778,550	\$1,104,146	14,097,050	\$32,139,018
2000/01	3,318,650	\$6,343,553	6,217,850	\$23,057,414	2,342,400	\$3,220,014	2,753,550	\$2,266,750	892,250	\$1,279,670	15,524,700	\$36,167,401
2001/02	3,188,100	\$5,886,719	6,237,950	\$22,459,146	2,115,750	\$4,184,404	2,577,000	\$2,034,953	702,400	\$1,010,754	14,821,200	\$35,575,976
2002/03	3,260,350	\$6,238,750	6,204,150	\$22,670,424	2,286,850	\$3,122,250	2,681,150	\$1,536,794	661,250	\$898,163	15,093,750	\$34,466,381
2003/04	3,025,250	\$5,205,385	6,543,300	\$18,154,247	1,995,650	\$2,123,898	2,221,550	\$1,184,646	1,171,200	\$1,953,818	14,956,950	\$28,621,993
2004/05	2,813,900	\$4,492,873	6,380,100	\$17,477,521	1,362,650	\$1,094,011	1,079,350	\$879,890	1,113,800	\$1,908,849	12,749,800	\$25,853,143
AVERAGE	3,064,595	\$5,501,837	5,496,860	\$17,625,463	1,867,165	\$2,847,029	2,062,470	\$1,543,721	939,625	\$1,380,512	13,430,715	\$28,898,582
% OF TOTAL	22.82%	19.04%	40.93%	60.99%	13.90%	9.85%	15.36%	5.34%	7.00%	4.78%	100.00%	100.00%

Source: Water Stewardship, Fisheries Branch, "A Profile of Manitoba's Commercial Fishery", June 2006.

APPENDIX 11

COMMERCIAL FISHING EMPLOYMENT 1995-2005

TABLE 6. COMMERCIAL FISHING EMPLOYMENT

YEAR	NORTHERN LAKES			LAKE WINNIPEG			LAKE MANITOBA		
	LICENSED FISHERMEN	HIRED HELPERS	TOTAL	LICENSED FISHERMEN	HIRED HELPERS	TOTAL	LICENSED FISHERMEN	HIRED HELPERS	TOTAL
1995/96	511	269	780	878	170	1,048	537	388	925
1996/97	577	235	812	858	166	1,024	552	372	924
1997/98	578	245	823	791	153	944	509	367	876
1998/99	475	157	632	786	152	938	520	368	888
1999/00	527	187	714	822	161	983	506	370	876
2000/01	525	169	694	883	176	1,059	491	357	848
2001/02	469	210	679	895	178	1,073	491	368	859
2002/03	505	233	738	913	182	1,095	479	359	838
2003/04	598	274	872	921	184	1,105	466	337	803
2004/05	699	174	873	910	182	1,092	442	320	762
AVERAGE	546	215	762	866	170	1,036	499	361	860

YEAR	LAKE WINNIPEGOSIS			OTHER LAKES			TOTAL		
	LICENSED FISHERMEN	HIRED HELPERS	TOTAL	LICENSED FISHERMEN	HIRED HELPERS	TOTAL	LICENSED FISHERMEN	HIRED HELPERS	TOTAL
1995/96	167	115	282	287	120	407	2,303	1,042	3,345
1996/97	172	121	293	285	132	417	2,318	1,007	3,325
1997/98	169	123	292	287	110	397	2,257	980	3,237
1998/99	172	135	307	191	116	307	2,079	911	2,990
1999/00	177	172	349	198	185	383	2,153	1,063	3,216
2000/01	175	168	343	237	138	375	2,228	996	3,224
2001/02	171	160	331	223	170	393	2,156	1,073	3,229
2002/03	176	165	341	212	59	271	2,204	982	3,186
2003/04	170	159	329	272	32	304	2,354	986	3,340
2004/05	161	151	312	270	55	325	2,404	868	3,272
AVERAGE	171	147	318	246	112	358	2,246	991	3,236

*NOTE: FISHERMEN FISHING MORE THAN ONE AREA OR WHO FISH BOTH AS HIRED MEN AND LICENCE HOLDERS ARE COUNTED ONLY ONCE IN "TOTAL" COLUMN. WHERE HIRED MAN AND LICENCE HOLDER DUPLICATION OCCURS, THE INDIVIDUAL IS COUNTED AS A LICENCE HOLDER. THEREFORE TABLE DOES NOT ADD HORIZONTALLY.

Source: Water Stewardship, Fisheries Branch, "A Profile of Manitoba's Commercial Fishery", June 2006.

INVENTORY OF FISHING STATIONS IN MANITOBA

LAKE MANITOBA

Dog Town, on lakeshore at junction of Indian reserve No. 46 and P.R. 417, station owned by Albert Kingsley family.

Ghost Island, fish hauled from there by Kingsleys, and John Forsyth was the buyer there for Selkirk Fisheries.

Goose Island, once had 200 fisherman fishing for big company.

Rabbit Point, on east side of Lake Manitoba, northwest of Lundar, a harbour called Rabbit Point, used in 1890s. Docks built for boat landings. Station under supervision of Helgi Einarson, working in conjunction with Peter McArthur of Westbourne, where the fish were freighted.

Reyklavik, fish hauled across the lake to Oak Point.

Sandy Island, Lake Manitoba, Lake Manitoba Fisheries in 1937.

Vogar, Conrad Johnson operated a fish-buying and packing station called Log Cabin Packers. Reopened in 1995 as Frontier Fisheries.

LAKE WINNIPEGOSIS

Birch Island, Lake Winnipegosis, H. Thorsteinson, 1937.

Cameron Bay, Armstrong Gimli, 1928.

Channel Islands, Lake Winnipegosis, owned by Booth Fisheries 1936-1968.

Cormorant Island, Armstrong Gimli, floating dock, 1927.

Denbeigh Point, FFMB 1971-76.

Duck Bay, Abe Sanoffsky Fisheries, 1935-58; Booth Fisheries, 1958-1966.

Fox Point, Lake Winnipegosis.

Fox Reef, Booth Fisheries, 1947-51.

Good Harbour Co-op, amalgamation of South Spruce Island Fishermen and Camperville Big Four, 1962-1976.

Goose Island, Captain Coffey's station 1908-1911; Booth Fisheries, floating dock 1912.

Glory Harbour, Icelandic Fish Co, 1926; Booth Fisheries, 1927-28; Harry Grenon, 1927-1934.

Grand Island, Harry Grenon, 1937-41.

Half Moon Island, Booth Fisheries, 1924.

Ice House Point, owned by L. Hawn and J. Bradbury, for Booth Fisheries, 1930-1949.

Maggie's Island, Armstrong Gimli, 1925-26; Harry Grenon floating dock, 1935-36.

Morris Island, Armstrong Gimli, floating dock 1924.

Papoose Island, 10 miles south of Maggie's Island.

South Camping Island, Armstrong Gimli, 1924.

South Spruce Island, Booth Fisheries floating dock, 1914-1923; Spruce Island Fisheries, 1956-1961.

Spruce Island, west end, near Dawson Bay, Lake Winnipegosis, fish camp of Goodmans' 1930s.

The Bluff, Dawson Bay used by Booth Fisheries, 1939-1968.

Wade Point, Big Four Fisheries, 1940.

Whitefish Point, owned by Burrell family, Keystone Fisheries, 1938-1942, Armstrong Gimli 1943 1959; Canadian Fish 1960-1968.

Whiskey Jack, Island, 100 miles from Winnipegosis via frozen lake, owned by Armstrong Gimli/Booth/BC Packers 1912-1968.

LAKE WINNIPEG

Albert's Point owned by Fresh Water Fish Co. of Gimli; sold to Kristjanson.

Berens River, Lake Winnipeg, 1937, Sigurdson Fisheries. In 1937 the Kristjanson family acquired the fall fishing station here from the Freshwater Fish Co. of Gimli. It was comprised of an ice house, a small packing shed and a combined cookhouse and bunkhouse. Also used the station in winter using dog teams, horses, snowmobiles and lastly caterpillars. The station was used by the Kristjansons from 1937-1969, a total of 32 years. By that time they had added a cooler packing shed another bunk house, a kitchen, store, warehouse, and machine shop.

Big Black River, Lake Winnipeg, Canadian Fish Producers, Hallgrimson Fisheries, Hodgson Trading Company, Booth Fisheries, 1937, white fish station.

Big Bull Head Point, Skagford Bros, 1926.

Big George's Island, Lake Winnipeg, Bjornson Bros., Booth Fisheries, Armstrong Gimli Fisheries, 1937, whitefish station.

Birch Point, just north of today's Loni Beach, fall fishing station owned by Mr. Brynolfson; rented to S. Kristjanson and J.B. Johnson 1908.

Black Bear Island, Sigurdson Bros, 1926. Buildings included a cookhouse and horse barn at this fall fish packing station.

Fox Island, a fall fishing station owned by J.B. Johnson in partnership with Martin Johnson, and after 1939 with Lawrence Stevens. Johnson sold his share in 1960.

George's Island, Gimli-Armstrong ran this station 1915-19. Kristjanson Bros. later used it. In use by 1951 with ice house, cooler, packing and dressing sheds, fishermen's cabins, cookhouse, and store and machine shop. In 1996 it was the last whitefish station left on Lake Winnipeg, with only 20-25 whitefish boats on the northern part of the lake for the six-week season.

Granite Quarry, S. Kristjanson and S. Sigmundson built fall station here in 1924. This was also the site of the quarry and rock crushing building of the Lake Winnipeg Shipping Co. which operated here from 1914-1915. Their building was three storeys high and painted bright red.

Horse Island, fishing site 1909-1913.

Leaf River, Sigurdur Kristjanson and Steini Sigmundson station in 1925; sold in 1928 when partnership dissolved, to John Magnusson of Gimli.

Little Bull Head Point, James Lee, 1926.

Little George's Island, Lake Winnipeg, whitefish station for Magnusson Bros. 1937.

Little Playgreen Lake, still exists.

Kettle Island, three miles inside mouth of Nelson River, 1918, Uning and Fryers of Selkirk, for sturgeon; no longer functioning in 1927.

McCreary Island, Lake Winnipeg, Bjornson Bros. 1937 as whitefish station.

Poplar Point, Lake Winnipeg, Fresh Water Fisheries, H.M. McGinnes 1937; Kristjanson station 1905; Gimli Fish Co. 1916. Kristjansons built this station in 1925 and operated it for three years before selling it to Lake Winnipeg Fish Co. Gimli Fish Co. built a whitefish station at Poplar Point about two miles away, in 1925. Kristjanson used the M.S. Hercules to transport the packed fish from Poplar Point to Georges Island.

Raymond Island, Uning and Fryer Fish Co. of Selkirk, built station around 1916 outside mouth of Poplar River for packing sturgeon.

Reindeer Island, Gimli-Armstrong Fisheries had station on island 1921, managed by J.B. Johnson.

Sheep Island, near the mouth of Beren's River, a fishing station.

Spider Island, Sigurdson Fisheries, H, Thorsteinson, Sigurdson & Sigmundson, Armstrong Gimli Fisheries, 1937 for whitefish.

Warren's Landing, Lake Winnipeg, Armstrong Gimli Fisheries, Purvis Bros., Hodgson Trading Company, Booth Fisheries, operating in 1937 as whitefish station. In 1940, the station was

purchased by J.B. Johnson and his partner Halldur Peterson of Gimli. Station was sold back to Gimli-Armstrong a few years later but managed by J.B. Johnson until 1966.

Whiskey Jack Point, still exists.

Yankee Island, near Berens River, a fishing station.

INVENTORY OF FISH COMPANIES IN MANITOBA

Armstrong Gimli Fish Co: Gimli, station on George's Island until 1953. Another station at Warren's Landing. Armstrong Gimli Fisheries formed in 1918 with Joe Grenon as partner. Booth Fisheries had set up on their own. Became B.C. Packers, later North West Fish Company, declared insolvent in 1908, had begun in 1890s.

Armstrong Trading Company: started by Joseph Grenon in 1897 in Winnipegosis. Combined with Hugh Armstrong in 1898 to form Armstrong Trading Company, which became a subsidiary for Booth Fisheries Co. The Armstrong Gimli Fisheries absorbed the Coffey Fish Company, and the McAulay-Lytwyn Company in 1899. Armstrong Gimli became B.C. Packers and Booth Fisheries Canadian Co.

Big Four: established in 1890s. Winnipegosis holdings were on Good Harbour and were sold to the Fish Marketing Board in 1969. Had a shed in Camperville.

Booth Fish Co: Winnipeg.

Canadian Fish Co.: Winnipeg, station at Warren's Island in 1944.

Fresh Water Fish Co.: Gimli sold small fall and winter fishing station at Albert's Point in 1937. Owned small gasoline powered boat called the Ark.

Gimli Fish Company: Gimli, managed by H.M. McGinnes in 1924. Had whitefish station on George's Island; pickerel station at Marchand's Point, due east of Poplar River.

H.W. Grenon Company: Winnipegosis.

Icelandic Fishing Co-operative: Winnipegosis, 1890s.

Independent Fish Company: Winnipeg, operating 1940s.

Inland Fish Co.: Gimli, in 1928 purchased Poplar Point station built by Stein and Kristjanson in 1926.

Keystone Fisheries, owned by Mindy Jonasson in the 1950s. Buying on in northern lakes and shipping to packing station at Pukatawagan.

Lake Winnipeg Fish Company: Gimli, owned a small lake freighter, S.S. Luana. Had a whitefish and pickerel station at Swampy Harbour.

Manitoba Transport Company: branch of the Booth Fish Co. Operating in 1926, using freighter S.S. Garry.

Mindy Jonasson Company: Winnipegosis, 1890s.

Mid Central Fish Co.: Winnipeg, operating in 1940s.

Northern Fish Company: Lake Winnipeg, station at Warren's Landing around 1915. Manager in period was Joseph Simpson.

Northern Lakes Fish Co.: whitefish station at Black River.

Sigurdson Fish Co.: Riverton. Purchased the J.R. Spear, a tug boat built in 1909 on Lake Manitoba to haul limestone barges. Sigurdson's converted the boat into a semi-freighter for service between fishing stations and processing plants on Lake Winnipeg. Closed fishing station on George's Island in 1951.

Uning and Fryer Fish Co.: Selkirk, fishing station on Raymond's Island, outside mouth of the Poplar River, abandoned by 1927. Also had a sturgeon fishing station on Kettle Island, three miles inside mouth of Nelson River in same period.

BIBLIOGRAPHY

Primary Sources.

Manitoba. Department of Mines and Natural Resources. Annual Reports, Various years 1933-1970.

Canada. Department of Marine and Fisheries Annual Reports.

Post Journal, Berens River 1872, 1MA6 B/16/A/7, P.A.M.

Post Journal, Jack River 1796, 1M106 B 154/A/4, P.A.M.

Post Journal Lake Manitoba, 1818, 1M74 B/22/A/2, P.A.M.

Post Journal, Nelson House 1802, 1M97 B 141/A/1, P.A.M.

Post Journal, Nelson House 1809, 1M97 B 141/A/2, P.A.M.

Post Journal Norway House 1863, 1M111 B 154/A/66, P.A.M.

Secondary Sources.

Unknown. "Fisheries Problems in Manitoba." A speech delivered at the Natural History Society. Dec. 4 1939. From the files of Fisheries Branch, Department of Water Stewardship, Government of Manitoba.

Baird, Michele, Staudt, Maureen, Stranz, Michael, ed. *The Ojibwa of Berens River*, Thomson Wadsworth, 2007.

Barbour, Alexander S. *A Brief History of the Manitoba Fisheries*. Manitoba Historical Society Transaction Series III. No. 12, 1957.

Bradbury, Geo H. "Speech of Mr. Geo. H. Bradbury on Manitoba Fisheries." Ottawa, House of Commons Debates, First Session – Eleventh Parliament. Thursday, May 18, 1909.

Butler, G.E. *The Fisheries of Manitoba*. Unpublished Paper. Fisheries Branch.1947.

Canada. Department of Marine and Fisheries Annual Report. Report on Manitoba and North-west Territories. Ottawa: Mclean, Roger & Co. 1886. Pp.330-336.

Canada. Department of Marine and Fisheries. Annual Report. Reports of Overseers. Ottawa: Queen's Printer, 1888. Pp. 298-310.

Canada. Department of Marine and Fisheries. Annual Report. Report of J.B. Skaptason, Inspector of Fisheries, Province of Manitoba for 1925. Ottawa: 1926.

-
- Canada. *Employment and Incomes in the Freshwater Commercial Fisheries*. Department of The Environment Fisheries and Marine Service, Economics Branch, Central Region, 1974.
- Carruthers, Brendan. *A History of Commercial Fishing in Manitoba*. Conservation Comment. Department of Natural Resources, 1981.
- Cherney, Bruce. *Early Fishing on Lake Winnipeg- an Important Resource Serving Aboriginals and Settlers*. Editorial, Winnipeg Real Estate News, Thursday June 30, 2005.
- Cowan, John R. "An Assessment of the Attitudes and Perceptions of Northern Manitoba Sport-Fishing Lodge Operators." Masters Thesis, University of Manitoba, 1992.
- Davidoff, E.B. *Lake Winnipeg Whitefish*. Winnipeg: Research Branch, Department of Mines, Resources and Environmental Management, Province of Manitoba, c.1970.
- Denn, Donald. "Fur Trade and Commercial Fishing on the East Side of Lake Winnipeg Pertaining to Sessional Papers 1873-1973." Unpublished report. Historic Resources Branch. Manitoba Culture, Heritage and Tourism. 2005.
- Denn, Donald. "Norway House Fishing and Fisheries 1875-1939." Unpublished report. Historic Resources Branch. Manitoba Culture, Heritage and Tourism. 2006.
- Doan, K.H. *Nelson River Trout*. Fisheries Research Board of Canada. Central Fisheries Research Station Winnipeg, 1946.
- Falkner, W. *Proposals for a Shared-Cost Federal-Provincial Commercial Fishery Development Program for Manitoba Lakes, 1972-73*. Department of Mines, Resources and Environmental Management, Development and Extension Service. 1972.
- Federal-Provincial Task Force on the Commercial Fishing Industry in the Freshwater Fish Marketing Corporation's Area of Operations. 1975.
- Fishing Bulletin, Department of Mines and Natural Resources, Wpg. MB. Various issues and years ranging from 1961-1969.
- Franzin, W.G., Stewart, K.W., Hanke, G.F. and Heuring, L. *The Fish and Fisheries of Lake Winnipeg: the First 100 Years*. Canadian Technical Report of Fisheries and Aquatic Science 2398. Fisheries and Oceans Canada. 2003.
- Gauthier, C.W. *Whitefish in the Great Lakes, Fish Culture in Canada*. Ottawa, R.L. Crain, c.1911.
- Gislason, Gordon. *Use of Property Rights in Fisheries Management*. Food and Agriculture Organization Fisheries Technical Paper 404/2. Fishery Resources Division. 1999.
- Gislason, Gordon S, James A. Macmillan and Jack W. Craven. *The Manitoba Commercial Freshwater Fishery: an Economic Analysis*. Winnipeg: University of Manitoba Press, 1982.

-
- Grant, H.C. *The Commercial Fishing Industry of Manitoba*. Winnipeg: Manitoba Economic Survey, 1938.
- Green, D.J. and Derksen, A.J. *The Past, Present and Projected Demands on Manitoba's Freshwater Fish Resources*. Department of Natural Resources, Fisheries Branch. MS Report #84-4, 1984.
- Harkness, W.J.K. *Report on the Sturgeon Situation in Manitoba*. MS Report No. 80-3 1980. Department of Mines and Natural Resources.1980.
- Heuring, Laura. "A Historical Assessment of the Commercial and Subsistence Fish Harvests of Lake Winnipeg." Practicum, Master of Natural Resource Management. Winnipeg: University of Manitoba, 1993.
- Hewson, L.C. "The Lake Winnipeg Summer Commercial Fishery." Manuscript Research Report 72. Winnipeg: Central Fisheries Research Station, 1951.
- Hinks, David. *The Fishes of Manitoba*. Manitoba Department of Mines and Natural Resources. 1943.
- Holzmann, Tim E., Lytwyn, Victor P. and Waisberg, Leo G. Rainy River Sturgeon: an Ojibway Resource in the Fur Trade Economy. *Canadian Geographer*. Fall 1988.Vol.32, Issue 3.
- Homer, S. "Muddy Waters. Lake Winnipeg's Rich Fisheries and Folkways Face a Stormy Future." *Equinox* 6(5). Pp. 64-70.
- Judson, Thomas Andrew. "The Freshwater Commercial Fishing Industry of Western Canada." Thesis. Doctor of Philosophy. Toronto, University of Toronto, 1961.
- Kemp. "Commercial Fishing on The North Basin of Lake Winnipeg." c. 1998.
- Kennedy, W.A. *Final Report on the 1945-46 and 1946-47 Survey's of Lake Manitoba*. Fisheries Research Board of Canada. Central Fisheries Research Station Winnipeg, 1947.
- Kennedy, W.A. *Some Notes on the Whitefish Situation in Lake Winnipeg, 1947*. Fisheries Research Board of Canada, Central Fisheries Research Station, Winnipeg 1947.
- Kimantas, John. *Goldfield still floating after 102 years*. Source unknown (Gimli newspaper), 1988.
- Kives, Bartley. *Something is Fishy: If the Lake Sturgeon is Endangered, an Entire Ecosystem is at Risk*. Winnipeg Free Press, Saturday May 14, 2005.
- Kristjanson, Ted. "Family History." Gimli MB. 1992.
- Kristjanson, Ted. "Kristjanson Fish, 108 Years" Gimli MB, 2000.
- Kristjanson, Ted. "Speech given at the historical society of the University of Manitoba." Winnipeg MB, 1989.

-
- Lavallee, Guy *The Métis of St. Laurent, Manitoba: Their Life and Stories, 1920-1988*. Winnipeg, 2003.
- Macmillan, J.A., J. Craven and G. Gislason. *Determinants of Income to Fishermen, Southern Lake Winnipeg, Grand Rapids, and Lake Winnipegosis, Open Water and Winter Seasons, 1972-1974*. Winnipeg: University of Manitoba, 1975.
- MacPherson, J.C. *Manitoba Commercial Fishing Handbook*. 1972.
- Magnusson, Kristjana. Lake Winnipeg Boats. *The Icelandic Canadian*. Autumn, 1967, p.28.
- Magnusson, Karen. "Icelandic Fisheries on Lake Winnipeg." *The Beaver*. Spring 1982. pp.47-51.
- Mandelbaum, David G. *The Plains Cree: an Ethnographic, Historic, and Comparative Study*. Regina: Canadian Plains Research Center, 1979.
- Manitoba. Bureau of Statistics. *Northern Manitoba Lodge Industry Fishing and Hunting Lodges*. 1973.
- Manitoba. Department of Conservation. *Five Year Report to the Legislature on Fisheries*, 1999.
- Manitoba Department of Conservation. *Angling in Manitoba (2000)*.
- Manitoba Conservation. "A Profile of Manitoba's Commercial Fishery" May 26, 2003.
- Manitoba Department of Mines, Resources and Environmental Management. "Sport Fishing in Manitoba". n.d.
- Manitoba. Department Mines and Natural Resources. *Commission on the Fishing Industry of Manitoba: Report Parts 1-2*. 1933.
- Manitoba Department of Mines and Natural Resources, Fisheries Branch "Presentation to the Natural History Society, December 4, 1969."
- Manitoba Department of Mines, Resources and Environmental Management. *Lake Winnipegosis Issues and Information*. 1976.
- Manitoba. *First Report of the Legislative Committee Investigating the Commercial Fishing Industry in Manitoba in 1953/54*. March 24, 1954.
- Manitoba. Department of Natural Resources. *Five Year Report to the Legislature on Fisheries*, year ending 1983-84.
- Manitoba Department of Natural Resources. *Manitoba Commercial Fishing Handbook*. 1972.
- Manitoba. Department of Natural Resources and Canada Fisheries and Oceans. *Sport Fishing in Manitoba, 1985*. Information and Publications Branch. Communications Directorate. Department of Fisheries and Oceans. 1988.

-
- Manitoba, Department of Natural Resources. *Sport Fishing in Manitoba, 1990*. Fisheries Branch, 1990.
- Manitoba. Department of Mines and Natural Resources "The Commercial Fishing Industry." 1963.
- Manitoba. *Presentation by the Manitoba Federation of Agriculture and Co-operation to the Commercial Fishing Commission Appointed at the 1953 Session of the Manitoba Legislature*. Winnipeg: 1953.
- McIvor, George. *Report of Commission of Inquiry into Freshwater Fish Marketing, Canada, 1965*.
- McNeil, Kent. *A Layman's Guide to Indian Hunting, Trapping and Fishing Rights in Manitoba*. Adapted by Katherine Young and Anne Skarsgard. University of Saskatchewan, Native Law Center, 1993.
- Miller, Robert. "The Indian Reserve System in Manitoba 1870-1900." Thesis for Master of Development Studies, Institute of Social Studies, The Hague, 1981.
- Mochoruk, Jim. *Formidable Heritage Manitoba's North and the Cost of Development 1870-1930*. Winnipeg, University of Manitoba Press, 2004.
- Moshenko, R.W. and W. Falkner. *A Summary of the Rough Fish Industry in Manitoba*. Department of Mines, Resources and Environmental Management. 1974.
- Neave, Ferris. "Our Fisheries" Radio Broadcast, February 1, 1937.
- Neave, Ferris and David Hinks. *The Status of the Whitefish in Lake Winnipeg*. Province of Manitoba, Department of Mines and Natural Resources, 1937.
- Report of the Prairie Provinces Fisheries Investigation Committee, 1943.
- Potyondi, Barry. *Selkirk, The First Hundred Years*. 1981.
- Prince, E.E. *The Fish and Fisheries of Manitoba*. Ottawa: Government Printing Bureau, 1909.
- Prince, E.E. *The Object of a Close Time for Fish*. Sessional Paper No. 11a, Ottawa, 1900.
- Prince, E.E. *How to Handle Frozen Fish: Hints on Frozen Fish*. Ottawa: The Honorary Advisory Council for Scientific and Industrial Research, 1918.
- Rodd, J.A. "First Sturgeon Culture". Annual Report on Fish Culture. Department of Mines and Resources. Government of Canada. 1924.
- Schroeder, Peter. *New Way of Thinking Needed for Lake*. Winnipeg Free Press. Saturday, April 30, 2005.
- Sealey, Bruce, ed. *Six Métis Communities*. Manitoba Métis Federation Press; Winnipeg, 1974.

-
- Skaptason, J.B. *The Fish Resources of Manitoba*. Winnipeg: Industrial Development Board, 1926.
- Smith, Brian J. "The Historical and Archaeological Evidence for the use of Fish as an Alternate Subsistence Resource among Northern Plains Bison Hunters. *Aboriginal Resource Use in Canada: Historical and Legal Aspects*. Kerry Abel and Jean Friesen Eds. Winnipeg: University of Manitoba Press, 1991, pp.35-49.
- Smith, Trevor. "Smith's Compiled History of Fish Culture in Manitoba". Unpublished report, Manitoba Conservation, c. 1973.
- Smith, Trevor. "Sport Fishing in Manitoba." Unpublished Report. Manitoba Conservation. n.d.
- Snell, John. "An Assessment of the Impact of the Freshwater Fish Marketing Corporation on the Freshwater Fish Industry." Practicum. Masters of Natural Resources. University of Manitoba, Winnipeg, 1989.
- Sprules, W.M. *A Possible Water Supply for Outdoor Rearing Troughs at the West Hawk Lake Trout Hatchery*. Fisheries Research Board of Canada. Central Fisheries Research Station. Winnipeg, 1945.
- Sprules, W.M. *Recommendations re: the Establishment of Commercial Fishing for Goldeye in Lake Claire, Wood Buffalo National Park*. Fisheries Research Board of Canada. Central Fisheries Research Station. Winnipeg, 1948.
- Sprules, W.M. *The Goldeye, Manitoba's Fresh-Water Aristocrat*. Fisheries Research Board of Canada. Central Fisheries Research Station. Winnipeg, 1946.
- Standing Senate Committee on Fisheries. *The Marketing of Fish in Canada*. The Senate of Canada. September 1986.
- Stefanson, S. "J.B. – A Fisherman for Three-Quarters of a Century." Unpublished paper, n.d., in New Iceland Heritage Museum, Gimli.
- Stewart, D.F. *Lake Winnipegosis, Issues and Information*. Department of Mines and Natural Resources, 1976.
- Sunde, L.A. *The Sturgeon Fishery in Manitoba with Recommendations for Management*. Department Mines and Natural Resources, Fisheries Branch. 1953-1956.
- Symbion Consultants. *An Investigation into the Status of Issues Affecting the Manitoba Commercial Fishery*. Prepared for The Ad Hoc Committee on the Status of Manitoba Commercial Fisheries. February 1991.
- Tough, Frank. *As Their Natural Resources Fail: Native Peoples and the Economic History of Northern Manitoba 1880-1930*. Vancouver: University of British Columbia Press, 1996.
- Tough, Frank. "Fisheries Economics and the Tragedy of the Commons: The Case of Manitoba's Inland Commercial Fisheries." Discussion Paper no. 33. Toronto, York University, 1987.

-
- Tough, Frank. "The Establishment of a Commercial Fishing Industry and the Demise of Native Fisheries in Northern Manitoba." *Canadian Journal of Native Studies*. Vol. 4, No. 2, 1984.
- Tough, Frank. "The Storehouses of the Good God:" Aboriginal Peoples and Freshwater Fisheries in Manitoba." *Manitoba History*, Issue 39, p.2, Spring/Summer 2000.
- Tuomi, A.L. ed. *Transactions of the 1984 Canadian Sport Fisheries Conference*. Canadian Special Publication of Fisheries and Aquatic Sciences 82.
- Water Stewardship, Fisheries Branch. "A Profile of Manitoba's Commercial Fishery". June 2006.
- Westbourne-Longbourne History. *When the West Was Bourne*. 1985.
- Winnipegosis History Book Committee. *Reflections from Little Muddy Water: a History of Winnipegosis*. Winnipegosis, Man.1990. p.25-46.
- Wyatt, G.H. *The Traveler's and Sportsman's Guide to the Principal Cities, Towns & Villages near the Hunting & Fishing Grounds of the Great Northern Lakes in Canada & Manitoba*. Liverpool: The Liverpool Print and Stationery Co. 1880.
- Young, Katherine and Skarsgard, Anne. *A Layman's Guide to Indian Hunting, Trapping and Fishing Rights in Manitoba*. University of Saskatchewan Native Law Centre. 1983.

ENDNOTES

- ¹ Professor E.E. Prince, *The Fish and Fisheries of Manitoba*, Ottawa, 1909, pp. 1, 5.
- ² Symbion Consultants for The Ad Hoc Committee of the Status of Manitoba Commercial Fisheries, "An Investigation into the Status of Issues Affecting the Manitoba Commercial Fishery", 1991, p. 1.
- ³ Kenneth W. Stewart, Douglas A. Watkinson, *The Freshwater Fishes of Manitoba*, University of Manitoba Press, Winnipeg, 2004 p. 45.
- ⁴ Ibid. p. 45.
- ⁵ David Hinks, *The Fishes of Manitoba*, Manitoba Department of Mines and Natural Resources, 1943, p. 19.
- ⁶ Ibid. p. 120.
- ⁷ Ibid. p. 130-141.
- ⁸ Ibid. pp. 160-161.
- ⁹ Ibid. pp. 162-163.
- ¹⁰ Gordon Gislason, James MacMillan, Jack Craven, *The Manitoba Commercial Freshwater Fishery: An Economic Analysis*, Winnipeg: University of Manitoba Press, 1982. p. 21.
- ¹¹ David Mandelbaum, *The Plains Cree*, Canadian Plains Studies #9, Canadian Plains Research Centre, Regina, 1970, p.71.
- ¹² Brian J. Smith, "The Historical and Archaeological Evidence for the Use of Fish as an Alternative Subsistence Resource among Northern Plains Bison Hunters", in Kerry Abel, & Jean Friesen ed. *Aboriginal Resource Use in Canada: Historical and Legal Aspects*. University of Manitoba Press, Winnipeg, 1991, p. 47.
- ¹³ E. Rostlund 1952:67-71, quoted in Brian J. Smith, Ibid. p. 40.
- ¹⁴ David G. Mandelbaum, *The Plains Cree: an Ethnographic, Historic, and Comparative Study*. Regina: Canadian Plains Research Center, 1979, p. 71.
- ¹⁵ Ibid. p. 73.
- ¹⁶ Laura Peers, *The Ojibwa of Western Canada, 1780-1870*, Winnipeg: University of Manitoba Press, 1994, pp. 22-23, 70.
- ¹⁷ Martha McCarthy, "Grand Rapids Manitoba", Unpublished Report, Historic Resources Branch, Manitoba Culture, Heritage and Tourism, n.d., p.1.
- ¹⁸ Sir John Richardson in Sir John Franklin, *Narrative of a Journey to the Shores of a Polar Sea*, London: 1824, pp. 180-182.
- ¹⁹ HBCA B.105/e/1 fo. 4, in Tim Holzkamm, et. al., *op. cit.*, p. 6.
- ²⁰ Sir George Simpson, *Narrative of a Journey Round the World During the Years 1841 and 1842*, Volume 1, pp. 49-50, London; Henry Colburn, 1847, quoted in Tim Holzkamm, et. al., Ibid. p. 8.
- ²¹ J. Allen, "Report of the Army, of H.B. Schoolcraft's Exploration of the Country At and Beyond the Sources of the Mississippi, on a Visit to the Northwestern Indians in 1832" in *American State Papers*; Class V. Military Affairs, Volume V. Washington: Gales and Seaton, 1860, quoted in Tim Holzkamm, et. al., Ibid. pp 8-9.
- ²² L.R. Masson, L.R. *Les Bourgeois de la Compagnie du Nord-Ouest: Récits des voyages, inédits relatifs au Nord-Ouest canadien*, Volume 2, Cote: Québec, 1890, pp. 345-46, cited in Tim Holzkamm, et. al. Ibid., pp. 9-10.
- ²³ HBCA B. 105/e/6 fo. 4, quoted in Tim Holzkamm, et. al., Ibid. p. 11.
- ²⁴ Tim Holzkamm, et. al., Ibid. p. 12.
- ²⁵ Dawson, Simon James 1868 "Report of the Line of Route between Lake Superior and the Red River Settlement." Ontario Archives, Pamphlet 1868 #14, quoted in "Rainy River Sturgeon: An Ojibway Resources in the Fur Trade Economy", Tim Holzkamm, Victor Lytwyn, Leo G. Waisberg, in *Canadian Geographer*, Toronto, Fall 1988, Vo. 32, Issue 3, p. 194.
- ²⁶ Thomas Andrew Judson, "The Freshwater Commercial Fishing Industry of Western Canada", Thesis, University of Toronto, 1961, p. 12.
- ²⁷ Ibid.
- ²⁸ Isaac Cowie, *Company of Adventurers*, Toronto: 1913, p. 132.
- ²⁹ Ibid. pp. 215-216.
- ³⁰ Eliot Coues, ed., *The Manuscript Journals of Alexander Henry and of David Thompson Vol. I*, Minneapolis: Ross and Haines, 1965, p. 444.

-
- ³¹ HBCA B.22/a/2, fo. 31, in Tim Holzkamm, et. al. *op. cit.*, p. 3.
- ³² HBCA Nelson House 1802 1M97 B141/A/1.
- ³³ *Ibid.* Monday, January 31-February 6; Monday, February 7-13.
- ³⁴ *Ibid.* Monday, June 20-28.
- ³⁵ HBCA Nelson House 1809 1M97 B 141/A/2, August 10.
- ³⁶ *Ibid.* June 7.
- ³⁷ *Ibid.* June 13.
- ³⁸ HBCA Berens River 1872 1MA6 B/16/A/7, November 2.
- ³⁹ *Ibid.*, March 10, 1873.
- ⁴⁰ *Ibid.* May 16-31, 1873.
- ⁴¹ HBCA Norway House 1M111 B154/A/66 October, 1863.
- ⁴² *Ibid.* Saturday November 7, 1863.
- ⁴³ HBCA, Lake Manitoba House, 1M74 B/22/A/2, November 12, 1818.
- ⁴⁴ Donald Denn, "Norway House Fishing and Fisheries, 1875-1939", unpublished research report, Historic Resources Branch, Manitoba Culture, Heritage and Tourism, 2006, p. 12.
- ⁴⁵ Report of the Royal Commission on the Fisheries of Manitoba, 1911, p. 2.
- ⁴⁶ Alexander Barbour, *A Brief History of the Manitoba Fisheries*. Manitoba Historical Society Transaction Series III. No. 12, 1957, p.1.
- ⁴⁷ George Edward Eyre and William Spottiswoode, *Captain Palliser's Exploration in British North America*, 1859.
- ⁴⁸ CPS 1878, Vol. 11, No. 3 #1, Appendix 19, Report on the Fisheries of Manitoba for the year 1877, quoted in Jim Mochoruk, *Formidable Heritage*, University of Manitoba Press, 2004, p. 22.
- ⁴⁹ Jim Mochoruk, *op. cit.*, p. 22.
- ⁵⁰ Thomas Andrew Judson, *The Freshwater Commercial Fishing Industry of Western Canada*, Thesis, University of Toronto, 1961, p. 27.
- ⁵¹ Karen Magnusson, "Icelandic Fisheries on Lake Winnipeg, *The Beaver*, Spring 1982, p. 47.
- ⁵² Alexander Barbour, *op. cit.*, p. 9.
- ⁵³ Annual Report, 1884 Canada Department of Marine and Fisheries, No. 9, pp. 297-299.
- ⁵⁴ Annual Report, 1886, Canada, Department of Marine and Fisheries, No. 16, pp. 310-319.
- ⁵⁵ *Ibid.*, 1887.
- ⁵⁶ *Ibid.*, p. 16.
- ⁵⁷ Inspector Muckle, September 1, 1883. Annual Report, Canada Department of Marine and Fisheries, 1884, quoted in Robert I. Miller, *The Indian Reserve System in Manitoba, 1870-1900*, Thesis for Master of Development Studies, Institute of Social Studies, The Hague – Netherlands, The Hague, 1981, p. 93.
- ⁵⁸ Annual Report, Indian Affairs, 1882, No. 6, p.88, quoted in Frank Tough, "The Establishment of a Commercial Fishing Industry and the Demise of Native Fisheries in Northern Manitoba", *The Canadian Journal of Native Studies*, 2(1984) p. 305.
- ⁵⁹ *Ibid.*, p. 305.
- ⁶⁰ Annual Report, 1885, Indian Affairs, No. 3, p. 129.
- ⁶¹ Annual Report, 1887, Indian Affairs, No. 6, p. 79.
- ⁶² Inspector McColl, December 1, 1885. Annual Report, Indian Affairs, 1886, quoted in Robert Miller, Thesis for Master of Development Studies, Institute of Social Studies, The Hague – Netherlands, The Hague, 1981, p. 93.
- ⁶³ Inspector Muckle, August 19, 1886, Annual Report, Indian Affairs, 1887, No. 6:49, quoted in Robert Miller, *Ibid.*, p. 93.
- ⁶⁴ Inspector McColl, October 18, 1893, Annual Report, Indian Affairs, 1894, No. 14:47, quoted in Robert Miller, *Ibid.*, p. 94.
- ⁶⁵ Annual Report, Indian Affairs, 1888.
- ⁶⁶ Annual Report, Indian Affairs, 1887.
- ⁶⁷ Annual Report, Indian Affairs, 1885, No.5, p.54.
- ⁶⁸ Michele Baird, Maureen Staudt & Michael Stranz, *The Ojibwa of Berens River*, Thomson Wadsworth, 2007, p. 42.
- ⁶⁹ Bruce Cherney, "Lake Sturgeon a Species at Risk" *Real Estate News*, December 8, 2006, p. 10.
- ⁷⁰ *Ibid.*, p. 10.

-
- ⁷¹ Martha McCarthy, "Grand Rapids Manitoba", Unpublished Report, Historic Resources Branch, Manitoba Culture, Heritage, and Tourism, p. 12.
- ⁷² *Ibid.*, p. 16.
- ⁷³ Annual Report, Canada Marine and Fisheries, 1888.
- ⁷⁴ Annual Report, Canada Marine and Fisheries, 1888.
- ⁷⁵ M.W. Wagner, "Domestic hunting and fishing by Manitoba Indians: Magnitude, composition and implications for management," *Canadian Journal of Native Studies*, VI (2), 1986, pp. 333-349.
- ⁷⁶ Annual Report, Canada Marine and Fisheries, 1889.
- ⁷⁷ Thomas Juddson, *op. cit.*, p. 16.
- ⁷⁸ Donald Denn, "Fur Trade and Commercial Fishing on the east side of Lake Winnipeg Pertaining to Sessional Papers 1873-1973, Unpublished Report, Historic Resources Branch, Manitoba Culture, Heritage and Tourism, 2006. n.p.
- ⁷⁹ Annual Report, Indian Affairs, 1890, no. 12, p. 210.
- ⁸⁰ Annual Report, Indian Affairs 1891, No. 18, p. 199.
- ⁸¹ Samuel Wilmot, Special Report on the Preservation of Whitefish Fisheries of Lake Winnipeg, Annual Report, Marine and Fisheries, No. 8, Appendix No.3, p. 58.
- ⁸² Annual Report, Indian Affairs, 1891, No. 12, pp. 177-178.
- ⁸³ Annual Report, Marine and Fisheries, 1889, No. 17, Appendix No.8, p. 234.
- ⁸⁴ Annual Report, Indian Affairs, 1890, no. 12, p. 177, in Frank Tough, *Ibid.*, p. 181.
- ⁸⁵ Katherine Young and Anne Skarsgard, *A Layman's Guide to Indian Hunting, Trapping and Fishing Rights in Manitoba*, University of Saskatchewan Native Law Centre, 1983, p. 2.
- ⁸⁶ *Ibid.* p. 3.
- ⁸⁷ PAC RG10 Vol. 3807 file 52443, 22 October 1888, cited in Tim Holzkamm, et. al., *op. cit.*, p. 21.
- ⁸⁸ Thomas Judson, *Op. cit.*, p. 17.
- ⁸⁹ House of Commons debates, First session, Eleventh Parliament Speech of Mr. George Bradbury on Manitoba Fisheries Ottawa, Thursday, May 13, 1909.
- ⁹⁰ Inspector McColl, November 14, 1889, Annual Report, Indian Affairs. 1890, No. 12:177, quoted in Robert Miller, p. 95.
- ⁹¹ Donald Denn, *op cit.*, p. 3.
- ⁹² Annual Report, Indian Affairs, 1915.
- ⁹³ Thomas Judson, *op. cit.*, p. 19.
- ⁹⁴ Ted Kristjanson, "Kristjanson Fish, 108 years", Unpublished family manuscript, Gimli Museum, p. 8.
- ⁹⁵ Katherine Young and Anne Skarsgard, *A Layman's Guide to Indian Hunting, Trapping and Fishing Rights in Manitoba*, University of Saskatchewan, 1983, p. 16.
- ⁹⁶ *Ibid.* pp. 17-18.
- ⁹⁷ Thomas Judson, *op. cit.*, p. 20.
- ⁹⁸ Donald Den, "Fur Trade and Commercial Fishing on the East Side of Lake Winnipeg Pertaining to Sessional Papers", Unpublished Report, Historic Resources Branch, Manitoba Culture, Heritage and Tourism, p.6.
- ⁹⁹ *Ibid.*, p. 9.
- ¹⁰⁰ Donald Denn, *op. cit.*, p. 11.
- ¹⁰¹ *Ibid.*, p. 11
- ¹⁰² Department of the Environment of Fisheries and Marine Service Economics Branch, Central Region "Employment and Incomes in the Freshwater Commercial Fisheries", Nov. 1974.
- ¹⁰³ Heuring, Laura, "A Historical Assessment of the Commercial and Subsistence Fish harvests of Lake Winnipeg", Practicum, Natural Resources Institute, University of Manitoba, 1993, p. 13.
- ¹⁰⁴ *Ibid.*, p. 18.
- ¹⁰⁵ Thomas Judson, *op. cit.*, p. 24.
- ¹⁰⁶ Alexander Barbour, *A Brief History of the Manitoba Fisheries*. Manitoba Historical Society Transaction Series III. No. 12, 1957, pp.2-3.
- ¹⁰⁷ Annual Report, Canada Fisheries, 1884, Vol. 17, No. 3, #4, "ARDIA, 1883", 144 in Jim Mochoruk, *Formidable Heritage*, University of Manitoba Press, 2004, p. 51.
- ¹⁰⁸ Alexander Barbour, *op. cit.*, p.3.
- ¹⁰⁹ *Ibid.*
- ¹¹⁰ J. Mochoruk, *op. cit.*, p. 96.

-
- ¹¹¹ Ibid.
- ¹¹² Barry Potyondi, *Selkirk, The First Hundred Years*, 1981, p. 32.
- ¹¹³ Ibid., p. 52.
- ¹¹⁴ J. Mochoruk, *op. cit.*, p. 97.
- ¹¹⁵ Mochuruk gives figures of \$27,894 in 1884 and over \$100,000 in 1890, *Ibid.*, p. 52.
- ¹¹⁶ PAM MG12 E1 Schultz Papers, Box 19, Keewatin Letterbook 1888-90, "Dr. George Orton to Schultz, October 18, 1889," 184-185, quoted in J. Mochuruk, *op. cit.*, p. 99.
- ¹¹⁷ Barry Potyondi, *op. cit.*, p. 55.
- ¹¹⁸ Annual Report, Canada Fisheries, 1891, Samuel Wilmot's Report, p. 57.
- ¹¹⁹ J. Mochoruk, *op. cit.*, p. 102.
- ¹²⁰ Barry Potyondi, *op. cit.*, p. 56.
- ¹²¹ Ibid., p. 57.
- ¹²² J.B. Skaptason, *The Fish Resources of Manitoba*. Winnipeg: Industrial Development Board, 1926, p. 7.
- ¹²³ Ibid., p. 9.
- ¹²⁴ W.J.K. Harkness, "Report on the Sturgeon Situation in Manitoba", MS Report No. 80-3, Manitoba Department of Natural Resources, 1980, actually written in 1936, p. 3.
- ¹²⁵ Ibid., p. 17.
- ¹²⁶ Kristjanson, Ted, "Kristjanson Fish 108 Years," *op. cit.*, p. 7.
- ¹²⁷ Ibid., p.8.
- ¹²⁸ Ibid.
- ¹²⁹ W.J.K. Harkness, *op. cit.*, p. 12.
- ¹³⁰ W.M. Sproules, "The Goldeye, Manitoba's fresh-water aristocrat", Fisheries Research Board of Canada, 1946, p. 3.
- ¹³¹ Yields taken from Annual reports and quoted in Thomas Judson, *op. cit.*, p. 52.
- ¹³² Annual Report, Fisheries, XXII, App. 5, 1907 p. 56; XXII, App.7, 1908, p. 197, as quoted in Thomas Judson, *op. cit.*, p. 53.
- ¹³³ Canada, Dominion Fisheries Commission for Manitoba and the North West: Interim Report, December 2, 1909 (Sessional Paper No. 90a, 1910) quoted in J. Mochoruk, *op. cit.*, p. 102.
- ¹³⁴ Barry Potyondi, *op. cit.*, p. 57-58.
- ¹³⁵ J. Mochoruk, *op. cit.*, p. 103.
- ¹³⁶ Professor E.E. Prince, *The Fish and Fisheries of Manitoba*, Ottawa, 1909, p. 5.
- ¹³⁷ Brendan Carruthers, *A History of Commercial Fishing in Manitoba*. Conservation Comment. Department of Natural Resources, 1981, p. 4.
- ¹³⁸ H.C. Grant, *The Commercial Fishing Industry of Manitoba*, Economic Survey Board, 1938, p. 4.
- ¹³⁹ Kristjana Magnusson, "Lake Winnipeg Boats", *The Icelandic Canadian*, Autumn 1967, p. 28.
- ¹⁴⁰ S. Stefanson, "J.B. Johnson – A Fishermen for Three-Quarters of a Century", Undated manuscript in New Iceland Heritage Museum, Gimli, p. 1.
- ¹⁴¹ Ibid., p. 3.
- ¹⁴² Ibid., p.3.
- ¹⁴³ Ibid.
- ¹⁴⁴ See J. Stefanson's "J.B. Johnson".... for the full story of the year Johnson missed fishing on Lake Winnipeg to deliver the dogs to London.
- ¹⁴⁵ Ibid.
- ¹⁴⁶ Winnipegosis History Book Committee. *Reflections from Little Muddy Water: a History of Winnipegosis*. Winnipegosis, Man.1990, p. 172.
- ¹⁴⁷ Ted Kristjanson, "Kristjanson Fish", 108 Years, p. 8.
- ¹⁴⁸ L.C. Hewson, The Lake Winnipeg Summer Commercial fishery, Manuscript Research Report 72, Fisheries Research Board of Canada, 1951, p. 6.
- ¹⁴⁹ Ibid., p. 7.
- ¹⁵⁰ Ibid., p. 8.
- ¹⁵¹ Ted Kristjanson, *Ibid.*, p. 6.
- ¹⁵² Kristjana Magnusson, *op. cit.* p. 30.
- ¹⁵³ S. Stefanson, *op. cit.* p. 5.
- ¹⁵⁴ Alexander Barbour, *op. cit.* p. 11.

-
- ¹⁵⁵ Ibid., p. 12.
- ¹⁵⁶ J. Stefanson, *op. cit.*
- ¹⁵⁷ Ted Kristjanson, *op. cit.*
- ¹⁵⁸ Alexander Barbour, *op. cit.*, pp.8-9.
- ¹⁵⁹ Ibid., p. 10.
- ¹⁶⁰ George Charles Bradbury, in Winnipegosis History Book Committee *op. cit.*, p. 171.
- ¹⁶¹ Thomas Judson, *op. cit.*, p. 153.
- ¹⁶² Brendan Carruthers, *op. cit.* p. 3.
- ¹⁶³ J. Stefanson, *op. cit.*
- ¹⁶⁴ Winnipegosis History Book Committee, *Reflections from Little Muddy River, A History of Winnipegosis*, 1990, p. 47-48, quoted in Karen Nicholson, "The Lumber Industry in Manitoba", Historic Resources Branch Manitoba Culture Heritage and Tourism, 2000, p. 27.
- ¹⁶⁵ Alexander Barbour, *op. cit.* p. 15.
- ¹⁶⁶ Interview with Gord Emberley, retired pilot, at Lac Du Bonnet, May 6, 2007.
- ¹⁶⁷ S. Stefanson, *op. cit.* p. 6.
- ¹⁶⁸ Ibid.
- ¹⁶⁹ Ted Kristjanson, *op. cit.* p.2.
- ¹⁷⁰ L.C. Hewson, *op. cit.*, pp 4-6.
- ¹⁷¹ 1947 figures from: G.E. Butler, "The Fisheries of Manitoba", Unpublished Paper, Fisheries Branch, 1947, p. 3.
- ¹⁷² J.B. Skaptason, *The Fish Resources of Manitoba*, Industrial Development Board of Winnipeg, p. 9.
- ¹⁷³ A Presentation made by Department of Natural Resources staff to the Natural History Society, December 4, 1939, Files of Water Stewardship, p. 3.
- ¹⁷⁴ L. Hewson, pp. 9-10.
- ¹⁷⁵ Ibid., p. 11.
- ¹⁷⁶ Brendan Carruthers, *op. cit.*, p. 3.
- ¹⁷⁷ Thomas Judson, *op. cit.*, p. 59.
- ¹⁷⁸ Ted Kristjanson, *op. cit.* n.p.
- ¹⁷⁹ J. Stefanson, *op. cit.*
- ¹⁸⁰ Alexander Barbour, *op. cit.* p.13.
- ¹⁸¹ S. Stefanson, *Ibid.*
- ¹⁸² Karen Magnusson, "Icelandic Fisheries", *The Beaver*, Spring 1982, p. 50.
- ¹⁸³ *Ibid.*
- ¹⁸⁴ G.E. Butler, *op. cit.*, p.5.
- ¹⁸⁵ J. Stefanson, *op. cit.* p. 17.
- ¹⁸⁶ *Ibid.*, p. 2.
- ¹⁸⁷ Bobby Kristjanson, quoted in Stephen Homer, "Muddy Water," in *Equinox* (6)5, 1987 p. 66.
- ¹⁸⁸ George H. Mclvor, *Report of Commission of Inquiry into Freshwater Fish Marketing*, 1965, p. 34.
- ¹⁸⁹ Thomas Judson, *op. cit.*, p. 52.
- ¹⁹⁰ *Ibid.*
- ¹⁹¹ *Ibid.*, p. 53.
- ¹⁹² J.B. Skaptason, *op. cit.*, p. 9.
- ¹⁹³ *Ibid.*, p. 10.
- ¹⁹⁴ J. Stefanson, *op. cit.* p. 19.
- ¹⁹⁵ Laura Heuring, "A Historical Assessment of the Commercial and Subsistence Harvests of Lake Winnipeg", Winnipeg: University of Manitoba, 1993, p. 17.
- ¹⁹⁶ George Mclvor, *Report of Commission of Inquiry into Freshwater Fish Marketing*, Canada, 1965, p. 35.
- ¹⁹⁷ *Ibid.*
- ¹⁹⁸ *Ibid.*
- ¹⁹⁹ G.E. Butler, *Ibid.*, p.5.
- ²⁰⁰ *Ibid.*, pp. 5-8.
- ²⁰¹ E.B. Davidoff, "Lake Winnipeg Whitefish", Fisheries Research, Manitoba Department of Mines, Resources and Environmental Management, p. 6.
- ²⁰² *Ibid.*, p. 9.
- ²⁰³ *Ibid.*, p. 11.

-
- ²⁰⁴ Bruce Sealey, *Six Métis Communities*, Manitoba Métis Federation Press, Winnipeg, 1974, p. 43.
- ²⁰⁵ Ibid., p. 49.
- ²⁰⁶ Ibid.
- ²⁰⁷ J.A. MacMillan, J. Craven, G. Gislason, "Determinants of Incomes to Fishermen, Southern Lake Winnipeg, Grand Rapids, and Lake Winnipegosis, Open water and Winter Seasons, 1972-74", Department of Agricultural Economics, Faculty of Agriculture, University of Manitoba, p. 3.
- ²⁰⁸ Ibid, p. 5.
- ²⁰⁹ Winnipegosis History Book Committee, *op. cit.*, p.249.
- ²¹⁰ Thomas Judson, *op. cit.* p. 52.
- ²¹¹ Ibid. p. 68.
- ²¹² J.B. Skaptason, *op. cit.*, p. 11.
- ²¹³ Winnipegosis History Book Committee, *op. cit.*, p. 249.
- ²¹⁴ Ibid., p. 173.
- ²¹⁵ George Mclvor, *op. cit.*, p. 36.
- ²¹⁶ G.E. Butler, *op. cit.*, pp. 5-8.
- ²¹⁷ J.C. MacPherson, *Manitoba Commercial Fishing Handbook*, 1972, p.23.
- ²¹⁸ Ibid., p. 7.
- ²¹⁹ Manitoba Department of Mines, Resources and Environment Management, "Lake Winnipegosis: Issues and Information", 1976, p. 2.
- ²²⁰ Ibid., p. 23.
- ²²¹ James MacMillan, Gordon Gislason, James Craven, *op. cit.*, p. 23.
- ²²² Veteran fisherman, Robert Gaudry, quoted in Guy Lavallee, *The Métis of St. Laurent, Manitoba: Their Life and Stories, 1920-1988*, 2003, p. 62.
- ²²³ Leirfinnur Peterson, "History of the Icelandic Settlements at the Narrows, Manitoba", in Westbourne-Longbourne History, *When the West was Bourne*, 1985, p. 94.
- ²²⁴ Ibid.
- ²²⁵ Ibid.
- ²²⁶ Thomas Judson, *op. cit.*, p. 52.
- ²²⁷ Canada Sessional Papers XXII, App.5, 1907, p. 56, quoted in Judson, *op. cit.*, p. 53.
- ²²⁸ W.A. Kennedy, W.A. *Some Notes on the Whitefish Situation in Lake Winnipeg, 1947*. Fisheries Research Board of Canada, Central Fisheries Research Station, Winnipeg, 1947, p.22.
- ²²⁹ J.B. Skaptason, *op. cit.*, p. 11.
- ²³⁰ Ibid.
- ²³¹ George Mclvor, Ibid., p. 34.
- ²³² W.A. Kennedy, Final Report on the 1945-46 and 1946-47 surveys of Lake Manitoba." Fisheries Research Board of Canada, 1947, pp. 23-24.
- ²³³ W.A. Kennedy, *op. cit.*, p.19.
- ²³⁴ J.C. MacPherson, *op. cit.*, p. 22.
- ²³⁵ Bruce Sealey, *Six Métis Communities*, *op. cit.*, p. 24.
- ²³⁶ Manitoba Department of Mines, Resources and Environmental Management, "Lake Winnipegosis: Issues and Information", 1976, p. 21.
- ²³⁷ Guy Lavallee, *The Métis of St. Laurent, Manitoba: Their Life and Stories, 1920-1988*, *op. cit.*, p. 62.
- ²³⁸ D.J. Green and A.J. Derksen, The Past, Present and Project Demands on Manitoba's Freshwater Fish Resources, Department of Natural Resources, Fisheries Branch. MS Report #84-4, 1984, p. 31.
- ²³⁹ Ibid., p. 11; Brendan Carruthers, "A History of Commercial Fishing in Manitoba", Conservation Comment, August 1981, p. 3.
- ²⁴⁰ J.B. Skaptason, *op. cit.*, pp. 14-15.
- ²⁴¹ Ibid., pp. 17-19.
- ²⁴² D.J. Green and A.J. Derksen, *op. cit.*, p. 33.
- ²⁴³ G.E. Butler, *op. cit.*, pp. 5-8.
- ²⁴⁴ L.A. Sunde, "The Sturgeon Fishery in Manitoba with Recommendations for Management", Department of Mines and Natural Resources, Fisheries Branch, p. 7.
- ²⁴⁵ Ibid., p. 6.
- ²⁴⁶ Interview with Gord Emberley, Lac Du Bonnet, May 6, 2007.
- ²⁴⁷ J.C. MacPherson, Ibid., p. 24.

-
- ²⁴⁸ Brendan Carruthers, *op. cit.*, p. 3.
- ²⁴⁹ Adams et. al. 1976, in D.J. Green and A. Derksen, *op. cit.* p. 33.
- ²⁵⁰ James MacMillan, et al. *op. cit.* p. 23-24.
- ²⁵¹ Standing Committee on Fisheries, "The Marketing of Fish in Canada, An Interim Report on the Freshwater Fisheries", September 1986, p. 28.
- ²⁵² Symbion Consultants for The Ad Hoc Committee on the Status of Manitoba Commercial Fisheries, "An Investigation into the Status of Issues Affecting the Manitoba Commercial Fishery", 1991, p. 15.
- ²⁵³ D.J. Green, and A.J. Derksen, *Ibid.*, pp. 42-44.
- ²⁵⁴ Annual Report, Canada Department of Fisheries, 1885.
- ²⁵⁵ Report of John Wood, Bad Throat River, Lake Winnipeg, Annual Report, Department of Fisheries, 1887, p. 304.
- ²⁵⁶ Report of J.B. Johnson, Bull's Head, Lake Winnipeg, Annual Report, Department of Fisheries, 1887, p. 303.
- ²⁵⁷ *Ibid.*
- ²⁵⁸ *Ibid.*
- ²⁵⁹ Annual Report, Canada Department of Marine and Fisheries, 1890.
- ²⁶⁰ C.W. Gauthier, "Whitefish in the Great lakes Fish Culture in Canada, Ottawa, R.L. Grain, 1911, Microform FC16 C105 #82798, p. 21-22.
- ²⁶¹ Brendan Carruthers, *Ibid.*, p. 2.
- ²⁶² C.W. Gauthier, *op. cit.*, p. 22.
- ²⁶³ G.E. Butler, *op. cit.*, p. 14.
- ²⁶⁴ G.E. Butler, *op. cit.*, p. 15.
- ²⁶⁵ Alexander Barbour, *op. cit.* p. 14.
- ²⁶⁶ J. Stefanson, *op. cit.*
- ²⁶⁷ G.E. Butler, *op. cit.*, p. 9.
- ²⁶⁸ Laura Heuring, *op. cit.*, p. 20.
- ²⁶⁹ *Ibid.*, p. 21.
- ²⁷⁰ *Ibid.*
- ²⁷¹ Laura Heuring, *op. cit.*, p. 22.
- ²⁷² *Canadian Fisherman*, December 1916, p. 379, as quoted in Judson, *op. cit.*, p. 68.
- ²⁷³ Thomas Judson, *op. cit.*, p. 71.
- ²⁷⁴ Thomas Judson, *op. cit.*, p. 75.
- ²⁷⁵ *Ibid.*, p. 77.
- ²⁷⁶ E.E. Prince, Bulletin No. 3, "How to Handle Frozen Fish", Dominion of Canada, Ottawa, 1918.
- ²⁷⁷ G.E. Butler *op. cit.*, p. 11.
- ²⁷⁸ J. Stephanson, *op. cit.*, p. 4.
- ²⁷⁹ *Ibid.*
- ²⁸⁰ Homer, S. "Muddy Waters. Lake Winnipeg's Rich Fisheries and Folkways Face a Stormy Future." *Equinox* 6(5), p. 68.
- ²⁸¹ Standing Senate Committee on Fisheries, The Marketing of Fish in Canada: An Interim Report on the Freshwater Fisheries, September, 1986, p. 8.
- ²⁸² NAC, RG 23, vol. 112,(2), petition 19 April 1900, quoted in Frank Tough, *As Their Resources Fail, Manitoba 1880-1930*, Vancouver: University of British Columbia Press, 1996, p.44.
- ²⁸³ Ted Kristjanson, *op. cit.*, p. 4.
- ²⁸⁴ Presentation by the Manitoba Federation of Agriculture and Co-operation to the Commercial Fishing Commission Appointed at the 1953 Session of the Manitoba Legislature, Winnipeg Manitoba, November 10, 1953, p. 11.
- ²⁸⁵ Thomas Judson, *op. cit.*, p. 190.
- ²⁸⁶ *Ibid.*, p. 191.
- ²⁸⁷ *Ibid.*
- ²⁸⁸ *Ibid.*, p. 195.
- ²⁸⁹ H.C. Grant and J.W. Ward, "Manitoba Co-operative Fisheries Limited, Report of the Committee of Enquiry", Part II. Winnipeg: September 19, 1930, p. 11, quoted in Thomas Judson, *op. cit.*, p. 194.
- ²⁹⁰ *Ibid.*, p. 1.

-
- ²⁹¹ Presentation by the Manitoba Federation of Agriculture and Co-operation to the Commercial Fishing Commission Appointed at the 1953 Session of the Manitoba Legislature, Winnipeg Manitoba, November 10, 1953, p.11.
- ²⁹² G.F. Jonasson in "Evidence of the Manitoba Commission, 1933", p. 63, quoted in Thomas Judson, *op. cit.*, p. 143.
- ²⁹³ Thomas Judson *op. cit.*, pp.141-146.
- ²⁹⁴ Presentation by the Manitoba Federation of Agriculture and Co-operation to the Commercial Fishing Commission Appointed at the 1953 Session of the Manitoba Legislature, Winnipeg Manitoba, November 10, 1953, p. 12.
- ²⁹⁵ Thomas Judson, *op. cit.*, p. 200.
- ²⁹⁶ *Canadian Fisherman*, Vol. XVII, No. 3, quoted in Thomas Judson, *op. cit.*, p. 129.
- ²⁹⁷ Thomas Judson, *op. cit.*, p. 135.
- ²⁹⁸ They decreased by almost one dollar per pound between 1932-33. "Evidence Taken by the Commissioners Appointed to Investigate the Fishing Industry of Manitoba", 1933, p. 178.
- ²⁹⁹ Thomas Judson, *op. cit.*, p. 136
- ³⁰⁰ "Manitoba Commission on the Fishing Industry of Manitoba Report 1-2" 1933, p. 3.
- ³⁰¹ *Ibid.*, pp. 26-28.
- ³⁰² Ferris Neave and David Hinks, "The Status of the Whitefish in Lake Winnipeg", Department of Mines and Natural Resources, August 1937, p. 14.
- ³⁰³ *Ibid.*, p. 140.
- ³⁰⁴ *Ibid.*, p. 18.
- ³⁰⁵ Professor Ferris Neave, "Our Fisheries", A Radio Talk, Feb.1, 1937.
- ³⁰⁶ Presentation by the Manitoba Federation of Agriculture and Co-operation to the Commercial Fishing Commission Appointed at the 1953 Session of the Manitoba Legislature, Winnipeg, November 10, 1953, pp. 4-6.
- ³⁰⁷ Brendan Carruthers, *op. cit.*, p. 8.
- ³⁰⁸ J.C. MacPherson, "Manitoba Commercial Fishing Handbook, 1972", Manitoba. Department of Mines and Natural Resources, p.8.
- ³⁰⁹ Committee on Manitoba's Economic Future, The Commercial Fishing Industry, Department of Mines and Natural Resources, Fisheries Branch, 1963, p. 4.
- ³¹⁰ *Ibid.*
- ³¹¹ *Ibid.*, p. 13.
- ³¹² J.C. MacPherson, *op. cit.*, p. 12.
- ³¹³ *Ibid.*, p. 8.
- ³¹⁴ *Ibid.*, p. 13.
- ³¹⁵ Stephen Homer, "Muddy Water", *Equinox*, (6) 5, 1987, p. 68.
- ³¹⁶ George M. McIvor, "Report of the Commission of Inquiry into Freshwater Fish Marketing 1965", p. 4.
- ³¹⁷ *Ibid.*, p. 72.
- ³¹⁸ *Ibid.*, p. 6.
- ³¹⁹ *Ibid.* p. 9.
- ³²⁰ *Ibid.*, p. 84.
- ³²¹ *Ibid.*, p. 86.
- ³²² *Ibid.*
- ³²³ *Ibid.*, pp. 88-89.
- ³²⁴ *Ibid.*, p. 89.
- ³²⁵ *Ibid.*, p. 99.
- ³²⁶ Standing Senate Committee on Fisheries, "The Marketing of Fish in Canada: An Interim Report on the Freshwater Fisheries", September 1986, p. 8.
- ³²⁷ J.C. MacPherson, *op. cit.*, pp. 10-11.
- ³²⁸ *Ibid.*, p. 14.
- ³²⁹ "Employment and Incomes in the Freshwater Commercial Fisheries", Department of Environment, Fisheries and Marine Service, Economics Branch, Central Region, November 1974, p. 13.
- ³³⁰ "Minutes to the July 4,1974 Federal-Provincial task Force on the Commercial Fishing Industry in the Freshwater Fish Marketing Corporation's Area of Operations", p. 3.
- ³³¹ *Ibid.*, p. 22.

-
- ³³² Ibid.
- ³³³ R.W. Moshenko, W. Falconer, "A Summary of the Rough-Fish Industry in Manitoba, Department of Mines, Resources and Environmental Management, 1974, pp. 12-14.
- ³³⁴ Symbion Consultants for The Ad Hoc Committee on the Status of Manitoba Commercial Fisheries, "An Investigation into the Status of Issues Affecting the Manitoba Commercial Fishery, 1991, p. 9.
- ³³⁵ Dept. of Fisheries and Oceans, Western Region, "Annual Summary of fish Harvesting Activities, "Western Canadian Freshwater Fisheries, Winnipeg, 1982-83", quoted in Standing Senate Committee on Fisheries, "The Marketing of Fish in Canada", 1986, p. 7.
- ³³⁶ Stephen Homer, *op. cit.*, p. 66.
- ³³⁷ Ibid., p. 70.
- ³³⁸ John Snell, "An Assessment of the Impact of the Freshwater Fish Marketing Corporation on the Freshwater Fish Industry", A Practicum for Masters of Natural Resources Management, University of Winnipeg, 1989, p. 159.
- ³³⁹ Ibid. p. 161.
- ³⁴⁰ Ibid. p. 162.
- ³⁴¹ Ibid., p. 2.
- ³⁴² Ibid., pp. 168-9.
- ³⁴³ Presentation by Fisheries Branch staff to Natural History Society, December 4, 1939, in Water Stewardship files, p. 4.
- ³⁴⁴ Trevor Smith, "Smith's Compiled History of Fish Culture in Manitoba", Unpublished Report, Manitoba Conservation, c. 1973, p. 1.
- ³⁴⁵ Ibid.
- ³⁴⁶ Presentation by Fisheries Branch staff, *op. cit.*, p. 6.
- ³⁴⁷ Trevor Smith, *op. cit.*, p. 4.
- ³⁴⁸ Alexander S. Barbour, *op. cit.*, p. 7.
- ³⁴⁹ Ibid.
- ³⁵⁰ Ibid., p. 7; Trevor Smith, *op. cit.*, p.4.
- ³⁵¹ Ibid.
- ³⁵² Trevor Smith, *op. cit.*, p. 6.
- ³⁵³ Ibid., p. 10.
- ³⁵⁴ George Bradbury, House of Commons Debates, First Session- Eleventh Parliament. Speech of Mr. Geo H. Bradbury on Manitoba Fisheries, May 13, 1909, p. 13.
- ³⁵⁵ Ibid.
- ³⁵⁶ J.B. Skaptason, *op. cit.*, p.32.
- ³⁵⁷ Ibid.
- ³⁵⁸ Trevor Smith, *op. cit.*, p. 10.
- ³⁵⁹ Ibid., p. 11.
- ³⁶⁰ J.B. Skaptason, *op. cit.*, p. 34.
- ³⁶¹ Interview with Gord Emberley. Lac Du Bonnet, May 6, 2007.
- ³⁶² Trevor Smith, *op. cit.*, p. 11.
- ³⁶³ Ibid., p. 13.
- ³⁶⁴ J.A. Rodd, "The Annual Report on Fish Culture 1924", Department of Marine and Fisheries, Fisheries Branch, 1924.
- ³⁶⁵ Trevor Smith, *op. cit.*, p. 13.
- ³⁶⁶ Ibid., p. 7.
- ³⁶⁷ Trevor Smith "Sport Fishing in Manitoba", Undated Report, Manitoba Fisheries Branch, p. 6.
- ³⁶⁸ C.E. Butler, *op. cit.*, pp. 12-13.
- ³⁶⁹ W.M. Sproules, "A possible water supply for outdoor rearing troughs at the West Hawk Lake trout hatchery." Fisheries Research Board of Canada, 1945, pp. 1-2; Trevor Smith, "Smith's Compiled History of Fish Culture in Manitoba", *op. cit.*, p. 14.
- ³⁷⁰ Trevor Smith, "Sport Fishing in Manitoba", *op. cit.*, p. 8.
- ³⁷¹ Trevor Smith, "Smith's Compiled History of Fish Culture in Manitoba" *op. cit.*, p. 15.
- ³⁷² Trevor Smith, "Sport Fishing in Manitoba", *op. cit.*, p. 9.
- ³⁷³ Unknown author, "Sport Fishing in Manitoba", Department of Mines, Resources and Environmental Management, n.d., p.1.

-
- ³⁷⁴ Ibid., p. 2.
- ³⁷⁵ Ibid., p. 3; J.B. Skaptason, *op. cit.*, p. 5.
- ³⁷⁶ Presentation to the Natural History Society, December 4, 1939 by Fisheries officer, Files of Water Stewardship Branch, pp. 9-10.
- ³⁷⁷ Ibid.
- ³⁷⁸ Ibid.
- ³⁷⁹ W.M. Sproules, "The goldeye, Manitoba's fresh-water aristocrat", Fisheries Research Board, 1946, p. 4.
- ³⁸⁰ J.B. Skaptason, *op. cit.*, p. 31.
- ³⁸¹ John R. Cowan, "An Assessment of the Attitudes and Perceptions of Northern Manitoba Sport-Fishing Lodge Operators." Masters Thesis, University of Manitoba, 1992 pp. 8; 17-18.
- ³⁸² Ibid., p. 3.
- ³⁸³ Ibid., p. 12.
- ³⁸⁴ Don Toews, "A Proposed Sport Fisheries' Strategy for Manitoba, in *Transactions of the 1984 Canadian Sport Fisheries Conference*, edited by A.L.W. Tuomi, Canadian Special Publication Fisheries and Aquatic Sciences 82, p. 131.
- ³⁸⁵ Ibid., p. 137.
- ³⁸⁶ Standing Senate Committee on Fisheries, "The Marketing of Fish in Canada,: An Interim Report on the Freshwater Fisheries, September 1986," p. 27.
- ³⁸⁷ Ibid., p. 28.
- ³⁸⁸ Manitoba Natural Resources, "Sport Fishing in Manitoba 1985."
- ³⁸⁹ Don Toews, "A Proposed Sport Fisheries Strategy for Manitoba, in *Transactions of the 1984 Canadian Sport Fisheries Conference*, edited by A.L.W. Tuomi, Canadian Special Publication Fisheries and Aquatic Sciences 82, p.140.
- ³⁹⁰ Ibid., p. 146.
- ³⁹¹ John R. Cowan, "An Assessment of the Attitudes and Perceptions of Northern Manitoba Sport-Fishing Lodge operators." M.A. Thesis, University of Manitoba, 1992, p. 3.
- ³⁹² Ibid.
- ³⁹³ Ibid., p. 28.
- ³⁹⁴ Ibid., p. 24.
- ³⁹⁵ "A Profile of Manitoba's Commercial Fishery", Manitoba Conservation, May 2003, p. 2.
- ³⁹⁶ Ibid.
- ³⁹⁷ Ibid.
- ³⁹⁸ Ibid., p. 3.
- ³⁹⁹ Ibid. p. 4.
- ⁴⁰⁰ Kim Sigurdson, "Lunacy Costs Aboriginal Fishers." *Winnipeg Free Press*, A13, November 28, 2005.
- ⁴⁰¹ Ibid, p. 5.
- ⁴⁰² Symbion Consultants, "An Investigation into the Status of Issues Affecting the Manitoba Commercial Fishery", *op. cit.*, p. 18.
- ⁴⁰³ Manitoba Water Stewardship. Fisheries Branch, "A Profile of Manitoba's Commercial Fishery", June 7, 2006, p. 6.
- ⁴⁰⁴ D.J. Green, and A.J. Derksen, *The Past, Present and Projected Demands on Manitoba's Freshwater Fish Resources*, Manitoba Department of Natural resources Fisheries Branch, MS Report #84-4, p. 111.