A HISTORICAL OVERVIEW

OF

FISHING IN THE YUKON

by

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SUMMARY

Prior to the Klondike Gold Rush of 1898, fishing in the Yukon was primarily done by indigenous peoples for subsistence. For a number of Indian bands, fish, and particularly salmon, was the primary food source. Contact with White furtraders initiated a change in the Indian lifestyle. Indians became trappers for trade rather than for strict subsistence. Fish became especially important as a source of food for the increased number of sled dogs which were vital to the trapping lifestyle for transportation. Manufactured foods, which could be traded with furs, replaced or alleviated strict dependence on wild foods such as fish. In addition to influencing a change in lifestyle, White contact resulted in the introduction of the twine gill net to Yukon Indians, which proved to be a more efficient method for fishing than some traditional Indian methods.

The first form of commercial fishing in the Yukon developed circa 1885. Although unregulated at the time, Indians increased their harvest of the fish resource, selling or trading their surplus fish to the pioneer prospectors.

The gold rush created a large influx of people into the Yukon Territory which dramatically influenced and shaped the exploitation of the Yukon fishery. The burgeoned population created: 1) a demand for fish as a source of fresh food, 2) the development of the commercial fishing industry and the implementation of fishery regulations and licences, 3) the introduction of efficient fishing techniques such as the

fishwheel, and 4) man-induced developments which altered or limited fish habitat. In all respects, pressure on the fish resource increased dramatically at the turn of the century.

Conflicts between user groups arose. White commercial fish harvest often conflicted with Indian subsistence use. Fur farms used great amounts of fish for animal feed which was a concern of many subsistence users and government officials. Conflicts between Alaskans and Yukoners arose over the international harvest of transboundary migratory salmon stocks. In 1984, international negotiations of the salmon fishery continue to be ongoing.

Sport fishing in the Yukon was not regulated until 1949 and interest in sport fishing has increased nine fold since its initial regulation. Commercial sport fishing lodges, wilderness adventure companies, tourism and fishing retail stores have created and developed a Yukon sport fishing industry.

The commercial fishing industry, harvesting both freshwater and salmon resources (and temporarily Arctic Char), has historically been limited to local markets by inadequate storage facilities and high transportation costs to distant markets. A salmon processing plant, established in Dawson in 1982 will serve to expand the salmon market, while the market for the freshwater commercial fishery remains local.

Currently there is a composite of pressures on the Yukon fishery. Commercial, domestic, native and sport fishing interests are all vying and harvesting the same limited, although

renewable resource. The commercial salmon fishery is in the process of expanding its markets. Indians, whose traditional lifestyle valued fishing, both for cultural and subsistence reasons, demand continued access to the resource. Resident Yukoners desire continued domestic fishing privileges. In addition, sport fishing, a prized and invaluable privilege to Yukoners, as well as an attraction to tourists is increasing in economic importance and in the number of participants.

TABLE OF CONTENTS

TABLE OF CONTENTS (cont'd)

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

This paper presents an overview of the historical harvest and management of the salmon and freshwater fisheries in the Yukon, from aboriginal times to the present. The study was conducted for the Federal Department of Fisheries and Oceans, the agency responsible for the management of Yukon fish resources.

In determining current fisheries management policy, a historic perspective is essential. A historic overview allows an understanding of temporal changes in the utilization of the fishery resource, changes in fish abundance over time, and past and present causes of exploitation. A historical account of the use of the salmon resource is particularly important to the international salmon negotiations between United States and Canada, which have been ongoing for over twenty years. In negotiating trade-offs in the use of various salmon stocks between nations, the regional importance of the salmon resource and its level of harvest or exploitation must be defined not only in terms of present day use, but also historically. An overview and understanding of the salmon fishery in the Yukon can only strengthen Canada's terms of reference in international fishery negotiations.

As a remote, sparsely populated territory, the Yukon has until recently been characterized by few funds to manage its renewable resources, and the Yukon fish resource is no exception. Although a Fishery Inspector was stationed in the Yukon from 1899 to 1918, there was no Fisheries personnel employed in the Yukon again until the late 1950's. Records of fish catch statistics

date back to 1903 but the information is often inconsistent and questionable in its accuracy and comparability from one time period to the next. Too often the area managed by government agents (Royal North West Mounted Police and Fishery Inspectors) was too vast to allow for thorough, comprehensive investigations of the fish harvest. Consequently, a great deal of interpolation is needed in reviewing historical fisheries records from the Yukon.

The objective of this study was to draw together the pertinent published literature and unpublished files and information on fishing in the Yukon and to present a historical overview of the nature, importance and pattern of development of fisheries in the Yukon. The literature review involved a review of archival material of the Hudson's Bay Company, the Royal North West Mounted Police (RNWMP), and the Department of Fisheries. In addition, interviews were conducted with former and current fishermen, and long time Yukon residents.

2.0 METHODS

Historical records such as Chief Factors' Reports of Hudson's Bay Company Posts and Fishery Inspectors' Reports were reviewed at the Hudson's Bay Company Archives (H.B.C.A.) in Winnipeg, Public Archives of Canada (P.A.C.), Department of Fisheries and Oceans library in Ottawa, and the Yukon Archives (Y.A.) in Whitehorse. Much of the current fish catch data and fishery regulations information was compiled from Fisheries and Oceans files in Whitehorse.

Interviews were conducted with both retired and active commercial, domestic, and native food fishermen as well as long time Yukon residents. The interviews revealed personal concerns and recollections of events of the commercial, domestic and native food fisheries not recorded in reports and files of government agencies. Additionally, the interviews provided information which prompted further investigation.

The section of this report which deals with Indian fishing is cursory. Although several studies have been conducted to describe, ascertain and quantify the importance of the fish resource and fishing to Yukon Indians, much of this information remains classified and is not yet available, pending a land claims settlement.

Albeit salmon when caught in the Yukon Territory are in freshwater, for purposes of discussion they have been considered separately from freshwater species. Thus "freshwater fish" and the "freshwater fishing industry" are exclusive of the salmon fishery. Fish catches are discussed by 10 year periods wherever possible for ease of comparisons. The term anglers when used in this report refers to sport fishermen. A transboundary river is one which flows through both Canada and the United States. Thus, management of fish stocks within a transboundary river requires input and agreement between the two countries. Common and historical names of fish used throughout the text are appended with scientific names in Appendix 1. Out of biological interest an observation of a killer whale at Dawson is presented in Appendix 2.

3.0 PRE-GOLD RUSH

3.1 Aboriginal Life Styles

Prior to the mid 1700's fishing in the Yukon was solely for subsistence. The indigenous peoples who inhabited the region and who were dependent on wild foods for survival relied heavily on fish, among other resources. This reliance was reflected in the aboriginal life styles, as annual patterns of movement brought people together to areas where fish were abundant.

The reliance on fish as a food source was expressed by cultural rituals and ceremonies which showed respect for the fish.[1] Indians of the southwestern Yukon held "...an elaborate First Salmon Ceremony..." to honour and welcome the fish species' arrival each year.[2] The first caught salmon of the season was cooked and shared among all the people in camp and its bones were returned to the water. Indians believed gestures such as these helped to ensure the future return of fish. Thus the fish resource was both an essential food source and an integral part of aboriginal culture.

The dependence on fish stocks, the kind of fish caught and the methods of catch varied with location and with Indian bands. Those Indians which relied most heavily on fish usually depended on salmon. Yukon Indians have traditionally relied on the harvest of migratory salmon stocks both in the Yukon and northern British Columbia in the drainages of the Taku, Alsek, Yukon and Porcupine Rivers. The salmon species occurring in these respective drainages include: chinook, chum, sockeye, coho and pink.

No other species of fish provided the high nutritional value and seasonal accessibility as salmon.[3] According to Osgood, the Han Indians (Dawson area) relied heavily on salmon such that the amount of hunting activity conducted was inversely proportional to the amount of salmon available.[4] Similarly, when caribou numbers were low the Le Choux Indians (Old Crow area) placed a heavier reliance on migratory fish stocks,[5] (presumably salmon and whitefish). This relationship between caribou and fish availability and subsequent harvest by Le Choux still exists today. In areas where there were few or no salmon, Indians relied on freshwater fish for a food source. However, freshwater fish were generally not as easily accessible or available in the same abundance as salmon.

The locations of some historic Indian fishing camps within the Yukon and Alsek River basins are shown in Figure 1 and described in Table 1. Historic camps for the Porcupine River drainage and the north coast drainage are documented by DeLury et al in a relatively recent study of the north Yukon Indian fisheries.[6]

Indian fishing gear was ingenious in its specific adaptation to habits of different fish species and in the use of indigenous materials for its construction. However, the construction of the various implements or their employment was often labourious, requiring much time and effort.

Indians utilized traps and weirs in shallow rivers to catch salmon and in some cases they were also used to catch freshwater species. Although very effective, much effort and labour was

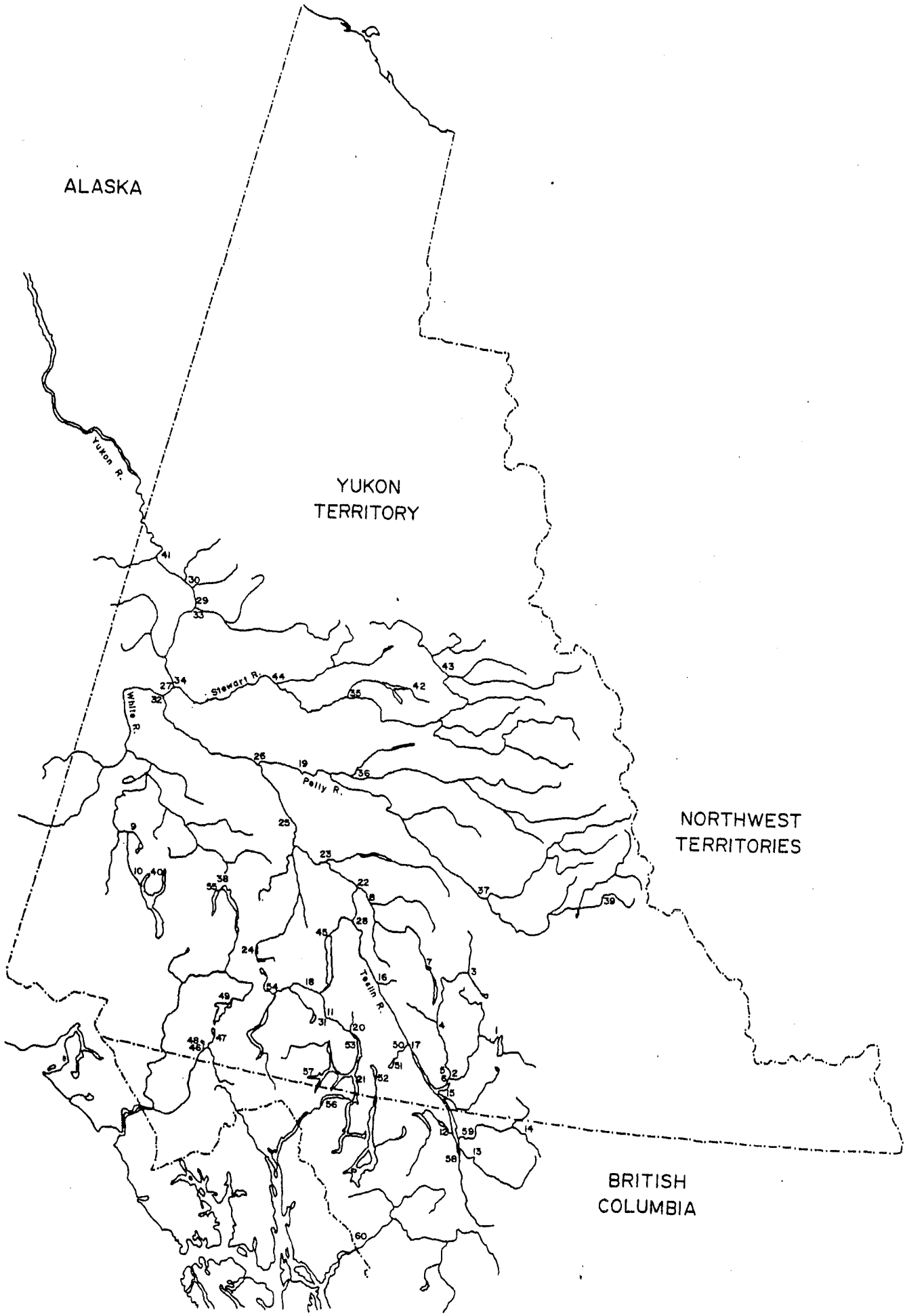

Figure 1. Some Historic Indian Fishing Camps in the Yukon and Alsek River Basins. See Table 1 for details.

Table 1. Some Historic Indian Fishing Camps in the Yukon and Alsek River Basins.

Map #	Site Name/Location	Type of Fish[1]	Season[1]
1	Wolf River	A	Summer
2	Wolf River	A	Summer
3	McConnell River	A	Summer
4	Nisutlin River	A	Summer
5	Nisutlin River	A	Summer
6	Nisutlin and Wolf R.	A, D	Summer
7	Big Salmon Lake	A	Summer
8	Big Salmon River	A	Summer
9	Tincup Creek	A, B	Summer, Fall
10	Kluane River	B	Fall
11	Miles Canyon	K, A	Summer
12	Gladys River	A	Summer
13	Jennings River	A	Summer
14	Morley	A	Summer
15	Teslin River (Dog Slough)	B	Fall
16	Teslin River	A, B	Summer, Fall
17	Teslin Lake	A,F-N	Year Round
18	Takhini River	A	Summer
19	Pelly River	A,B	Summer, Fall
20	M'Clintock River	A,G	Summer
21	Tagish Lake	A,H,O	Year Round
22	Big Salmon River	A,B	Summer, Fall
23	Little Salmon R. (Ghluksae)	A,B	Summer, Fall
24	Nordenskiold R. (Hutshi)	A,B	Summer, Fall
25	Yukon River (Kit-ah-gon)	A,B	Summer, Fall
26	Yukon River (Kowsh-Wou)	A,B	Summer, Fall
27	Yukon River (Kah tung)	A,B	Summer, Fall
28	Yukon River (Hootalinqua)	A,B,K	Summer, Fall
29	Yukon River	A,B	Summer, Fall
30	Yukon River (Nuclako)	A,B	Summer, Fall
31	Wolf Creek	A	Summer
32	White River	A,B	Summer, Fall
33	Klondike River	A,B	Summer, Fall
34	Stewart River	A,B	Summer, Fall
35	Stewart River	A,B	Summer, Fall
36	McMillan River	A	Summer
37	Ross River (Nahanni House)	A	Summer
38	Nisling River	B	Fall
39	Woodside River	A	Summer
40	Kluane Lake	A,B	Summer, Fall
41	Yukon River	A,B	Summer, Fall
42	Duncan	A,B	Summer, Fall
43	Beaver River	A,B	Summer, Fall
44	McQuesten River	A,B	Summer, Fall
45	Lake Laberge	A	Summer

Table 1. Some Historic Indian Fishing Camps in the Yukon and Alsek River Basins (continued)

Map #	Site Name/Location	Type of Fish[1]	Season[1]
46	Neskatahin	A,C,D	Summer
47	Klukshu River	A,C,D	Summer
48	Alsek River	D	Summer
49	Dezadeash Lake	F,G	Spring
50	Squanga River	G	October
51	Squanga Lake	G	November
52	Little Atlin Lake	F-I,K-O	Year Round
53	Marsh Lake	J,O	
54	Mendenhall River	J	
55	Aishihik Lake	F,G	
56	Tutshi Lake	O	May, Fall
57	Bennett Lake	O	May, Fall
58	Gailbreath	G	Fall
59	Swift River		Winter
60	Taku River	A-E	Summer

A chinook
B chum
C coho
D sockeye
E pink
F lake trout
G whitefish
H humpback whitefish
I round whitefish
J inconnu
K grayling
L ling cod
M pike
N suckers
O cisco

1 - when known

initially required in their construction. Numerous authors describe construction styles of weirs and traps.[7] Gaffing was also used in combination with a weir.[8]

Dip nets were used to catch salmon in the Yukon River and were also used in the Porcupine River drainage.[9] The nets were usually made from twisted willow bark hung on a birch or spruce frame. The use of dip nets required much effort and skill as described by Schwatka[10] and Kennicott, who wrote, "It is a very difficult operation, and I saw but two persons...about Fort Yukon that could catch them."[11] The use of dip nets over traps and weirs in the Yukon River drainage may have been a consequence of the water depth in the mainstream (traps and weirs required shallow water).

Researchers are divided on whether Indians used gill nets prior to contact with Whites. McClellan believed that in the Kluane area, the Jacquot brothers may have introduced this efficient fishing technique to local Indians.[12] Similarly, DeLury et al suggested White traders introduced the gill net to northern Yukon Indians in the late 1800's.[13] However, Rostlund believed aboriginal Indians developed and utilized gill nets, made from sinew or twisted willow bark.[14] Net construction with either material was a long and tedious process, with the product requiring special care and handling.[15] Indian contact with Whites no doubt implied the introduction of twine, a strong and more durable product for constructing nets than the indigenous materials available.

Aboriginal gill nets in the Liard River region of northern

British Columbia were short, deep nets.[16] Dimensions of nets from the southwest Yukon specify 20 feet by 4 feet.[17] Black noted two mesh sizes favoured for willow bark nets, were one inch, and two and a half inches.[18] When comparing Indian nets to nets of European twine, he noted that although the willow bark nets were inherently weaker they were always more successful.[19] The principal freshwater fish taken by nets were whitefish caught during late fall or early winter when the fish were concentrated in shallow water spawning areas. Other freshwater species were usually caught by bone hooks.

Spear fishing was a commonly used winter fishing technique, often used in combination with jigging. Indians in the Tagish area preferred spear fishing to setting nets under the ice.[20] Inuit along the Yukon's north coast utilized spear fishing and angling almost exclusively.[21]

The question of how much fish was harvested by Indians prior to Eurasian contact is complex and difficult to answer. While the Indians kept no records themselves, their use of fish would likely have varied depending on several factors such as: their proximity to a good salmon river; the availability of other food sources; and the Indian population size during that period. Cooley, in a report documenting the decline of the Alaska salmon, estimated the average per capita yearly consumption of salmon by aboriginal Indians and their dogs in Alaska.[22] He estimated 526 lb/capita/year for inhabitants of southeast Alaska, 415 lb/capita/year for interior Indians, and projected that consumption would fall as one approached the headwaters.[23]

3.2 Eurasian Contact

From the mid 1700's onward, Eurasians made contact with Indians principally through Russian and British furtrading companies.[24] The effect of acculturation on Indian fishing activity was complex. White contact instigated irrevocable changes to the Indian life style for it meant the introduction of economic and cultural values of another society, as well as the introduction of new materials and implements.

The introduction and consequent widespread use of firearms increased the accessibility of wild game to Indians and may have initiated a decreased reliance on fish. Concurrently, the introduction of twine gill nets and metal for spears and hooks reduced the time and effort required to fish. Consequently, fish were relatively more accessible and more easily harvested, and less time was spent fishing as fishing methods became more effecient.

Although not entirely related to the introduction of new fishing gear and techniques, traditional Indian beliefs, customs and attitudes concerning fishing began to fade after contact with Whites. Traps and weirs were not universally abandoned but according to DeLury *et al*, the gill net, when introduced to the Indians of the Porcupine River drainage, drew the people away from their cultural activities associated with the use of fish traps.[25]

The traditional culture of the indigenous people underwent a rapid economic shift toward a trapping economy.[26] The

procurement of manufactured goods by Indians was acquired through trade in furs. Consequently, fishing evolved to support the winter activity of trapping. Fish became an important food source for the increased numbers of dogs which provided the necessary mobility for trapping activities. We do not know whether the increase in dogs for winter transportation from the mid 1700's to the late 1800's meant a substantial increase in the amount of fish caught, since the change to a trapping economy coincided with the availability (through trade) of manufactured foods for human consumption.[27] However, we do know that in Alaska in the 1900's, declines in the subsistence catch of salmon on the Yukon River are attributed to reduced dog populations, as sled dogs became replaced by more mechanical means of transport.[28]

The first furtraders into the Yukon initially were as dependent as the Indians upon the fish resource for subsistence. In the mid 1800's, Campbell, of the Hudson's Bay Company, established company posts in the southern Yukon. Using twine gill nets, the furtraders fished the lakes and rivers with varying success. Fish harvest in the Francis Lake area was poor; "we have in all 23 nets constantly in water which...being...so far apart and scattered takes 6 persons to attend them and upon the whole the produce is trifling."[29] However, after relocating to Fort Selkirk on the Yukon River, Campbell reported, that by mid October 4,000 chum salmon had been caught[30] and combined with the harvest at Tatlmain and Lapie Lakes "collectively between our distant fisheries 20,000 fish were staged."[31]

No ready-made nets were listed in Hudson's Bay inventory lists for the period, although skeins of three strand twine #1, 2, 3, 5, 9 and 10, as well as unbleached three strand net thread and salmon thread were listed and presumably used for nets.[32] Nets were constructed at the posts, yet no reference to the size of mesh or net dimensions were found in the journal records.

Based on the frequency of reference in the Company journals it would appear that whitefish comprised the bulk of the freshwater catches. Other freshwater fish mentioned in the journals were "carp, trout, jackfish and loche." Campbell made reference to a particular fish at Fort Selkirk which he could not identify and otherwise rarely saw. "We caught some kind of sea trout in the river ... averaged two feet long, weigh 10 to 12 lb., bluish colour with white spots or stars on the side."[33] This sighting may have referred to a local variation of lake trout or inconnu.

The first scientific inventory of fish in the Yukon was conducted by Kennicott for the Smithsonian Institute, in 1860.[34] Kennicott recorded detailed descriptions of fish species found in the northern Yukon at that time.

By 1885, increasing numbers of gold prospectors began arriving into the Yukon region and a small market for fresh fish developed. Indians were the first group to utilize the fish resource on a small commercial basis in the Fortymile (Dawson) area. "Indians could be relied upon to catch fish in sufficient quantities to supply most of the White population's needs."[35]

3.3 Notes to Pre-Gold Rush

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30 "Post Journal from the Forks of the Pelly and Lewis :1849," H.B.C.A.

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33 R. Campbell, Two Journals of Robert Campbell (Chief Factor, Hudson's Bay Company), 1808 to 1953, (Seattle, John W. Todd, Jr., 1951), p. 64.

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4.0 LICENSED COMMERCIAL FISHING

4.1 Gold Rush Era

4.1.1 Establishment of Federal Control

The salmon and freshwater fish resources of the Yukon received substantially more harvest pressure following the 1896 Klondike gold strike when the population of Dawson City exploded to over 40,000 people by 1898. As a result a large market for locally caught fish developed to meet the needs of the expanding population of 1898. A few entrepreneurs took advantage of the opportunity to exploit and market local fish stocks. Percy De Wolfe, a well-known figure in Dawson's history, with his partner Pete Anderson arrived during the summer of 1898.

> ...they were both broke so quickly began figuring out what they could do to make a stake. Pete had lengthy fishing experience from the coast so the two partners decided to enter that game. They bought a fish net on credit, went 16 miles down the Yukon and brought up the first fresh salmon for the local market. From this humble start the two men built up a profitable fishing business... [1]

That same summer C.W. Gauthier established a commercial fishing operation on Lake Laberge, shipping his trout and whitefish fresh to Dawson City via the Bennett Lake and Klondyke Navigation Company. Fish prices were high in 1898 and he received $.50/lb. for the fresh fish which he shipped at a cost of $.03/lb.[2]

In April of 1899, having received reports of the increased fishing activity in the Yukon, the Minister of the Federal Department of Marine and Fisheries, L.H. Davies, authorized the Royal North West Mounted Police (RNWMP) to act as Fishery

Overseers. In a notice appointing the RNWMP officers to Overseers, the Minister described their responsibilities and legal duties and the licensing system they were to implement.

> I hereby authorize each and all of you to act as Fishery Overseers in and for the Yukon District, for the purpose of enforcing the FISHERIES ACT, Chapter 95, Revised Statutes of Canada, and the general FISHERY REGULATIONS FOR THE NORTH WEST TERRITORIES, which include the Yukon ... either by making seizures of illegal nets or other fishing apparatus or otherwise punishing offences against the Regulations, which may come under your observation or may be brought to your notice.
>
> You will observe that the Fishery Regulations forbid fishing with nets or other apparatus without leases or licenses, and that these are divided into two classes known as "domestic" and "commercial" licenses, a supply of each of these forms is sent you, which you are authorized to issue in such waters as may be determined on, to applicants on payment of the fees, two dollars ($2.00) and twenty dollars ($20.00) respectively, with an additional twenty dollars ($20.00) in case a tug Boat (sic) is used.
>
> It is impossible for the Department here to determine in which waters commercial fishing should be permitted at all. This must, therefore, be determined by you on the spot, and I hereby authorize you to permit and issue commercial licenses in such waters only as you think will fairly stand such fishing and to refuse them when you think desirable. You will also limit the number of these commercial licenses to be issued in each lake, where you allow them at all, so as to prevent any over fishing. It is not the desire of the Department to encourage these commercial licenses, rather otherwise and you will do well to limit both their numbers and the waters or lake where they may fish with them.
>
> As these regulations were originally framed to suit those portions of the North West Territories, in which the requirements of the Fisheries were well known to the Department, it may be that the close (sic) seasons are not suitable to the conditions in the Yukon District and that it will be necessary to adopt other dates more suitable to the locality.
>
> Any information which you may be able to supply the Department as to the habits of the fish frequenting the waters in that District and the date of spawning would be very desirable in reaching a decision as to the proper close seasons to be observed, and if found requisite, the regulations could be amended, and your suggestions are solicited on this point.
>
> You will notice that these regulations do not provide for the salmon fishery and as no doubt these fish are found in the water courses of the Yukon

> District, I should be obliged for any information you can afford this Department on this subject with a view to framing regulations therefor.[3]

Apparent from the correspondence was the lack of knowledge of Yukon fish resources with respect to the implementation of adequate harvest management regulations. While freshwater fishing regulations could be adopted from the N.W.T., no salmon fishing regulations were immediately defined or enforced. Additionally the correspondence stresses that commercial fishing was not to be encouraged but rather discouraged, presumably because of the lack of knowledge of the Yukon fish resources and fear of overfishing.

Indians were exempt from the new licensing system, unless they fished with the intention of selling fish. Prospectors, miners, travellers, surveyors or explorers were also permitted to fish for their own use without a domestic or commercial licence. Since most of the population was miners or prospectors who were permitted to fish under their miner's licence, domestic licences were apparently issued infrequently. The 1903 Fishery Annual Report stated "...a large quantity of fish is caught by the miners for their private use... It is impossible to give anything near a correct estimate of the amount taken in this way, as the miners are scattered over the entire territory."[4]

In May of 1900, a Fishery Inspector, Theophilus Stewart, was appointed to the Yukon by the Federal Department of Marine and Fisheries in Ottawa, relieving the RNWMP of their fisheries duties. The headquarters of the Fishery Inspector were located in Dawson City, and in addition to the Inspector, Fishery Guardians,

who were members of general public, were seasonally engaged to help monitor fishing activity in those areas remote to Dawson City.[5]

Upon appointing a Fishery Inspector, Deputy Minister Gourdeau warned that "the increased value of fish as a food for the vastly increased population will, it is claimed, imperil the fisheries unless protection of an effective character be carried out in order to prevent the extermination of valuable kinds of fish."[6] The Deputy Minister was referring strictly to freshwater fish and his attitude and instruction of action to the Fishery Inspector were considerably different for the salmon fishery;

> It does not appear the salmon which ascend the Yukon River require protection to the same extent, for the reason that after entering the Rivers (sic), they are afforded little or no protection in the United States territory; but are merely slaughtered in the lower portions of the river. There is no object in protecting...(the salmon species)..., in the upper waters when every effort is made to exterminate them before they reach Canadian territory. Hence all who wish to fish for salmon in Yukon territory might be allowed to do so on payment of a license fee.[7]

Other fish species for which the Deputy Minister recommended no regulations were "suckers, long-nosed pike, maria or ling, and inferior fishes."[8]

In 1903, the year in which the first Fishery Inspector's report was filed, 17 commercial licences were sold, and 40 men were engaged in the commercial fishing industry.[9] The average price of fish was $0.12/lb and the revenue from the commercial fish sales amounted to $18,085.[10] Although the new and exploitive commercial fishing industry was an added pressure to Yukon fish resources, on a national scale the industry was small.

> Owing to the limited market for the sale of fish, the number of men engaged in the work has not been large, as the wages paid to labouring men in this territory are so high that they can make more money working in the mines than following the fishing industry...Winter fishing has been tried...but as yet has not proved a success. Owing to the great distance from the Dawson market, about 175 miles, the cost of transportation was so high that the margin left for the fishermen was so small they could not continue the work...The run in 1903 (of Chinook Salmon) was good for only one week, after which they became scarce. The market for the sale of them is very limited, consequently very few men are engaged in the work... The market of all kinds of fish is limited as there is no outlet except the Dawson market, consequently very few people engage in the business.[11]

Thus the commercial fishing industry was a local entity, initially specific to the gold rush population of Dawson and later to the populations of Mayo and Whitehorse. The industry provided a source of revenue for only a few local individuals.

4.1.2 Markets

Two distinct markets for fish existed: fish for human consumption and fish for dog food. Initially fish for human consumption was sold fresh or during the winter sold frozen, while dog food was normally dried. Two factors limited the amount of Yukon fish marketed for human consumption: transportation costs, and preservation or storage facilities. These two limitations forced the Yukon commercial fishery to operate strictly for local markets, namely Dawson City, Mayo and Whitehorse.

Steamships were the primary means of transportation during the summer months. However, no cold storage facilities were provided on board the sternwheelers and fish shipped to the market centres were often covered with wet canvas or packed in

ice. Annual Fisheries reports list up to three ice houses operating prior to 1915. Ice collected during the winter months was stored in the ice houses for summer fish transport. Although cold winter temperatures facilitated the preservation of fish caught by winter lake fishing, the transportation of large quantities of fish was more difficult in the winter than during the open water season.

The Northern Commercial (N.C.) Store, a major retail store in Dawson City, began operating a freezer facility after 1915. In addition to storing local fish for sale, the company froze and stored fish for independent fishermen at a cost of a few cents per pound.[12] The N.C. Store also imported a small quantity of salted salmon yearly from the lower Yukon River fishery in Alaska. Salted salmon was lightweight and favoured by trappers, for when reconstituted it provided a nutritious addition to their diet.[13]

Fish market prices were initially high but varied between years and seasons. The 1898 price for whitefish and trout was $0.50/lb[14] contrasting with the 1903 prices of $0.15/lb.[15] In 1908 trout sold for $0.40/lb and whitefish for $0.25/lb.[16] Market fish price fluctuations may have reflected the availability of fresh fish relative to the availability of other meat supplies in the Yukon. During the month of April when other fresh food supplies were scarce, Arctic grayling sold for as much as $1.00/lb. However, the rest of the year grayling averaged only $0.20/lb.[17] The price for chinook salmon in 1903 was $0.10/lb.[18]

In the late 1800's and early 1900's, dog teams were the only practical and reliable form of winter transportation. Dried salmon comprised the bulk of sled dogs' diet as it was an abundant and cheap food source, as well as highly nutritious and lightweight. Chum salmon sold for $0.03/lb in 1903.[19] Given that most Indians, trappers, many miners and the RNWMP patrols had dog teams, huge amounts of fish were required for dog food. At the turn of the century, the RNWMP Whitehorse Division required 79,670 lb of dog food, of which slightly more than half (41,070 lb) was fish. The Dawson Division required 38,549 lb of fish for that same year.[20] Apparently there was difficulty in supplying these large quantities of fish locally. The salmon harvest by Yukon fishermen was often insufficient to meet the market demands for dog food and the N.C Store imported large quantities of dried chum salmon from the lower Yukon River, particularly from Tanana, Alaska.[21] The large quantity of dried salmon was at one point stored with the N.C. Company's gas and diesel fuel supplies because the fuel "couldn't have made the dog food smell any worse."[22]

4.1.3 Commercial Catch (1898-1918)

There is little available quantitative information pertaining to the commercial fish catch prior to 1908. Although the Fishery Inspector who was first appointed in 1900 filed annual reports, initial reports were largely qualitative. However, the 1902 Annual Report of the RNWMP recorded commercial catches of lake trout and whitefish from Lake Laberge. In that year, the total fish harvest from Lake Laberge was 45,000 lb;

35,000 lb by Clark and Sons and 10,000 lb by another firm.[23]

In the Annual Fisheries Reports of 1908-1916, estimates were recorded by the specific areas fished (Appendix 3). After 1917, all fish catch estimates and reports were published in summary only for the entire Yukon. The catch statistics at best can only be considered relative indices of the harvest levels. Nonetheless, these catch statistics describe the incredible levels of fishing undertaken during the gold rush era.

From 1908 to 1917, the annual recorded White catch ranged from 93,300 lb to 187,500 lb (Table 2). Year to year variations in harvest may to some degree reflect the omission or addition of the regions from where the catch was recorded (Appendix 3), as well as variability in fishing effort and stock availability, catchability and abundance. The 10 year (1908-1917) average harvest was 141,390 lb of freshwater fish.

The principal freshwater fish caught were whitefish, mixed coarse fish and lake trout, which represented approximately 37%, 31% and 12% respectively, of the total catch by weight. Arctic grayling likely comprised about two thirds of the "mixed coarse" catch (Appendix 3). Lake Laberge was the first lake to be fished extensively. The upper reaches of the Stewart and Pelly Rivers remained essentially untouched due to the lack of effective transportation.[24] The greatest freshwater commercial harvests were taken from Lake Laberge and Tatlmain Lake (ie. 49,700 lb from Tatlmain Lake in 1908 and 26,181 lb from Lake Laberge in 1909). Occassionally, large harvests were also taken from the Carcross area and Pelly District (ie. 33,000 lb from

Table 2 Yukon "White Catch" Commercial Statistics of Freshwater Fish, 1903, 1908-1917. Data from Department of Fisheries Annual Reports.

YEAR	HARVEST (lb)							
	Lake Trout	Whitefish	Pike	Ling Cod	Tullibee	Arctic Grayling	Mixed Coarse	Total
1903	20,700	46,200				9,750	5,000	81,650
1908	24,400	69,500	4,000	5,500	7,000	52,000	7,200	169,600
1909	18,800	78,200	4,900	8,850	12,000	54,000	10,600	187,500
1910	15,900	54,400	6,000		20,200	57,600	23,900	178,000
1911	17,900	61,100	18,500				68,200	165,700
1912	17,500	58,800	17,600				66,800	160,700
1913	13,300	35,300	2,000				47,500	98,100
1914	14,400	35,800	2,200				48,700	101,100
1915	14,600	35,300	1,900				44,000	95,800
1916	13,700	37,400	400		300		41,500	93,300
1917	19,400	64,800	4,200		200		75,500	164,100
1908-1917 Mean	16,990	53,060	6,170				43,390	141,390

see Appendix 3 for site specific harvest

Carcross in 1910 and 31,900 lb from Pelly District in 1911). The Klondike River seemed to be one area favoured for the harvest of Arctic grayling. In both 1909 and 1910, more than 19,000 lb of grayling were taken from the Klondike River (Appendix 3).

Most of the commercial salmon fishing on the Yukon River was conducted by Whites. In 1903 approximately 4666 pieces of salmon (70,000 lb) were caught commercially (see section 4.2.2). Maximum harvest estimates of over 12,000 pieces of salmon were recorded in 1913 and 1914. By 1916 the harvest had decreased to 9566 pieces.

In 1908, the Yukon commercial fishing industry yielded $58,955 in revenue, which was approximately $10,000 more than the yield in Alberta that same year.[25] However, in reviewing the dollar value of the Yukon fishing industry during the early 1900's, the high cost of living in the Yukon must be considered. "In the Yukon Territory the most noteworthy feature is the high price of fish... This, of course, is in keeping with the price of other food stuffs in the Territory; a large proportion of the fish caught being consumed within the borders of Yukon."[26]

In 1909, revenue from the commercial fishery was $113,653.[27] This estimate is approximately twice the revenue in 1908 because the 1909 value included the Indian catch. In 1909, 136 men were engaged in the commercial fishery and by 1914, 243 men were engaged in the industry, with 13 sales of commercial licences.[28] From 1913 to 1917, the average estimated annual value of the Yukon commercial fishery was $65,866 which ranged from $60,210 to $69,725. This represented, on average, 0.17% of

the marketed value of all Canadian fisheries.[29]

4.1.4 Commercial Fishing Techniques and Regulations

The regulations in 1899 stipulated a minimum mesh size of five inches for commercial freshwater gill nets. However, special allowances were made for certain fishermen to use smaller mesh sizes. Clarke and Sons, requested permission to use three and a half to four inch mesh gill nets in Lake Laberge in 1902. Clarke argued that since the company had obtained a large quantity of small mesh nets prior to the establishment of the regulations and "in view of the difficulty and expense of getting new nets in this remote district" they should be allowed to use them.[30] Additionally, the whitefish taken from Lake Laberge were considered to be smaller than whitefish taken elsewhere.[31] The Fishery Inspector weighed a sample of whitefish from Lake Laberge and recorded an average weight of only 13 ounces per fish.[32] The small size of fish reported in 1903 may already have been the consequence of overfishing with large mesh nets which would have selected for the larger fish. It is otherwise unlikely that whitefish in Lake Laberge were naturally smaller than fish in other Yukon lakes.[33] However, the small fish size was likely used to justify Fisheries permitting the use of the undersized nets in Lake Laberge.

In 1898, a commercial fishing operation on Lake Laberge used sets of 3519 yards (two miles) of nets.[34] We do not know if that represented a total length or if it meant more than one set of that magnitude was used. Under the 1899 Fishery Regulations, the maximum allowable length of any individual net was 2000 yards per

boat, and the maximum total net length by a commercial company was 10,000 yards.[35] In 1902, Clarke and Sons fished with sets of 1667 yards (5000 feet) of net.[36]

Nets of three and a half inch mesh or larger were not effective for catching Arctic grayling, a favoured table fish. In 1908, fishermen sent petitions to Fisheries requesting the legalization of nets of two and a half inch mesh for catching grayling. It was not until 1912 that the two and a half inch mesh size was legalized and in the mean time poaching grayling became quite lucrative and common. In 1909 the Fishery Inspector destroyed 46 nets of undersized mesh.[37] According to one Dawson resident, Jack Lee, the black market for grayling in 1909 was large, and poachers were able to sell their illegal fish for $0.35 to $0.50/lb.[38] In an editorial to the Dawson Daily News, Lee stated his opposition to the proposed legalization of the two and a half inch mesh net size for grayling on the basis that grayling populations were declining and that some salmon fishermen were poaching the more profitable grayling.[39] On the Klondike River alone, in 1909, 19,500 lb of Arctic grayling were caught commercially (Table 2). This catch size is well beyond the catch recorded from the previous year of 5000 lb, or the 9750 lb harvest recorded in 1903.

During the early 1900's most commercial salmon fishing was conducted with either set nets placed in river eddies or with drift nets. In the Dawson City area, drift netting for chinook salmon occurred on the Yukon River, particularly from the mouth of the Klondike River downstream approximately a half mile to the

Bank of Commerce Building, a waterfront landmark in Dawson City.[40] In an eddy directly below the Commerce Bank, commercial fishermen maintained rafts equipped with cleaning tables from which their fish were sold fresh. Salmon fishing is now closed in this area, 0.8 km upstream of the mouth of the Klondike River to 1.6 km downstream of the river mouth.[41]

Another device utilized for catching salmon was the fishwheel. Introduced first on the Yukon River in Alaska circa 1905,[42] the fishwheel was not legalized for use in the Yukon Territory until 1917. Yukon salmon fishermen had requested permission to use fishwheels in the Territory as early as 1910. At that time the Minister of Fisheries denied permission on the grounds that a wheel would take "large quantities of spawning fish."[43] Fishwheels were operating in Alaska in the early 1900's on the Yukon River upriver as far as the Canadian border. The fishing technique proved so effective in catching salmon that in 1916 Alaskan salmon fishermen were able to transport their catch to Dawson and still sell the catch at a price below that of the local fishermen.[44] At this point, Fishery Inspector Payson requested the legalization of fishwheels in the Yukon.[45] In 1917, three fishwheels were in operation in the Yukon.

4.1.5 Effects on Fish Populations

The increased demand for fish during the gold rush era combined with the employment of more efficient fishing technology greatly increased harvest pressure on the Yukon fish stocks.

The RNWMP Annual Reports from as early as 1903 expressed

concern for declining freshwater fish stocks. Superintendent Snyder reported "... the fish in Tagish and Marsh Lakes are fast decreasing and a hatchery should be established, more especially for whitefish."[46] Clarke, operating on Lake Laberge, felt that the lake was becoming depleted of fish in 1902, again suggesting overfishing, although he subsequently noted an improvement in fish stocks after 1 September of that same year.[47] The Fishery Inspector's report in 1913 conflicts with these earlier reports.

> Grayling, which abound in all the sidestreams, are as plentiful as ever, excepting the Klondike River where the dredges are working and keeping the water in a muddy state. The lakes from which the whitefish are taken, LaBerge (sic), Tatlemain (sic), and Thadsun (Teslin) are well stocked and do not seem to have suffered from fishing operation.[48]

We cannot substantiate whether the reports of the RNWMP and Clarke or the report of the Fishery Inspector indicated more accurately the status of the fish stocks. In the Dawson Daily News of 1919, fishermen again claimed that the fish of Teslin Lake and Lake Laberge were becoming scarce, while it was felt that grayling and trout populations in the Whitehorse area were as plentiful as ever.[49]

In addition to commercial fishing, habitat alterations associated with peripheral activities of placer goldmining were also effecting fish stocks. In 1912 fishermen attributed their unusually small salmon catches to crude oil and fuel oil residues spilled from oil burning steamers on the Yukon River. The fishermen complained of oil on their nets and also on the gills of the salmon in the nets.[50] However, the run of salmon in 1913 was again strong and the Fishery Inspector felt this disproved

the previous speculations of the fishermen.[51]

During 1911, a dam was constructed on the North Fork of the Klondike River. The Granville Power Company had constructed the dam to divert water into a ditch leading to a hydro-electric plant situated farther downstream on the Klondike River. Initially, the company operated only during the summer months, but eventually supplied power year-round to both Dawson City and individual mining operations within the Klondike River valley. During most of the year the dam did not impede fish movement. However, low water levels during the autumn did not always allow the passage of fish over the dam.[52] An article in the Dawson Daily News noted: "hundreds of salmon" were crowded into the area below the dam and "many have been caught there this season."[53] In addition to the impediment to fish migration, the power plant initially lacked proper screening facilities at the head of the ditch, which the Fisheries Inspector feared would cause high fish mortality in the plant's turbines.[54]

In 1899 a dam was constructed on the Yukon River, south of Whitehorse below the outlet of Marsh Lake. The original structure was replaced in 1923 by a wooden dam able to hold back six vertical feet of water. A report from a Royal Canadian Mounted Police (RCMP, formerly RNWMP) officer in 1932 documented the adverse effect of the dam on fish.

> ... the Dam of the White Pass and Yukon Route unquestionably does interfere with the passage of fish upstream, not the year round but only when the dash boards of the Dam are in place leaving the fish only the spillway on the sides to come up through, ... Whitefish will not rise or make an attempt to (go) up and over the spillway; Trout may do, also Grayling. It has been noted by people who have come up to the Dam, that below ...

> the water was full of fish, as soon as the dashboards were removed the fish disapeared (sic), presumably upstream... [55]

The activities of placer gold miners, and especially gold dredge operations in the rivers, altered river habitat for fish. Fishery Inspector Payson noted in 1914 that the "only river which shows a marked decrease in supply (of fish) is the Klondike, where many of the large dredges are working, with the result that during the summer months the water is in a more or less muddy condition." [56] In the Annual Fishery Reports of 1915 and 1916 Payson reported having to destroy dams on small creeks which presumably were constructed by placer miners and which likely impeded fish movement.

4.2 Post-Gold Rush Era

4.2.1 Commercial Freshwater Fishery (1920-1982)

Following the boom years of the gold rush the already diminishing Dawson population was further affected by enlistment of men into the Armed Forces during World War I, 1914-1918. As the population of gold miners, prospectors and townspeople declined, the market for fish was reduced. The Department of Naval Service, formerly the Department of Marine and Fisheries, recognized the decline in fishing activity and officially terminated the Fishery Inspector position in Dawson City. In May of 1918, the RNWMP were reinstated as Fishery Overseers. [57] During the next four decades commercial fishing continued in the Yukon, though at a level much lower than during the gold rush era.

During 1920 to 1946, the revenue produced by the commercial fishing industry (salmon and freshwater) decreased from $33,100 in 1920 to $5,014 in 1946. The commercial salmon fishery, on average, contributed more than 50% to the total commercial fishing revenue. The greatest recorded market value of the freshwater catch during the 25 year period (1920-1946) was $21,725, in 1931 (Table 3). On average, market revenue was $6229 over the 25 year period. The average size of the commercial freshwater harvest over the 25 year period was 30,000 lb of fish, represented by 42% whitefish and 32% lake trout and 36% mixed.

Comparing the two periods 1920-1929 and 1930-1939, mean fish harvest in the latter period was more than double (45,060 lb) the mean harvest during 1920-1929. During both periods, lake trout comprised approximately 33% of the harvest, while whitefish comprised more (45%) of the total catch during 1920-1929 than during 1930-1939 (36%).

In the 1930's a caterpillar tractor was used to haul commercial fish harvests from Ethel Lake to market during the winter and the fish were then sold through the Northern Commercial Store in Dawson.[58] The tractor was able to haul large quantities of fish and served as an improvement to sledding the fish, but we do not know how long the practice continued.

A renewed interest in commercial freshwater fishing occurred during the construction of the Alaska Highway (1942 - 1947). In 1943 the RCMP in Whitehorse received up to 100 enquiries from newcomers wishing to obtain information and

Table 3 Yukon Commercial Freshwater Harvest Statistics, 1920-1971. Data from Department of Fisheries Annual Reports.

YEAR	HARVEST (lb)				$ VALUE
	Lake Trout	Whitefish	Mixed	Total	
1920	15,000	17,000	6,000	38,000	9,100
1921	4,600	10,700	4,900	20,200	4,598
1922	4,400	10,800	7,800	23,000	4,610
1923	7,100	10,000	2,800	19,900	5,012
1924	11,500	15,000	2,600	29,100	7,145
1926	9,100	8,900	1,200	19,200	5,376
1927	5,000	7,000	8,000	20,000	4,040
1929	12,000	12,400	12,100	36,500	9,125
Mean	6,870	9,180	4,540	20,590	
1930	27,000	34,400	23,700	85,100	19,700
1931	30,000	34,700	22,600	87,300	21,725
1932	13,500	19,600	24,500	57,600	10,120
1933	17,100	14,000	19,500	50,600	9,300
1934	17,000	10,000	19,500	46,500	8,400
1935	20,000	8,000	24,500	52,500	10,100
1936	4,900	9,900	1,600	16,400	3,185
1937	4,000	8,300	1,200	13,500	2,229
1938	10,200	9,800	300	20,300	3,140
1939	6,400	13,800	600	20,800	3,299
Mean	15,010	16,250	13,800	45,060	
1940	4,000	9,500	1,100	14,600	4,782
1941	3,100	6,600	800	10,500	400
1942	5,900	9,200	2,300	17,400	1,742
1943	2,000	4,100	800	6,900	2,345
1944	3,200	8,800	1,300	13,300	1,068
1945	2,300	5,700	-	8,000	937
1946	4,200	17,000	-	24,200	4,244
1920-1946 Mean	9,700	12,600	7,800	30,000	6,229
1958	31,300	12,050	3,100	46,450	NR
1959	42,224	30,415	6,315	78,954	NR
1960	23,704	18,870	2,317	44,891	NR
1961	19,929	22,513	10,611	53,053	NR
1962	17,524	18,769	6,696	42,889	NR
1963	21,673	34,448	6,413	62,434	NR
1964	15,323	17,668	6,351	39,342	NR
1965	10,700	15,202	NR	25,902	NR
1966	21,651	17,789	NR	39,440	NR
1967	17,284	10,460	NR	27,754	NR
Mean	22,131	19,818	-	46,111	
1968	13,675	8,884	NR	22,459	NR
1969	10,534	11,072	NR	21,606	NR
1970	7,787	11,756	NR	19,543	NR
1971	3,834	3,422	NR	7,256	NR
1958-1971 Mean	18,300	16,700	-	38,000	

* much of catch data from 1947-1957 was apparently lost; data of 1958 to 1971 from Annual Narratives, Department of Fisheries and Oceans, Whitehorse, Yukon.
NR not recorded

licences to commercially fish in the large lakes adjacent to the highway. Since other fishermen were already licensed for those lakes, and "in keeping with a policy of conservation of our natural resources," newly interested parties were discouraged.[59] However, no apparent increase in the commercial fish catch of 1942 to 1946 to support this increased interest and demand in the fishery is documented in the Fisheries Annual Reports.

From 1958 to 1971, the commercial freshwater fish harvest decreased from 46,450 lb to 7256 lb (Table 3). It is not known if the harvest decline was a result of declined effort or diminished fish stocks. The harvest levels reported during 1958 to 1963 are high, and are similar in magnitude to those reported for the early 1930's and during 1911 to 1917. The 10 year (1958 to 1967) average total catch of 46,111 lb of fish is comparable to the 10 year harvest of 1930-1939, yet well below the mean harvest level of 141,390 lb during 1908-1917. The most interesting feature of the commercial freshwater fish harvest records of 1958 to 1971 is the high harvest level of lake trout which, on average, exceeded the whitefish harvest.

In 1961, following the reestablishment of a Fishery Inspector in the Yukon, a management strategy for freshwater net fishing was established. Only specific lakes were open to net fishing and each lake had an allowable quota of harvest. A second management strategy, pulse fishing, was proposed in the early seventies for commercially fished lakes.[60] However, this technique was never implemented in the Territory.

More current catch data for 1972 to 1982 is presented in Table 4 and refers specifically to the harvest of lake trout and whitefish, the major target species marketed. The record of licence sales over the ten year period suggests an increased interest in the commercial freshwater fishing industry. However, until 1982 when a 63% increase in harvest from the previous year was recorded, the catch data show a more or less constant level of harvest. In a report on the existing role and future potential of the Yukon fishery resource, Boland explained the increase in commercial licence sales from 1964 to 1971 (33 to 67 respectively) as being a reflection of "...the growing interest in recreational net fishing rather than an increase in commercial fishing activity."[61] The increase may also have been an effect of the elimination of domestic licences in 1961, thus Whites who wished to fish for subsistence needs had to purchase a commercial licence. Additionally, during the 1970's a renewed increase in sled dogs emerged and fishing was undertaken to feed the dogs. As there were no domestic licences available, fishing was conducted under commercial licences. From 1972 to 1982, commercial licence sales essentially tripled (56 to 156).

From 1973 to 1982, the yearly average commercial freshwater fish harvest was 18,874 lb, of which 56% was whitefish and 44% was lake trout (Table 4). This 10 year average total fish harvest is well below the 10 year mean harvests during 1908 to 1917, 1920 to 1929, 1930 to 1939 and 1958 to 1967. From 1972 to 1982, the year of the largest recorded harvest was 1982, when 26,352 lb were recorded. The 10 year (1973 to 1982) average annual harvest of lake trout, 8275 lb, is below mean catches for all previous 10

Table 4 Yukon Commercial Freshwater Harvest Statistics, 1972-1982.

YEAR	LICENCES ISSUED	HARVEST (lb)		
		Lake Trout	Whitefish	Total
1972	56	8,593	8,630	17,223
1973	81	10,033	13,181	23,214
1974	74	8,926	11,845	20,771
1975	88	8,266	8,066	16,332
1976	81	9,254	7,720	16,974
1977	86	9,124	9,717	18,843
1978	90	4,443	9,490	13,933
1979	108	7,724	13,256	20,980
1980	119	6,117	10,077	16,194
1981	132	7,616	8,533	16,149
1982	156	11,250	15,102	26,352
1973-1982 Mean	101	8,275	10,699	18,974

Adapted from : A. Horler, R. Johnston and G. Cronkite, An Assessment of the Fisheries Resources in 18 Lakes Within the Yukon Territory, Environment Canada, Department of Fisheries and Oceans, Whitehorse, 1983, p. 7.

year periods examined, except 1920 to 1929.

During 1981, nine commercial fishermen marketed freshwater fish and sold their catch to local markets (Appendix 4). The total gross income was at least $10,000, of which more than half was attributed to one fisherman. Two fishermen had incomes of $1100 - 2300, while the remainder made less than $1000 from their fish sales. Of the fish sold, whitefish comprised 63% of the total by weight. Most of the fish marketed came from Bennett, Teslin and Atlin Lakes representing 31, 28 and 24% of the total fish marketed by weight, respectively. Most of the whitefish (by weight) came from Teslin (37%) and Bennett (34%) Lakes, while most of the lake trout were from Atlin (35%) and Bennett (27%) Lakes. Local businesses such as the Sheffield Hotel and Super Valu, (a large grocery store), were the biggest buyers for lake trout, while tourists comprised much of the market for whitefish.

In 1982, 12 commercial fishermen marketed fish from six lakes (Appendix 5). Generally equal amounts of whitefish (52% of total catch by weight) and lake trout were sold in 1982, generating a total landed value of $19,072 (48%) to the fishermen. This value does not include the revenue enjoyed by the hotels and grocery stores from further sales of the fish. The average price received by the fishermen for lake trout was $2.00/lb, while whitefish sold for half that price.

Fish from Atlin, Bennett and Teslin Lakes comprised most of the marketed fish, 30, 26 and 26% respectively in 1982. Most of the lake trout came from Bennett and Atlin Lakes, 38 and 23%

respectively. Teslin and Atlin Lake whitefish represented 41 and 36% of the total whitefish marketed by weight, respectively. Hotels, particularily the Sheffield Hotel, were the largest buyers of the commercial catch of both trout and whitefish (Appendices 6 and 7).

The commercial freshwater catch (and also the domestic catch) from the 1972 to 1982 seasons for the specific lakes and rivers fished are listed in Appendix 8 (8.1-8.14). Most of the commercial harvest of whitefish and lake trout has come from Teslin, Atlin, Laberge, Kluane and Bennett Lakes. From the catch statistics of both commercial and domestic licences, Atlin, Bennett, Kluane, Laberge, and Teslin Lakes each produced approximately 6000 lb of lake trout and whitefish in 1982.

4.2.2 Commercial Salmon Fishery (1920-1982)

Pope, in his study of the Yukon River salmon fisheries (principally in Alaska), described the fisheries as being influenced by "a pattern of sporadic and unpredictable market demand."[62] Because the Yukon salmon market was historically restricted to local markets the demand for fish has been vulnerable to changes in levels of local demand. In Alaska the decline in the use of dog teams shifted the market demand from dog feed to human food and thus from chum salmon to chinook salmon.[63] Unfortunately, commercial salmon catch statistics in the Yukon Territory were not differentiated to species between 1918 and 1958; thus any change in the preference of salmon species is unknown.

During 1920 and 1921 commercial salmon harvests of 14,000 and 10,840 pieces respectively were reported. These figures represent the highest catch levels recorded prior to 1979, although it is unknown if turn of the century harvests were larger (Table 5). After 1921, commercial salmon harvest levels on the Yukon River fluctuated up and down although never surpassing a harvest level of 7,000 pieces. The salmon catch decreased after 1937 reaching the lowest recorded level of 120 pieces of salmon in 1947. No salmon catch estimates are available for the years between 1948 and 1957.

The commercial salmon fishery has shown a marked increase in harvest levels since 1978. The four year average harvest (1978 to 1982) was 19,458 pieces of salmon, of which 57% was chum salmon.

Until recently, the marketing of Yukon salmon had been plagued by inadequate long term storage facilities which restricted the distribution of salmon to local markets. In 1980, "Moosehide II River Transports," was established as a company which operated a fish packing barge and bought salmon from the commercial fishermen on the Yukon River. The project was not successful and folded in 1982. In 1982 a fish processing plant, Han Fisheries Ltd. was established in Dawson City through funding by the Dawson and Old Crow Indian Bands, the Council for Yukon Indians and the Federal Government.[64] The plant has the capacity to freeze 10,000 lb of fish daily and to store 100,000 lb of fish. During the 1982 season the plant processed approximately 128,000 lb of chinook and chum salmon.[65]

TABLE 5. Yukon River Commercial Salmon Catch Statistics in the Yukon 1904-1947, 1958-1982.

YEAR	TOTAL CATCH (Pieces)	YEAR	TOTAL CATCH (Pieces)
1904	4,666[1]	1926	4,373
1905		1927	5,366
1906		1928	6,733
1907		1929	5,264
1908	7,000	1930	3,660
1909	9,238	1931	3,473
1910	8,453	1932	4,200
1911	9,206	1933	3,333
1912	8,940	1934	2,000
1913	12,133	1935	3,466
1914	12,573	1936	3,400
1915	10,466	1937	3,746
1916	9,566	1938	860
1917		1939	720
1918	7,066	1940	1,153
1919	1,800	1941	2,806
1920	14,000	1942	713
1921	10,840	1943	609
1922	2,420	1944	986
1923	1,833	1945	1,333
1924	4,560	1946	353
1925	3,900	1947	120

.../continued

[1] Catch data obtained by dividing total poundage of mixed salmon by an arbitrary weight of 15 lbs. Figures considered conservative, from Department of Fisheries and RCMP files.

TABLE 5. Yukon River Commercial Salmon Catch Statistics in the Yukon 1904 - 1947, 1958 - 1982. (Continued)

YEAR	CHINOOK (Pieces)	CHUM SALMON (Pieces)	TOTAL CATCH (Pieces)
1958	3,000	1,500	4,500[2]
1959	2,477	1,098	3,576
1960	4,058	5,493	9,578
1961	3,446	3,278	6,724
1962	4,037	936	4,973
1963	2,283	2,192	4,476
1964	3,208	1,929	5,137
1965	2,265	2,071	4,336
1966	1,942	3,157	5,099
1967	2,187	3,343	5,530
1968	2,212	453	2,647
1969	1,640	2,279	3,919
1970	2,611	2,479	5,090
1971	3,178	1,761	4,939
1972	1,769[3]	2,532	4,301
1973	2,199	2,228	4,427
1974	5,503	3,010	8,513
1975	3,000	2,500	5,500
1976	3,500	1,000	4,500
1977	4,720	3,990	8,710
1978	2,975	3,356	6,331
1979	6,175	9,084	15,529
1980	9,500	9,000	18,500
1981	8,593	15,260	23,853
1982	8,640	11,312	19,952

[2] Environment Canada, Department of Fisheries, Whitehorse.

[3] Environment Canada, Department of Fisheries, Whitehorse, revised as of 15-11-83.

The establishment of the Han processing plant should help to alleviate the dependency of the Yukon River commercial salmon industry on unpredictable local market demands, through the promotion of a stable and expanded market. Buckles, in a socio-economic review of the implications of the Han fish processing plant, noted that the plant will reshape the Yukon commercial salmon industry through technological changes, involvement in a larger market and through the emergence of conflicting interests between fishermen, the public and the Department of Fisheries.[66]

The operation of the Han fish plant involves cleaning the salmon and thereby allows the fishermen to fish continuously when otherwise they had to interrupt fishing to clean and to preserve the fish. Although the establishment of the Han Plant has alleviated many of the historical problems associated with the salmon fishery, the relatively poor quality of chinook and chum salmon from the Dawson area compared to sea-caught salmon has not been resolved. Future plans of the Han Fishery involve the development of a fish smoking facility which would allow the plant to market a more economically viable specialty product. Yukon chum salmon roe is also a fine quality product to be marketed.

4.2.3 Commercial Char Fishery (1965-1966)

In 1965, an Arctic Char commercial fishery operated along the Yukon's north coast in the vicinity of Herschel Island and the Mackenzie delta.[67] The Menzie Fish Company harvested between 11,804 and 16,084 lb of char during the first year of

operation and only 222 to 1200 lb the following year.[68] After 1966 the company did not fish in the north coast area. Although the reasons for the cessation of the operations are not clear, Delury *et al* speculated that both economic limitations and over-exploitation of the fish resource were substantial influences.[69] No other commercial fishing operations are documented for the northern Yukon.

4.3 Notes to Licensed Commercial Fishing

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4 Thirty-sixth Annual Report of the Department of Marine and Fisheries, 1903, p. xxxvi.

5 F. Gourdeau, Correspondence to T. Stewart, 30 January 1900, P.A.C., R.G. 23, Vol. 328, File 2812 p. 5.

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29 Fifty-first Annual Report of the Fisheries Branch, Department of the Naval Service, 1917, (Ottawa, King's Printer, 1918), p. 26.

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31 Annual Report 1903, Fisheries, p. xxxvi.

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53 "Tells of New Yukon Winter Food Supply," Dawson Daily News, 29 September 1919.

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5.0 SUBSISTENCE AND DOMESTIC FISHING

5.1 Indian Food Fishery

5.1.1 Conflicts With Other Fisheries

Rapid growth of the commercial fishing industry at the turn of the century occasionally created conflict with Indian subsistence fishing. In 1902, Indians from the vicinity of Little Salmon Lake complained about impinging commercial fishing operations to the RNWMP who in turn contacted the Fishery Inspector. "(It)... is not right for these white men to come there as the lake belongs to them (the Indians) and if they (the commercial fishermen) continue fishing...the Indians - will not be able to catch enough to keep them from starving."[1] Consequently, the commercial fishermen were requested to relocate their operations.

Conflicting interests for the fish resource also arose with Indians and fur farmers (see section 5.2).

5.1.2 1909-1916 Freshwater Fishery

From 1909 to 1916 the yearly average Indian catch of freshwater fish was 177,900 lb (Table 6). Appendix 9 gives site specific information on the annual Indian fish harvest, for both freshwater fish and salmon. Areas which had large freshwater fish catches by Indians included: Salmon River, Upper Pelly, Tagish, Peel River, Hutshi, Selkirk/Pelly and Ramparts (Appendix 9). Particularly large harvests were recorded at Peel River (32,400 lb in 1910), Hutshi (34, 678 lb in 1909, and 44,600 lb in

Table 6 Yukon Indian Freshwater Fish Catch Statistics 1908-1916. Data from Department of Fisheries Annual Reports.

YEAR	APPROXIMATE HARVEST (lb)					
	Lake Trout	Whitefish	Pike	Mixed	Total Freshwater	Salmon
1909	15,700	84,400	12,400	115,600	229,100	38,207*
1910	19,800	94,000	17,700	142,800	274,300	65,200
1911	16,500	81,400	17,600	117,000	232,500	24,200
1912	15,900	78,800	16,600	127,500	238,800	122,800
1913	13,800	48,300	200	54,900	117,200	106,500
1914	14,000	48,400	200	54,900	117,500	108,000
1915	12,500	44,500	300	53,100	110,400	98,500
1916	11,500	41,500	NR	50,500	103,500	91,000
Mean	15,000	65,200	9,300	89,500	177,900	94,176

NR not recorded

* fresh catch only

see Appendix 9 for site specific harvest

1911), Rampart (38,800 lb in 1910) and Selkirk/Pelly (40,200 lb in 1911). In 1909 and 1910, years when the catch was thoroughly differentiated to species groups, species of whitefish comprised the bulk of the catch, representing 37 and 34% respectively of the total catch by weight. Arctic grayling, tullibee or cisco and lake trout represented 19, 13 and 7% respectively of the estimated total catch by weight in 1909.

It is not understood why the native fish harvest decreased 50% over the eight year period from a total recorded harvest of 229,100 lb in 1909 to 103,500 lb in 1916. Several factors (fishing effort, cyclical fish abundance, availability of fish, reduced fish stocks) may have influenced the levels of harvest over the years. One other possible explanation is that the decrease may not necessarily represent a real decline in harvest but rather be a reflection of the recording system. The first four years of catch estimates (1909-1912) were "...arrived at by taking into consideration the total number of Indians of which the different tribes were composed; basing my conclusions on accurate figures obtained, with reference to certain bands living in localities of easy access."[2] The remaining years (1913-1916) of catch estimates were estimated from reports of trappers and miners who travelled into the more remote areas. The accuracy of the catch estimates is unknown and are better considered indices of the Indian fish harvest.

5.1.3 1909-1916 Salmon Fishery

Indian harvest of salmon was substantially less than freshwater fish harvest. From 1909 to 1916, the average annual

catch of salmon was 94,176 lb, ranging from approximately 38,207 lb to 124,200 lb. The area from where the greatest harvest of salmon occurred was the Fort Selkirk/Pelly area (24,000-36,900 lb during 1911-1916). Other areas of large salmon harvest included: Rampart, Peel, Big and Little Salmon, and in some years, upper Pelly, McQueston/Stewart and Hutshi (Appendix 9).

5.1.4 1917-1957

No harvest data of Indian subsistence fishing (freshwater and salmon) was found for this period. This time period coincides with the absence of a Fishery Inspector in the Territory. The RNWMP kept records of commercial fish harvest during 1917 to 1957, but the subsistence fishing harvest was apparently more difficult, more time consuming and possibly less important to record.

5.1.5 1958-present Freshwater Fishery

A Fishery Inspector was reinstated in the Yukon in 1958 and for the next five years he recorded the estimated native catch (Table 7). The Inspector again relied upon local priests, RCMP officers, Forestry personnel, prospectors and his own personal resources for accessing the widely remote areas of the Territory where Indians fished.[3] In 1961, free Indian food fish permits were issued in an attempt to establish more accurate catch information.

Whitefish and lake trout comprised the bulk of the freshwater catch from 1958 to 1963, representing approximately 41 and 34% by weight respectively, of the total freshwater Indian

TABLE 7. Indian Food Fishery Harvest Statistics, 1958 - 1963.

	FRESHWATER FISH HARVEST[1] (lb)						
	Lake Trout	Whitefish	Arctic Grayling	Ling Cod	Inconnu	Other	Total
1958	18,600	21,200	3000	100	-	1200	44,100
1959	18,650	24,700	6700	550	85	10,700	61,385
1960	30,300	34,450	9300	500	40	22,150	96,740
1961	41,200	44,650	7400	500	150	23,850	117,750
1962	44,300	50,150	8650	500	150	15,150	118,900
1963	46,950	63,500	19,650	600	150	14,450	145,300
Mean	33,333	39,775	9117	458	115	14,583	97,362

	SALMON[2] HARVEST (lb)				
	Chinook	Chum	Sockeye	Coho	Total
1959	89,355	12,000	4150	1250	106,755
1960	104,475	50,575	28,850	2500	186,400
1961	155,640	34,800	17,475	2000	209,915
1962	157,500	51,000	9000	-	217,500
1963	121,620	153,000	6000	1500	282,120
Mean	125,718	60,275	13,095	1812	200,538

1 Annual Narrative Report, 1963, Department of Fisheries and Oceans, P.A.C., R.G. 23, Vol. 29, File 710-13-2, Vol. 3.

2 Salmon harvest statistics from same source as above, includes Yukon, Porcupine, Taku and Stikine River systems

food fish harvest (Table 7). The estimated total freshwater harvests during this six year period (44,100-145,300 lb) are generally below catch estimates from 1909 to 1916 (103,000-274,300 lb). The increase in total Indian freshwater food fish harvest from 1958 to 1963 represents a 300% increase over the five year period. The reason for the dramatic increase is not known.

Following 1963, harvest records of the Indian food fishery are sporadic for the areas where the harvest was recorded. Thus it was not possible to compile a comprehensive listing of the Indian freshwater food fishery harvest by location or species. However, the reader is directed to Fisheries Annual Narratives kept on file in Fisheries' Whitehorse office for catch statistics.

5.1.6 1958-1981 Salmon Fishery

During 1958-1963, the salmon harvest level also showed an increase, with chinook salmon comprising approximately 63% of the total average harvest of 200,538 lb. This increase in food fish harvest is questionable since dog teams which were fed fish were becoming less common, and increasingly more Indians were resorting to the wage-based job economy, becoming less involved with subsistence activities. Therefore, Indian food fish harvest records from 1958 to 1963 may be overestimates.

In addressing the decline of subsistence food fishing, it was noted in the Fisheries Annual Report of 1969-70:

> Expanding industrial operations and the opportunities for academic and vocational training attract and absorb increasing numbers of the Native population each year, and except for the older Indians in the more remote areas who prefer their own way of life, trapping, hunting and fishing, the trend appears to be a steady movement to the more urban centres where opportunities for employment and education exist.[4]

Indian subsistence harvest of the salmon fishery in the Yukon River from 1958 to 1980 is presented in Table 8. The proportion of chinook and chum salmon in the annual catch in terms of fish pieces, varied tremendously between years. More recent records, 1980, report equivalent numbers of chinook and chum salmon. Presently catch statistics for the Indian salmon food fishery are compiled from door to door or camp to camp interviews by the Fisheries Officers. Voluntary catch cards have also been deployed for recording harvests.

5.1.7 Northern Yukon (1970-1983)

DeLury et al suggested that the current (early 1970's) annual fish catch of the Old Crow Indians is related to two dependent factors - fish abundance and fisherman effort.[5] Between 1971 and 1974, Delury et al estimated the annual fish harvest was between 9,000 - 20,000 fish which supplied 250 natives and 200 dogs. In 1973, chum salmon represented 85% of the 54,866 lb harvest.[6] The other 15% of the harvest was comprised of coho and chinook salmon, Arctic grayling, whitefish, sucker, pike, inconnu, ling cod and least cisco.

The number of Natives living along the north coast of the Yukon has diminished to a few families since the turn of the century which was the height of bowhead whaling by Whites.

TABLE 8. Yukon River Subsistence (Indian and White) Harvest of Salmon, 1958 - 1980.

	PIECES OF SALMON [1]		
	Chinook	Other	Total
1958	8000	-	8000
1959	5957	2000	7957
1960	6965	8429	15,395
1961	10,376	5800	16,176
1962	10,500	9300	19,800
1963	8108	25,500	33,608
1964	6646	4181	10,827
1965	8116	5800	12,916
1966	2700	8600	11,300
1967	3213	13,600	16,813
1968	2900	11,100	14,000
1969	1000	5500	15,733
1970	2100	1200	3300
1971	2800	14,000	16,800
1972	1647	8000	9647
1973	2116	6938	9054
1974	3379	8636	12,015
1975	3000	18,100	21,100
1976	1523	3425	4948
1977	2807	8521	11,328
1978	2906	6210	9116
1979	4200	13,000	11,451
1980	15,500	14,500	30,000
Mean	8844	7329	16,173

[1] Department of Fisheries and Oceans, Whitehorse files

Consequently, the level of subsistence fishing has also greatly decreased.[7] Natives from Tuktoyaktuk, Inuvik and Aklavik frequently occupy summer fishing camps on Herschel Island or along the north coast at Shingle Point, Phillips Bay, Roland Bay and Whale Cove.[8] Arctic char is favoured for human consumption, and ciscoes and other whitefish are caught for dog food.[9]

5.1.8 Land Claims

Since 1973, Yukon Indians have been negotiating a Land Claims Settlement with the Federal and Territorial Governments. In January 1984, an agreement-in-principle was achieved. The Council for Yukon Indians has negotiated for Indian participation in resource management decisions, which includes fisheries. Natural resource development and industrialization by Indians, such as Han Fisheries Ltd. (see section 8.0) will strongly influence the direction of Yukon fisheries in the future.

5.2 Fur Farms

No records of domestic licences issued during the early 1900's were found. Presumably the issuances increased after the development of fur farming in 1913 as many of the farmers caught fish for feed under domestic licences. Fur farming in the Yukon was prompted by the high prices for fox and mink pelts. Conditions which made the Yukon Territory a favourable place for fur farming were the abundance, availability and low cost of animal feed, which was principally game meat or fish, and the climatic conditions which were conducive to good fur production.

In 1920, ten fox and mink farms had been established and were located near Dawson, Carcross, Carmacks, Forty Mile, Rampart and Whitehorse.[10] By 1932 the fur farming industry had reached its peak with 35 farms in the Territory. The farms were usually located on the larger lakes or rivers, where the farmers were able to take advantage of freshwater fish and salmon stocks for animal feed. The principal lake fish species harvested for feed were whitefish, lake trout and least cisco, whereas fur farms situated on the Yukon, Pelly and Porcupine Rivers utilized salmon for animal feed.

Interviews with former fur farmers and their descendants indicated that fish as animal feed was often used in combination with a cereal such as corn meal.[11] When asked about approximate quantities, a former mink farmer,George Simmons, said 'a piece of dried fish the size of one's thumb was an adequate daily quantity for a mink. Simmons alternated rations of fish and meat daily for mink food.[12] During winter months the farms maintained only a breeding stock of animals, which for a typical mink farm may have been one hundred mink. Assuming a litter of four mink per female, the farms may have supported 400-500 mink from spring until late fall.

Legally the fur farmers required only a domestic licence to harvest fish. However, the quantity of fish caught for animal feed was alarming to many Yukon residents. In 1932, Patsy Henderson, a Tagish Indian, petitioned a complaint about a fur farm intending to establish a second operation on Little Atlin Lake. The lake traditionally supplied food for Indian elders

during winter months and the petitioners feared the fur farm would deplete the fish stocks of the lake. Although not all claims in the petition could be substantiated, the farm was prohibited from establishing on the lake.[13]

Wynne-Edwards, in his survey of the Yukon fisheries, supported the idea that large quantities of fish were caught for animal feed on fur farms:

> The principle fox and mink ranches were at Carcross and Tagish; and for these enormous quantities of fish were taken from the lakes, amounting at the peak between 1925 and 1935 to some thousands of pounds a week. There is no doubt in my mind that this is the direct cause of the present depletion of the lakes....Fishing is now so poor that most of the fur ranches have closed down.[14]

Whether the fishing was as poor as Wynne-Edwards purports is uncertain, but his observation serves to exemplify the magnitude of fish harvested by fur farmers.

A letter written in 1920 by an RCMP officer to the Department of Fisheries suggested that a special licence should be issued for individuals using fish as animal food. "I have to say that at Carcross on Lake Bennett, fish (least cisco) are caught with dip nets by the owner of a fox farm, and are used by him as fox feed and not for sale or barter. As fish are caught by this means in large quantities...the use should be regulated."[15] However, a special licence was never enacted.

In 1940, the RCMP recommended the establishment of a new licence category to regulate fur farmers fishing for feed. At a proposed cost of $10.00, the licence would allow the use of 600 yards of four inch mesh net. During 1940, there were 15 fur farms

in the Territory; four operators possessed commercial fishing licences, three fished under domestic licences while the remaining eight either purchased fish from commercial fishermen or used other types of food.[16] The proposed licence scheme was never adopted, presumably because the industry continued to decline in size. In 1943, there were 9 fur farms in the Territory and by 1957 there remained one farm.[17] Currently there exists one operating fur farm in the Yukon. Situated near Stoney Creek, the farm keeps about 25 foxes and the commercial fox feed is supplemented with local fish.[18]

5.3 Domestic Fishing (1974-1982)

Domestic licences were eliminated in 1961 and were not issued again until 1974. The elimination of domestic licences occurred as a result of dwindling licence sales and the reasoning that Indian food fish permits would suffice. By 1974, Fisheries recognized the renewed interest in domestic fishing by non-Indian residents and reinstated domestic licences.

In 1974, 42 freshwater domestic licences were issued and in 1982, 159 licences were issued.[19] Domestic licence sales increased 278% over the nine year period yet the domestic catch only increased by 40%.[20] In terms of lake trout and whitefish, the domestic freshwater catch on average represented 20% of the yearly commercial catch. The nine year average domestic catch was 3790 lb, in which whitefish represented 80% of the catch.[21] Domestic fish harvest on a site specific basis is presented in

Appendices 8.1 - 8.14. Catch estimates from domestic salmon fishing on the Yukon River have previously been discussed (see Table 8).

5.4 Notes to Subsistence and Domestic Fishing

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11 Virginia Smarch, Personal communication, Teslin, Yukon, September 1983.

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6.0 LICENSED SPORT FISHING (1949-1983)

6.1 Overview (1945 -1983)

Sport fishing in the Yukon may be as old as the arrival of the first Whites (1700's) into the area, but the fishing activity was not regulated or licensed until 1949. The construction of the Alaska Highway (1942 - 1947) created a new and concentrated linear pressure on the Yukon freshwater fishery. The impact of the highway construction crews was summarized by an RCMP officer in a report written in 1946:

> For the past three years, that is, during the construction of the Alaska Highway, the various lakes and rivers adjacent to the Highway were certainly overfished and depleted during the open season. As a matter of fact, our patrols stopped numerous people from fishing where it was observed that they had caught more fish than they could possibly use and were only wasting them, or where the object of a big catch was simply to have their pictures taken with same, and the fish were left to rot.[1]

The RCMP were not the only people concerned about the unrestricted angling. In 1945, a group of 127 Yukon residents who were concerned about the unregulated growth of sport fishing formed the Yukon Fish and Game Association (an organization still in operation today). The Association felt that the RCMP did not have enough personnel to adequately enforce the fishery regulations for the commercial fishery, let alone moderate the sport fishing activity.[2] Consequently, the Association proposed numerous changes to the fishery regulations in addition to suggesting that the responsibility of fish management should be given to a territorial commissioner whose salary and expenses would be paid by licence sale revenues. The sport fishing regulation recommendations proposed by the Association were

incorporated in a revised set of fishery regulations. Consequently, in 1949, angling restrictions were enacted and included resident ($1.00/year) and non-resident ($2.00/year) licences and daily limits for fish (20 fish, of which not more than ten could be lake trout). The Department of Fisheries included only one additional restriction in the regulations; a minimum fish length for trout or grayling of eight inches.[3]

In 1949, the first year of sport fishing licence sales, 953 resident and 878 non-resident licences were sold, generating $2709 in sales revenue (Table 9). Apart from a few years of low sales, on the whole, sport fishing licence sales have increased steadily since 1949. Peak licence sales were recorded for 1981-82 when more than 17,000 licences were sold. The 1981-82 sales represented a nine fold increase over the 1949 sales and were more than twice the volume of the 1970-71 sales. Howard Paish & Associates, in a study of sport fishing in the Yukon, explained that the increase in licence sales is not simply an increased interest in sport fishing but a result of the territorial population increase.[4] Similiarly, the reduction in sales from 1981-82 to the 1982-83 season may in part reflect the Yukon's reduced population during the current economic recession as well as an increase in licence fees. Of most importance in influencing the amount of licence sales are visitors to the Yukon who more recently have represented at least 50% of licence sales.

A review of the changes in sport fishing licence residency categories and fees has been appended (Appendix 10). Initially, the term "residency" implied Territorial residency. After 1969, a

TABLE 9. Sport Fishing Licence Sales in the Yukon Territory, 1949 - 1982.

YEAR	RESIDENT (1949-70 Yukon) (1970-82 Canadian)	NON-RESIDENT (Season)	NON-RESIDENT (5 day)	NON-RESIDENT (1 day)	NON-RESIDENT (Total)	TOTAL LICENCE SALES	TOTAL REVENUE ($)
1949 - 1950[1]	953	878			878	1,831	2,709
1950 - 1951	1,138	836			836	1,974	2,810
1951 - 1952	1,627	1,532			1,532	3,158	4,689
1952 - 1953	1,712	1,631			1,631	3,343	4,974
1953 - 1954	1,845	1,645			1,645	3,490	5,135
1954 - 1955[2]	2,143	1,752			1,752	3,895	5,647
1955 - 1956	2,213	1,566			1,566	3,779	5,344
1956 - 1957	2,210	1,730			1,730	3,940	5,670
1957 - 1958	2,433	1,845			1,845	4,278	6,123
1958 - 1959	2,543	2,029			2,029	4,572	6,601
1959 - 1960	2,473	3,336			3,336	5,809	9,145
1960 - 1961	2,612	3,721			3,721	6,333	10,054
1961 - 1962	2,600	3,960			3,960	6,560	10,520
1962 - 1963	2,672	3,687			3,687	6,359	10,046
1963 - 1964[3]	2,851	4,229			4,229	7,080	11,309
1964 - 1965	2,505	4,185			4,185	6,690	10,875

.../continued

1 (P.A.C., R.G. 23, Vol. 29, File 710-13-2, Vol. 2).
2 (P.A.C., R.G. 23, Vol. 29, File 710-13-2, Vol. 3).
3 (Sinclair and Sweitzer, 1973:10).

NOTE: Where contradictions occurred in records the most recent record was used.

TABLE 9. Sport Fishing Licence Sales in the Yukon Territory, 1949 - 1982 (Continued)

YEAR	RESIDENT (1949-70 Yukon) (1970-83 Canadian)	NON-RESIDENT (Season)	NON-RESIDENT (5 day)	NON-RESIDENT (1 day)	NON-RESIDENT (Total)	TOTAL LICENCE SALES	TOTAL REVENUE ($)
1965 - 1966	2,543	5,109				7,652	12,761
1966 - 1967[3]	2,760	5,916				8,676	14,592
1967 - 1968	2,679	6,969				9,648	16,617
1968 - 1969	2,840	7,483				10,323	17,806
1969 - 1970	2,978	7,513				10,491	18,004
1970 - 1971	4,466	1,386	2,652		4,038	8,504	36,540
1971 - 1972	5,585	711	3,853		4,564	10,149	37,351
1972 - 1973[4]	5,104	785	3,719		4,504	9,608	36,179
1973 - 1974	6,629	1,039	4,232		5,271	11,900	45,089
1974 - 1975	7,783	835	3,245		4,080	11,863	43,057
1975 - 1976	8,578	1,088	3,549		4,637	13,215	49,035
1976 - 1977	8,836	869	3,220		4,089	12,925	46,468
1977 - 1978	9,642	1,105	3,865		4,970	14,612	53,503
1978 - 1979	10,401	1,351	3,969		5,320	15,721	58,604
1979 - 1980	10,987	2,343	3,503		5,846	16,835	68,651
1980 - 1981[5]	11,892	1,911	3,460		5,371	17,263	66,896
1981 - 1982	11,867	1,910	3,574		5,484	17,351	67,210
1982 - 1983	9,898	1,384	1,821	599	3,764	13,662	98,175

3 (Sinclair and Sweitzer, 1973:10).
4 (Howard Paish and Associates, 1981: 51).
5 (Department of Fisheries files).

NOTE: Where contradictions occurred in records the most recent record was used.

"resident angler" was redefined as a Canadian citizen.. Licence fees increased in 1961 and again in 1982. In 1981, free licences were issued to anglers otherwise exempt from the licence system (less than 16 years old, over 65 years old and Indians) in an attempt to compile more complete information on the size of the user group comprising the sport fishery.

During the 1982-83 season, Yukon sport fishermen represented 48% of the licenced anglers, whereas non-Yukon Canadian residents represented 24% and non-Canadians comprised 28% (Appendix 11). However, due to differences in the licence fee structure (based on residency), non-Canadian anglers contributed approximatley 50% of the $98,175 revenue from licence sales.

Sinclair and Sweitzer conducted a sport fishing study in the Yukon in the early 1970's.[5] Results from their sport fishing survey of the 1970-71 season indicated Arctic grayling comprised 54% of the sport fish catch in terms of numbers of fish. Lake trout represented 27% and northern pike comprised 14%.[6] Although these relative proportions of catch indicate angler preference, they also reflect the ubiquitousness, accessibility and ease of catch of the individual fish species to the sport fishery. This is particularly true of Arctic grayling which is common and plentiful in waters adjacent to most roads and population centers, thus making it easily accessible to motoring residents and tourists. New roads, such as the Dempster Highway, provide anglers access to fish stocks which would otherwise be minimally fished, if at all.

While freshwater sport fishing in the Yukon became

increasingly popular with the development of roads and a larger resident population, sport fishing for salmon has also been an extremely popular and growing recreational activity. Salmon sport fishing occurs on the Yukon River system and the Alsek-Tatshenshini River system with the greatest angling activity occurring in the latter drainage especially in the Klukshu River-Dalton Post area. The Tatshenshini salmon fishery has recently become a management priority as it supports both an intensive sport fishery and a traditional Indian food fishery. Consequently, the fishery is frequently a subject of discussion in the international (United States and Canada) salmon negotiations.

Unlike the Alsek-Tatshenshini sport fishery, angling for salmon in the Yukon River drainage has not been as intensively monitored. The Takhini River and Tatchun Creek are popular salmon angling areas, and there is speculation that a significant amount of sport fishing also occurs in other tributaries such as the Teslin and Morley Rivers.[7] With regard to the salmon negotiations, the Yukon River has not enjoyed the attention that other transboundary rivers have received.

A fish species receiving increased angling pressure is Arctic char, found within the north coast drainage systems of the Yukon. In the past, the north coast area was generally ignored because of its remoteness and the high costs of air travel involved. The prohibitive costs kept angling "restricted" principally to the staff of DEW line (Distant Early Warning) stations, researchers and petroleum developers.[8] With

the increased levels of oil and gas exploration in the north and the various associated spin-off activities, harvest pressure on the Arctic char stocks will continue to increase.[9]

Unfortunately sport fishing catch statistics are not available for most years. During 1958 to 1963 the Yukon Fishery Inspector estimated sport fishing catches (Table 10). No details regarding survey methods or the study areas involved are available, thus the catch statistics represent only an index of catch size. Nevertheless, from the 1958-63 estimates the size of the freshwater fish catch increased from 20,200 lb to 102,325 lb over the six year period, with increases occurring in all fish categories: lake trout, Arctic grayling and other. The six year average of the freshwater catch for this period was 51,670 lb. The salmon sport fishing catch fluctuated annually with no apparent pattern.

More recently, sport fishing catch statistics have been compiled through the use of questionnaires. Selective results of the sport fishing questionnaire of 1970, 1975 and 1980 are presented in Table 11. The two most frequently caught species are lake trout and Arctic grayling. In 1980 northern pike was the third most abundant fish caught and retained, while in 1970 and 1975 catch of pike by anglers varied slightly. The catch records shown in Table 11 represent total fish caught for 1970, but only fish caught and retained for 1975 and 1980. Total fish caught increased over the eleven year period from 220,800 in 1970 to 306,718 in 1980, yet over the same period, licence sales have more than doubled from 8,504 to 17,075.[10]

TABLE 10. Estimated Sport Fishing Harvests in the Yukon Territory, 1958 - 1963
(P.A.C., R.G. 23, Vol. 29, File 710-13-2, Vol. 3)

YEAR	LAKE TROUT (lb)	ARCTIC GRAYLING (lb)	OTHER[1] (lb)	FRESHWATER TOTAL (lb)	SALMON[2] (lb)
1958	15,600	3,800	800	20,200	---
1959	18,500	3,400	2,100	24,000	3,000
1960	34,678	2,364	1,000	38,042	3,300
1961	36,950	4,200	5,306	46,456	5,500
1962	53,950	11,850	13,200	79,000	3,600
1963	67,650	16,350	18,325	102,325	1,500

1 Other Fish: Inconnu, Burbot, Northern Pike, Kokanee, Rainbow Trout, Dolly Varden and Arctic Char.

2 Salmon statistics are from Klukshu, species not defined.

TABLE 11. Comparison of Lake Trout, Arctic Grayling and Northern Pike Landings from 1970, 1975, and 1980 Sport Fishing Surveys for the Yukon Territory.

	1970.[1]	1975[2]	1980[3]
Total Lake Trout landed	62,900	59,200	37,800
Total Arctic Grayling landed	126,500	92,714	82,700
Total Northern Pike landed	31,400	7,775	21,100
Total Fish landed	220,800	159,689	141,600
Number of Licensed Anglers	8,504	12,664	17,075
Angler Effort (days fished)	93,112	134,680	153,800

Note 1975 and 1980 catch represents only fish caught and retained

1 W. Sinclair and O Sweitzer, The Economic Value of the Yukon Sport Fishery, (Department of the Environment, Fisheries and Marine Service, 1973).

2 Survey of Sportfishing in the Yukon Territory in 1975; Recreational Fisheries Branch, Fisheries and Environment Canada, Ottawa, 1978.

3 1980 Survey of Sportfishing in the Yukon, Economic Policy Branch, Department of Fisheries and Oceans, Ottawa, 1983.

Angler effort, as the number of days an angler fished, was determined for each of the sport fishing surveys and represents an estimate of fishing activity not reflected by licence sales. Angler effort increased 31% between 1971 and 1975 and 12% between 1975 and 1980 (Table 11).

In 1973, Fisheries personnel expressed concern for the high level of fish harvest by the anglers.[11] Sport fishing was referred to as the major fishery in the Yukon and anglers were obviously taking more fish than the commercial fishing industry and the Indian food fishery. Howard Paish and Associates estimated the 1979 sport fish harvest to be similar to the 1975 harvest (355,200 lb) and concluded that in 1979, the commercial lake trout harvest (7,500 lb) amounted to less than 2% of the sport fish trout catch, and the domestic trout harvest (475 lb) amounted to about 1% of the sport fish harvest.[12]

In 1980, 37,700 lb of lake trout were caught and retained by licensed sport fishermen.[13] During the same year, the reported commercial catch of lake trout was 7,046,[14] approximately 20% of the angler catch. The domestic harvest of lake trout was 107 lb or less than 1% of the sport fish harvest.

Again, in 1981, it was the opinion of Fisheries personnel that sport fishing was not receiving the attention that it should, due to lack of funds and manpower.[15] At least one lake in particular, Wellesley Lake, has received continued heavy sport fishing pressure. In 1982, fishery regulations were established specific to this lake in hopes to conserve the lake trout resource and ensure the existence of trophy size lake trout.

6.2 Stocking Programs

The first stocking program carried out to enhance sport fishing was initiated by the Yukon Fish and Game Association in 1945 and continued until 1958. A hatchery was established at McLean Lake near Whitehorse to provide a reliable supply of rainbow and cutthroat trout for stocking.[16] McLean Lake still has cutthroat although they are generally a small size, due to uncontrolled propagation.[17] The U.S. Army also stocked a number of lakes during the construction of the Alaska Highway.[18]

Additional stocking programs were proposed and also attempted[19] but it is not known if the motiviation for stocking was solely for sport fishing enhancement, for commercial fishing or to introduce a new and favoured fish species to Yukon waters. More recently, the Department of Fisheries has conducted stocking programs. The latest program, carried out in 1982, involved stocking 19 pothole lakes with 117,000 rainbow trout fingerlings for angling activities.[20] The program has been successful in most of the lakes.

6.3 Commercial Sport Fishing

Commercial sport fishing enterprises developed in the Yukon throughout the 1970's. By the latter part of the decade, six sport fishing lodges were in operation.[21] By 1980, increased interest in developing more sport fishing lodges was apparent. Applications for land lease permits to establish 16 additional sport fishing sites were filed with the Department of Indian

Affairs and Northern Development (DIAND). In addition, a survey of businesses offering wilderness adventures reported that four of the businesses specifically offered guided sport fishing (but were not based from a lodge or a camp) and seven other companies offered fishing as part of an entire wilderness package.[22]

The sudden increase in demand for land-based fishing facilities (representing considerable investment) coupled with minimal knowledge of the lakes' fish productivity led to a moratorium placed on the issuance of land leases for sport fishing lodges until the establishment of a freshwater fish management policy. The Department of Fisheries and Oceans was concerned that considerable money might be invested by operators only to have the fish stocks crash in a relatively short time.

The moratorium was removed in 1983. Interested sport fishing companies must now contact Fisheries personnel in Whitehorse prior to commencing operation. A harvest quota has been established for most Yukon lakes based on 1/4 kg of lake trout per lake surface hectare. A commercial operator is allowed 50% of the established quota in most cases, with the remainder going to Indian and resident user groups. The latter two users are considered priority users. Heavy investment in the development of facilities by a commercial sport fishing operation is discouraged because Yukon lakes may not be capable of withstanding prolonged intensive fishing pressure.[23]

6.4 Notes to Licensed Sport Fishing

1 RCMP Correspondence, 3 May 1946, P.A.C., R.G. 23, Vol. 995, File 721-4-27(1), p. 133.

2 Yukon Fish and Game Association, Correspondence to the Department of Fisheries, 4 January 1946, P.A.C., R.G. 23, Vol. 995, File 721-4-27(1), p. 130.

3 "Special Fishery Regulations for the Yukon Territory," in The Canada Gazette (Part II), 22 October 1947, P.A.C., R.G. 23, Vol. 995, File 721-4-27(1), p. 40.

4 Howard Paish & Associates, The Yukon Sport Fishery. A Policy Oriented Assessment of Sport Fishing in Yukon, for the Department of Fisheries and Oceans, Government of Yukon and Department of Indian and Northern Affairs, (Vancouver, 1981), p. 52.

5 W. Sinclair and O. Sweitzer, The Economic Value of the Yukon Sport Fishery, (Department of the Environment, Fisheries and Marine Service, 1973).

6 Sinclair and Sweitzer, p. 22.

7 Gordon Zealand, Department of Fisheries and Oceans District Supervisor, Personal communication, Whitehorse, Yukon, November 1983.

8 R. DeLury, L. Steigenberger and M. Elson, "Aspects of the Historical and Present Day Fisheries Exploitation in the Northern Yukon Territory," in Northern Yukon Fisheries Studies, 1971-1974, Volume 1, (ed.) L. Steigenberger, M. Elson and R. DeLury, (Ottawa, Environment Canada, Fisheries and Marine Services, 1975), p. 38.

9 Zealand, pers. comm.

10 Sinclair and Sweitzer, p. 24.
1980 Survey of Sportfishing in the Yukon, Economic Policy Branch, Department of Fisheries and Oceans, Ottawa, 1983, p.20.

11 "Annual Narrative, Yukon Arctic Sub-district 1973," Department of Fisheries and Oceans, Whitehorse, 1973.

12 Howard Paish & Associates, p. 74.

13 1980 Survey of Sportfishing, p. 20

14 A. Horler, S. Johnston and G. Cronkite, An Assessment of the Fisheries Resource in 18 Lakes Within the Yukon Territory, Department of Fisheries and Oceans, Whitehorse, p. 7.

15 "Annual Narrative, Yukon Arctic Sub-district 1981," Department of Fisheries and Oceans, Whitehorse, 1981.

Notes to Licensed Sport Fishing (cont'd)

16 C. Walker, J. Bryan and R. Brown, Rainbow Trout Planting and Lake Survey Programs in Yukon Territory, 1956-1971, (Environment Canada, 1973), p. 2.

17 Sandy Johnston, Department of Fisheries and Oceans Biologist, Personal communication, Whitehorse, Yukon, April 1984.

18 Johnston, pers. comm.

19 R. Henderson, Correspondence to Department of Marine and Fisheries, 28 June 1906, P.A.C., R.G. 23, Vol. 337, File 2939, p. 347.

V. Wynne-Edwards, "The Yukon Territory," in North West Canadian Fisheries Survey in 1944-1945, (Ottawa, Bulletin of Fisheries Research Board of Canada, No. LXX11, 1947), p. 18.

20 "Anglers Guide to the Stocked Lakes in Yukon Territory," Environment Canada, Department of Fisheries and Oceans, Whitehorse, 1982.

21 Howard Paish & Associates,p. 148.

22 Thorne, Stevenson and Kellogg, Wilderness/Adventure Travel Industry: Industry Overview and Development Strategy, (for Tourism Planning and Development Branch, Yukon Territorial Government, 1982), p. 30.

23 Peter Etherton, Department of Fisheries and Oceans, Biological Technician, Personal communication, Whitehorse, Yukon, January 1984.

7.0 SUMMARY OF FISHERY REGULATIONS FOR THE YUKON

When the RNWMP were empowered as Fishery Overseers in 1899 the Fishery Regulations of the Northwest Territories were amended to serve as regulations for the Yukon fishery. Since then, amendments to the regulations have occurred throughout the years of regulation enforcement. A historical overview of the regulations with respect to important changes to them indicates the changing direction fisheries management has taken (Table 12).

7.1 Eligibility for Licences

The eligibility stipulation for commercial and domestic licences in 1899 required that an applicant be both a British subject and a Canadian resident.[1] This criteria remained unchanged until 1915, at which time the applicant had to be a British subject and a Yukon resident.[2] The eligibility requirement for commercial licences was restricted in 1961 to only Canadian citizens with a six-month Yukon residency.[3] The Yukon residency clause was later dropped in 1971.[4] However, due to pressure from commercial salmon fishermen the residency clause has been proposed for regulations expected to be released in 1984.[5] Domestic licences were eliminated in 1961 and reestablished in 1974.

7.2 Commercial Licence Categories

In 1899 two commercial licence categories with

TABLE 12. Important Changes to the Yukon Territory Fishery Regulations, 1899 - 1982. (Only the changes to previous regulations appear on table)

YEAR	COMMERCIAL LICENCE	DOMESTIC LICENCE	NATIVE FOOD	SPORT FISHING
1899	Eligibility Requirement: - British Subject and Canadian Resident Licences: - Tug - $40.00 + $2/ 500 yd. net 10,000 yd, max./licence - Sail/Other - $20.00 2,000 yd. max./boat 10,000 yd. max/licence Net Restrictions: Gillnet 5" mesh minimum	Eligibility Requirement: - British Subject and Canadian Resident Licences: - Operator - $2.00 300 yd. maximum (Explorers and prospectors excluded) Net Restrictions: (Same as commercial throughout)	Not Licenced	Not Licenced
1907	Net Restriction: 4" mesh minimum			
1915	Eligibility Requirement: - British Subject and Yukon Resident Salmon netting in Yukon River legalized Sail/Other - - 2,000 yd. - 4 and 3 1/2" nets - 100 yd. - 6" net - 100 yd. - 2 1/2" net Net Restriction: - Whitefish/chum - 4" - Least cisco - 3 3/4" - Other salmon - 6" - Grayling - 2 1/2" 4" minimum in waters inhabited by whitefish	Eligibility Requirement: - British Subject and Yukon Resident Licence: - Operator - $5.00		
1917*	Licences: - Fishwheel - $30.00			

.../continued

* Actual year of change - not a year of Regulation Consolidation.

TABLE 12. Important Changes in the Yukon Territory Fishery Regulations, 1899 - 1982. (Only the changes to previous regulations appear on table.) (Continued)

YEAR	COMMERCIAL LICENCE	DOMESTIC LICENCE	NATIVE FOOD	SPORT FISHING
1949				Licences: - Yukon Resident $1.00 - Non-Yukon Resident $2.00 - Categories and fees in Appendix 10
1954				
1961	Eligibility Requirement: - Canadian Citizen and 6 mo. Yukon Resident Licences: - Commercial - $10.00 Freshwater: 6-600 yd. maximum 32 Commercial lakes open Salmon: 100 yd. maximum Net Restriction: 4" mesh minimum Fishwheel: Only downstream from Dawson/Yukon River 1 wheel/licence	Eliminated	Food Fish Permit Free	
1971	Eligibility Requirement: - Canadian Citizen Licences: - Assistant Operator - $1 20 Commercial lakes open	Assistant Operator - $1		Licences: - Canadian Resident $3.00 - Non-Canadian Resident $10.00 $3.50 (5 day)

.../continued

TABLE 12. Important Changes in the Yukon Territory Fishery Regulations, 1899 - 1982. (Only the changes to previous regulations appear on table.) (Continued)

YEAR	COMMERCIAL LICENCE	DOMESTIC LICENCE	NATIVE FOOD	SPORT FISHING
1973*	Licence: - Commercial - Freshwater - no net length restriction	Licence: - Freshwater - 600 yd. limit - fishwheel Assistant - $1.00		
1980	Eligibility Requirement: - Canadian Citizen or Landed Immigrant (<5 yr) Licences: - Commercial - $25.00 Salmon: 4 nets - 100 yd. max. 1 fishwheel	Eligibility Requirement: - Canadian Citizen or Landed Immigrant (<5 yr) Licences: - Operator - $10.00 1 net - 100 yd. maximum 1 fishwheel		
1982	Eligibility Requirement: - Canadian Citizen or Landed Immigrant Licences: - Yukon River Salmon (free)	Yukon River Salmon (free)		

* Actual year of change - not a year of Regulation Consolidation.

corresponding fishing restrictions existed: tug boat, and sail or other boat. Neither category applied to salmon fishing, but only to freshwater fishing.[6] It was not until the fishery regulation consolidations of 1915 that regulations for the salmon fishery appear, although enforcement activities likely occurred much sooner. Currently no commercial licence categories similar to those of the turn of the century exist.

7.3 Mesh Size and Net Length

Net mesh size decreased from the initial five inch minimum requirement as a result of pressure from local fishermen. In 1907, a four inch minimum mesh size was legalized for waters inhabited by species of whitefish.[7] Between 1915 and 1961, three and three-quarter inch mesh for least cisco and two and a half inch mesh for Arctic grayling were legalized for waters not inhabited by whitefish. Since 1961, a standard four inch minimum mesh size has been reestablished for all fish species.

Legal gill net lengths have also become more restrictive with time. In 1915, maximum length for sail or other boats was reduced to 2000 yards of three and a half to four inch mesh, and 200 yards of two and a half inch mesh. By 1961, freshwater commercial licences allowed each licence holder 600 yards of net. In 1973, during a period of relaxation of commercial regulations applying to freshwater fishermen, all net length restrictions were dropped for commercial lake fishing.[8] The change in attitude was based on the assumption that the harvest quotas (see section 7.4) alone placed limitations on the fishermen and therefore protected the fish stocks from overharvest. The

removal of the net length restriction potentially allowed fishermen to catch their quota in less time and with less effort. The regulations made provisions for the Department of Fisheries to place specific net length restrictions in problem lakes. For example, since 1981 in Atlin Lake, 400 yards of net is the maximum allowable net length per commercial licence.[9]

A net length of 2000 yards of four inch mesh for chum salmon and 100 yards of six inch mesh for salmon generally was allowed for commercial salmon fishing in 1915. These regulations remained unchanged until 1961 when the allowable length of any commercial salmon net was reduced to 100 yards.

Domestic licences were limited to 300 yards of net from 1899 until their elimination in 1961. When the domestic licence was reinstated (1974) no net length requirements were stipulated. However, four months later the maximum allowable net length was 600 yards.[10] In 1980, the allowable net length was reduced to 100 yards.[11]

7.4 Commercial Freshwater Lake Quotas

Initiated in 1961, commercial fishing was prohibited on all lakes with a surface area less than eight square miles. That left thirty-four lakes which could be fished commercially. However, Tagish and Marsh Lakes were excluded from commercial fishing as a result of public pressure arising out of conflict with sport fishermen and fear of overuse of the fish resource.[12] Commercial and domestic harvest quotas were established for the

remaining 32 lakes (Table 13). The fish harvest quotas were based on approximately one half pound of fish per surface acre of lake. Between 1961 and 1971 a series of fishery amendments changed some lake quotas and eliminated 12 of the original 32 lakes from the commercial fishing list due to increased harvest pressures by sport fishing, recreation and development.

Until 1974 no systematic, freshwater fish catch recording system was used for either domestic or commercial fishermen. A voluntary catch card system was implemented in 1974 and further modified in 1977 to gather more accurate catch information. However, there were problems with the system which relied so heavily on the honesty and responsibility of the fishermen in filling out the catch cards. Time lags between fishing activity and the compilation of catch returns has resulted in certain lakes exceeding the specific guideline harvest quotas. In 1980, receipt books were issued to all commercial licence holders to record actual sales of fish, but administrative problems caused the termination of the program.

7.5 Fishwheel Regulations

The fishwheel was legalized for use on the Yukon River in 1917. The fee for a fishwheel licence was thirty dollars, reflecting the efficiency of the technique for catching salmon. A decline in the use of fishwheels occurred between the 1930's and the 1960's. This decline may have been the result of more durable and efficient nylon gill nets. The fishwheel licence fee was reduced to ten dollars in 1961. Also at this time, the restriction of fishwheels to areas downriver of Dawson appeared

TABLE 13. Designated Commercial Fishing Lakes in the Yukon Territory, 1961 - 1982.

LAKE	YEAR CLOSED	REASON FOR CLOSURE *	ORIGINAL QUOTA (lb.)	PRESENT QUOTA (lb.)	(kg)
Aishihik	1968	R, D	15,000	---	---
Atlin				4,000	1,800
Bennett				9,000	4,000
Big Kalzas				4,000	1,800
Dezadeash	1964	R	7,000	---	---
Drury				3,000	1,400
Earn				4,000	1,800
Ethel	1967	S, R	2,000	---	---
Fairweather				3,000	1,400
Finlayson				3,000	1,400
Fish	1964	L	1,000	---	---
Fortin				3,000	1,400
Fox	1964	P	2,000	---	---
Frances				12,000	5,400
Hutshi				2,000	1,000
Kluane				37,000	17,000
Kusawa	1968	R, D	15,000	---	---
Laberge			15,000	20,000	9,000
Little Atlin	1964	P	4,000	---	---
Little Salmon	1969	R, S	6,000	---	---
Mayo				8,000	3,600
McQuesten				4,000	1,800
Pelly				3,000	1,400
Quiet				6,000	2,800
Sekulmun	1968	R, D	8,000	---	---
Simpson	1964	S, R	2,000	---	---
Tatlmain				4,000	1,800
Teslin			13,000	5,000	2,200
Tillei				3,000	1,400
Tincup	1971	R, S	4,000	---	---
Wellesley	1971	R, S	9,000	---	---
Wolf				8,000	3,600

* Reason for Closure:
- R - Recreation
- D - Development
- S - Sport Fishing
- P - Parasites
- L - Low Productivity

in the regulations, although the restriction may have been enforced prior to 1961. The fishwheel licence has since been eliminated altogether and the use of fishwheels has been placed under general commercial and domestic licences. A currently proposed regulation requires a fisherman to relinquish 75 yards of net for the use of a fishwheel.[13] In 1983 there were two fishwheels used for commercial fishing, downriver of Dawson.

7.6 Yukon River Salmon Fishery

A renewed interest in the Yukon River salmon fishery began in the early 1970's. Demand for fishing salmon was so great that in 1980 Fisheries declined requests for new salmon licences for the Yukon River. In 1982, free Yukon River salmon licences were introduced in response to the re-emergence of the salmon fishery at Dawson.[14] Currently, these licences are only available to individuals who have fished salmon prior to 1980.

7.7 Indian Subsistence

Indian subsistence fishing was not licensed until 1961, when free Indian food fish permits were initiated. These permits apply only to status Indians, as listed in the Yukon Indian registry. Indian subsistence fishing is essentially unregulated. Any net length and mesh size is permissible and any traditional fishing technique is allowable, although arrangements for the wise use of some techniques, such as traps or weirs, are established by Fisheries personnel on a site specific basis. Additionally, the Indian food fishery is not governed by seasonal fishing closures.

7.8 Fish Closures

Seasonal fish closures were regulated as early as 1899, affecting the harvest of lake trout, whitefish, pike and chum salmon (Table 14). In 1915 a closure for Arctic grayling, from the beginning of December to the end of January was stipulated. The closure on grayling harvest was amended in 1954[15] and again in 1961, to eventually protect Arctic grayling during the vulnerable migration and spawning period during spring. Angling was prohibited during the closure up until 1961. However, since that time angling has been allowed during the migration and spawning period.

Periodically, closures of salmon sport fishing have occurred in certain areas to protect specific fish stocks (Appendix 12). However, in 1982, permanent closures to protect specific salmon stocks were incorporated into the angling regulations (Appendix 12).

7.9 Sport Fishing Catch Limits

Daily catch limits applying to anglers were established in 1949.[16] Catch limits have become increasingly better defined for the protection of specific fish species (Table 15). Daily limits for grayling have decreased from 20 fish in 1961 to the current limit of five fish. Until 1961, the daily catch limits were most restrictive on lake trout, but in the 1982 regulations, all species of trout, salmon and whitefish, as well as Arctic grayling and northern pike were restricted to five or less fish per day per angler (Table 15).

TABLE 14. Important Changes in Seasonal Closures in the Yukon Territory Fishery Regulations, 1899 - 1982. (day/month)

YEAR	LAKE TROUT	WHITEFISH	PIKE	GRAYLING	OTHER
1899 (Commercial and Domestic Licences)	5/10-15/12	5/10-15/12	15/04-15/05		15/10-15/12 : Chum Salmon
1907	Same	Same	Same		Same 15/10-15/12 : Cisco
1915 (Same)	15/10-30/11	15/10-30/11	Same	01/12-31/01	15/10-30/11 : Chum Salmon 15/10-15/12 : Cisco 15/04-15/05 : Sucker 01/11-30/03 : Arctic Char & Dolly Varden
1949 (Same) (Yearly spot closures legalized)	15/09-30/11	15/09-30/11	Same	Same	15/09-30/11 : Chum Salmon 15/10-15/12 : Cisco 15/04-15/05 : Sucker 01/11-30/03 : Arctic Char & Dolly Varden
1954 (All Licences)	01/09-31/10	01/09-30/11	Open	15/04-31/05	01/09-30/11 : Chum Salmon 01/11-30/03 : Arctic Char & Dolly Varden 15/04-30/06 :Rainbow trout & cut throat trout (Otter Falls area closed to Rainbow angling)
1961 (Angling Exempt)	20/09-30/11	20/09-30/11	Open	01/05-15/06	20/09-30/11 : Cisco and Inconnu
1971 (Angling Exempt)	Same	Same	Open	Same	Same
1980 (Angling Exempt)	01/09-30/11	01/09-30/11	Open	Same	01/09-30/11 : Cisco and Inconnu
1982 (Angling Exempt)	01/09-31/10	01/09-31/10	Open	Same	01/09-31/10 : Cisco and Inconnu

(See Appendix 12 for waters restricted to angling in 1982)

TABLE 15. Important Changes in Daily Sport Fishing Catch Limits in the Yukon Territory Fishery Regulations, 1899 - 1982. (Numbers indicate allowable fish landings for each species.)

YEAR	LAKE TROUT	GRAYLING	PIKE	SALMON	OTHERS
1899	Not Regulated	---------->			
1907	Not Regulated	---------->			
1915	Not Regulated	---------->			
1949	20 Fish of all species of which only ten (10) could be Lake Trout	---------->			
1954	20 Fish of all species of which only five (5) could be Lake Trout and only five (5) other fish could be any other trout	---------->			
1961	5	20	20	Chinook & Coho - 2 Kokanee - 5	Dolly Varden - 5 Rainbow Trout - 5 Cutthroat " - 5 Steelhead " - 2
1971	Same as 1961	10	Same as 1961	Same as 1961	Same as 1961
1980	Same as 1961	7	10	Salmon >18"- 2 (only one chinook) Salmon <18"- 5 Kokanee - 5	Dolly Varden - 5 Arctic Char - 2 Inconnu - 5 Whitefish spp.-5 Rainbow trout -5 Cutthroat - 5
1982	Wellesley Lake - 2 (only 1 >80 cm) All other areas - 5	5	Wellesley L. (only 2 >90 cm) All other areas - 5	5 (of which only 2 >45 cm or 1 chinook >45 cm Kokanee - 5	Dolly Varden - 5 Arctic Char - 2 Mtn. Whitefish -5 Lake Whitefish -5 PygmyWhitefish -5 Rainbow trout - 5 Cutthroat - 5 Inconnu - 5

7.10 Notes to Summary of Fishery Regulations for the Yukon

1 "Fishery Regulations,Province of Manitoba and the North-West Territories," adopted by Order in Council, 8 May 1894, in The Canada Gazette, 26 May 1894, (Ottawa, Queen's Printer).

2 "The Special Fishery Regulations for the Yukon Territory," adopted by Order in Council, 9 February 1915, in The Canada Gazette, (Ottawa, Queen's Printer).

3 "Yukon Territory Fishery Regulations," adopted by Order in Council, 23 November 1961, in The Canada Gazette Part II, Vol. 95, No. 23, 13 December 1961, (Ottawa, Queen's Printer).

4 "Office Consolidation of the Yukon Territory Fishery Regulations, 1971," Department of Fisheries and Oceans.

5 Tim Young, Department of Fisheries and Oceans Enforcement Officer, Personal communication, Whitehorse, Yukon, 1984.

6 "Amendment to Fishery Regulations, Province of Manitoba and the North-West Territories," adopted by Order in Council, 13 May 1899, in The Canada Gazette, 20 May 1899, (Ottawa, Queen's Printer).

7 "The Special Fishery Regulations for the Yukon Territory," adopted by Order in Council, 14 October 1907, in The Canada Gazette, 26 October 1907, (Ottawa, Queen's Printer).

8 "Yukon Territory Fishery Regulations,amendment," 10 July 1973, in The Canada Gazette, Part II, Vol. 107, No. 14, 25 July 1973, (Ottawa, Queen's Printer).

9 Elmer Fast, Department of Fisheries and Oceans Enforcement Officer, Personal communication, Whitehorse, Yukon, November 1983.

10 "Yukon Territory Fishery Regulations, amendment," 28 November 1973, in The Canada Gazette, Part II, Vol. 107, No. 23, 12 December 1973, (Ottawa, Queen's Printer).

11 "Office Consolidation of the Yukon Territory Fishery Regulation, 1980," Department of Fisheries and Oceans.

12 M. Farquhar, Brief presented at a "Public Meeting to Discuss Freshwater Commercial and Domestic Fishing," 26 March 1981, Whitehorse, Yukon.

13 T. Young, pers. comm.

14 "Yukon River Fishery Regulations,amendment," 23 September 1982, in The Canada Gazette, Part II, Vol. 116, No. 19, 13 October 1982, (Ottawa, Queen's Printer).

Notes to Summary of Fishery Regulations for the Yukon (cont'd)

15 "Yukon Territory Fishery Regulations Consolidation 1954," in The Canada Gazette, Part II, Vol. 88, No. 7, 14 April 1954, (Ottawa, Queen's Printer).

16 "The Special Fishery Regulations for Yukon Territory Consolidation 1949," in The Canada Gazette, (Ottawa, Queen's Printer).

8.0 THE YUKON - A TRANSBOUNDARY RIVER

Until recently, Canada and the United States have been negotiating a treaty to determine the allocation of salmon stocks originating from all westcoast transboundary (flows through Canada and United States) rivers, which will include the Yukon River. In 1982 a west coast salmon treaty was proposed and initialled by Canadian and American negotiators, however, pressure from displeased Alaskan fishermen halted the subsequent ratification proceedings. As of January 1984, formal negotiations have broken off without any resolutions to the problems of allocation of salmon harvests between Canada and the United States. Although the 1982 accord did mention salmon stocks of the Yukon River, the text is very cursory in addressing specific allocations for Alaskan and Yukon fishermen. In particular, the 1982 agreement indicated that a separate negotiation should be conducted for the Yukon River salmon stocks.

The Yukon River transboundary controversy dates back before 1900. In January 1900, the Deputy Minister of Marine and Fisheries was of the opinion that Canada could do little to regulate the Yukon River salmon fishery because the Americans "slaughtered" the salmon downriver with no concern for future stocks and conservation.[1]

The allocation of salmon stocks on the Yukon River was both an international problem and a commercial/subsistence problem. Carey, in a social history of the Yukon River, traced the first actual commercial fishing operations on the Yukon River to the Klondike gold rush,[2] when chinook and chum salmon were sold

fresh in the Yukon Territory gold camps.[3] By 1917 there was both an active subsistence and commercial fishery along the Yukon River in both countries. In 1918, the Carlisle Packing Company of Seattle proposed the establishment of a salmon processing plant at the mouth of the Yukon River, Alaska. When word of the cannery became known, concerned individuals voiced their disagreement. A public hearing was held on 17 May 1918 in Seattle by the United States Bureau of Fisheries, prior to the commencement of the cannery's first season of operation. Representatives of both the Carlisle Packing Company and Alaskan fishermen from the Yukon River were in attendance.

The Carlisle Packing Company's position was simple. A "mighty stream like the Yukon ought to support a number of establishments without detriment to the inhabitants or without injuring the future of the fishery."[4] The company insinuated that if subsistence fishermen utilized more efficient technology combined with harder effort, than all parties could harvest their share of fish. The concerns of subsistence fishermen were voiced by Bishop Rowe who stated that the cannery was "the thin entering wedge for a large number of such establishments," which would create hardship of local fishermen because of their dependance on salmon for personal food and dog food.[5]

Despite concerns by subsistence fishermen, the cannery was allowed to operate during the 1918 season. However, as a consequence of the hearing, two U.S. Fisheries Inspectors were sent to travel the Alaskan portion of the Yukon River during the summer of 1918.

The two inspectors estimated the Alaskan population which was dependent on the salmon resource of the Yukon River at approximately 11,000 people, and the number of dependent dogs at 6,000.[6] The inspectors estimated that in Alaska alone, the amount of dried fish caught by subsistence fishermen was 700 tons. In numbers of dried fish, the Inspectors estimated this represents approximately 23,000 chinook and 1,000,000 chum salmon. Based on an average fresh weight of 15 lb for chinook and 7 lb for chum salmon, the 700 tons of dry fish was equivalent to approximately 7,345,000 lb of fresh fish, or 668 lbs of fish per capita.[7]

Although the cannery's pack for the initial year of operation was small, concern by Alaskan and Yukon residents continued to spread along the length of the river. An article in the Dawson Daily News cautioned that, "...the main channel and the one in which the fish move is narrow and that it would be an easy matter to scoop up practically all fish trying to pass there."[8] In response to growing concerns by Canadians, the Deputy Minister of the Naval Service in Canada contacted the United States Bureau of Fisheries and a second inquiry was held in Seattle on 20 November 1918.

The outcome of the November 1918 hearing was a set of limitations imposed on commercial operations at the mouth of the river. The regulations stipulated that: all commercial fishing was to occur below the confluence of the Clear River and only in the southern most channel of the delta - Kwikluak Pass, maximum gill or seine net size was established as 700 feet and the use of

traps and pound nets was made illegal.[9] The total "pack" of salmon canned from these waters was limited in quantity and all fishing operations were to cease by August 31.[10]

The cannery's production during the 1919 season increased four fold over the previous season. After filling the quota within the guidelines and areas established in 1918, the cannery then continued to process Yukon bound salmon outside the waters covered under the restrictions.[11] The run of salmon was very low in 1919 and the shortage of salmon was felt the entire length of the Yukon River by Indian subsistence and White domestic and commercial fishermen. The estimated subsistence catch during 1919 was 150 to 200 tons, 500-550 tons less than the 1918 catch.[12]

The small run of salmon on the Yukon River during 1919 was part of a natural population fluctuation. However, the large harvest of salmon by the Carlisle cannery magnified the effects of the poor run for fishermen further up the river. Had the cannery not been in operation in 1919, and assuming 50% escapement of fish from the subsistence fishery, an additional 235 tons of dried salmon could theoretically have been harvested by Alaskan fishermen.[13] There were other indications of heavy fishing pressure on the 1919 salmon stocks. Subsistence fishermen reported the size of the salmon in the upper Yukon was noticeably smaller than usual, and many fish bore net marks. Fishermen along the upper river speculated that the cannery nets were selecting the larger fish. A letter from 27 residents of Fort Yukon reported that in other years of low salmon abundance it had always been possible to find salmon on the spawning

grounds.[14] In 1919, "the spawning grounds were barren."[15]

The Carlisle Packing Company maintained that the exceptional shortage of fish was due to "...something other than the fourth-year shortage. First of all, the 'off' year was not due; secondly, the run came late."[16] The cannery blamed the shortage of fish on late and heavy ice conditions in the Bering Sea.

> We observed the marks of the ice on the large fish during the first three weeks of the run. About one in five was cut or bruised, as if they had been mashed by jagged ice settling on them with the drop of the tide while they were in shallow water. Most of the wounds were on the back of the fish.[17]

The 1919 shortage of fish generated a second investigation, during the summer of 1920. From the results of this investigation it was recommended that the salmon stocks of the river should be protected for subsistence and domestic use. "And if there is any question whether the salmon run in a given stream is adequate to supply the demands of commercial operations as well as the needs of the inhabitants, the doubt should at once be resolved in favour of the people."[18] Consequently, a ban was placed on commercial fishing for export. After 1 September 1921 all commercial fishing for export on the Yukon River and 500 yards outside the delta region was prohibited.[19]

Prior to the export ban, the Carlisle cannery as well as three other smaller commercial operations were operating at the mouth of the Yukon River. Following the ban, the Carlisle Company discontinued operations in the Yukon River, one company moved beyond the waters where fishing was restricted and the remaining two limited their fish sales to local markets.

Conditions remained static until about 1932.[20]

Information is scarce regarding the Canadian Fisheries Department's attitude toward the Carlisle operations in 1918. The position of a Fishery Inspector in Dawson had been discontinued in that same year and a Fisheries file containing correspondence concerning the Carlisle Cannery has since been destroyed.[21]

An article from the Dawson Daily News concerning the Carlisle Cannery appeared the first year of the cannery's operation. Included in the article were telegrams and letters from such people as Vilhalmur Stefanson, the Gold Commissioner of the Yukon, and the Deputy Minister of the Naval Service. The letters expressed the growing concern by Canadians toward the large Alaskan cannery development and salmon exploitation, and encouraged interested parties to register their complaints for the 20 November 1918 hearing. Similar articles of concern and complaints appeared in the Dawson Daily News until 1924.[22]

One exception to the general feeling of depleted salmon stocks due to overharvest by Americans was expressed by Percy De Wolfe. In 1919, a newspaper article announced De Wolfe's arrival in Dawson with "five tons of fine fish."[23] De Wolfe attributed his success to his use of a fishwheel. "Those who were fishing with nets had poor luck this year. This seems to be because the river was so high when the salmon arrived that the fish kept well out in the stream."[24]

Wynne-Edwards made the following statement concerning the

effect of the cannery:

> There seems to be little doubt that the Yukon salmon fishery has declined with living memory, almost certainly on account of operations lower down in Alaska. On the Porcupine at Old Crow we were told that before 1914 their salmon run was sufficiently large to justify a fishery during the second week of July. Now, although the Old Crow Indians are active fishermen, they take no more than 20 king salmon a year in the whitefish nets, and have long abandoned the use of salmon nets.[25]

Following the ban on the export of Yukon River salmon from Alaska, only local trade along the Yukon River for dry and salted salmon continued. Chappie Chapman, a former employee of the Northern Commercial Company in Dawson, recalls tons of dog food and about fifty barrels of the salted product being brought from the lower river each year.[26]

In 1932, using the argument that there had been a decline in the subsistence fishery along the Yukon River, the United States Government allowed limited commercial fishing for export. Commercial fishing off the mouth of the river was permitted for a fifteen day period in 1932, and following more hearings was legalized for all residents of Alaska in 1934. The quota for chinook salmon was set at 100,000 pieces, of which only half could be taken beyond the mouth of the river. Carey documents commercial fishing activity in the Yukon River, Alaska, from 1932 to 1959.[27]

The concern by Yukon commercial and subsistence fishermen with the re-emergence of commercial fishing on the Yukon River in Alaska was summarized by a RCMP officer:

> With freeze-up approaching the salmon fishing along the Yukon River is fast drawing to a close, and

> from extensive enquiries I have made, the catches of salmon by white residents, and particularly the Indians of the Yukon Territory, this summer and fall have been exceedingly small in comparison with previous years, and there is quite a shortage of this commodity at the present time. As the Indians of this Territory rely particularly on the salmon catch ... some hardship is likely to be experienced by them ...[28]

Due to continued pressure, the Alaskan quota for chinook salmon was lowered to 50,000 pieces in 1936, half of which were to be taken outside the river's mouth. However, the commercial catches of Yukon River salmon in Alaska have steadily increased since 1936. In 1980 over 155,000 chinook and 1,350,000 chum salmon were caught commercially by Alaska fishermen.[29]

In the Yukon, the Yukon River commercial salmon fishery has been in existence for over 84 years and the subsistence fishery has existed since aboriginal times. Relative to the Alaskan harvest, the Canadian harvest has been small. Commercially, the salmon fishery has been hampered in its growth by its dependence on local markets. The Han Fisheries processing plant, established in Dawson in 1981, will help to alleviate the problem of fish preservation and storage and expand the salmon sales to a larger market. However, the problem of the relatively poor quality fish is not likely to be overcome. Smoking facilities, once they become available, may provide a more marketable and favourable product and thus help to disguise the problem of the salmon's inferior quality.

Management of the Yukon River salmon fishery within the Yukon Territory has been plagued by insufficient monies and manpower for research and lack of political pressure to manage

the resource effectively.[30] It is largely a problem of demographics. The Yukon Territory has a small population (24,000 people) and only a small portion have concern for the salmon resource.

Locally the Yukon Fishery is economically and socially important to Indian and White fishermen. The most important aspect of salmon stocks of both the Yukon River and Alsek River is the preservation of spawning salmon in the headwaters and tributaries of these river drainages, both for intrinsic values of salmon species, and for all parties interested in a locally viable and international salmon fishery.

8.1 Notes to The Yukon -A Transboundary River

1 F. Gourdeau, Deputy Minister of Marine and Fisheries, Correspondence to T. Stewart, 30 January 1900, P.A.C. R.G. 23, Vol. 328, File 2813, p. 5.

2 M. Carey, "A Social History of the Yukon River Fisheries Prior to Statehood, Appendix B," in The Upper Yukon and Other Freshwater Salmon Fisheries: Findings, conclusions and recommendations, D. Pope., To the Eleventh Alaska Legislature, (1980), p. 6.

3 J. Cobb, "Pacific Salmon Fisheries," Appendix, in Report of the Commission of Fisheries, Third Edition, 1921, (Washington, 1922), p. 184.

4 U.S. Department of Commerce, Bureau of Fisheries, Alaska Fisheries and Fur Industries in 1918, (Washington, 1919), p.29

5 Alaska Fisheries and Fur Industries in 1918, p. 29.

6 U.S. Department of Commerce, Bureau of Fisheries, Alaska Fishery and Fur-Seal Industries in 1920, (Washington, 1921), p. 147.

7 Alaska Fishery and Fur-Seal Industries in 1920, p. 147.

8 Dawson Daily News, 19 July 1918.

9 Alaska Fishery and Fur-Seal Industries in 1920, p. 11.

10 Alaska Fishery and Fur-Seal Industries in 1920, p. 11.

11 Alaska Fishery and Fur-Seal Industries in 1920, p. 153.

12 Alaska Fishery and Fur-Seal Industries in 1920, p. 147.

13 Alaska Fishery and Fur-Seal Industries in 1920, p. 149.

14 U.S. Congressional Subcommittee on the Merchant Marine and Fisheries, Hearings: To Prohibit Fishing For Salmon in the Yukon River, 66th Congress 2nd Session, 20 April, 4 May 1920, P.A.C. (Microfilm), Vol. 236, pt. 1, tub. 9.

15 U.S. Hearings

16 U.S. Hearings

17 U.S. Hearings

18 Alaska Fishery and Fur-Seal Industries in 1920, p. 153.

19 Report of the U.S. Commissioner of Fisheries for 1921, (Washington, 1922, p. 40.

Notes to The Yukon -A Transboundary River (cont'd)

20 Carey, p. 36.

21 Bob Armstrong, Fisheries Archivist at P.A.C., Personal communication, Ottawa, Ontario, October 1983.

22 Dawson Daily News, 19 July 1918; 12 August 1918, 18 January 1919; 2 September 1919; 22 September 1919; 24 July 1922; 17 July 1923; 8 August 1923, 23 August 1924.

23 Dawson Daily News, 2 September 1919.

24 Dawson Daily News, 2 September 1919.

25 V. Wynne-Edwards, "The Yukon Territory," in North West Canadian Fisheries Survey in 1944-1945, Bulletin of the Fisheries Research Board of Canada, No. LXXII, (Ottawa, 1947).

26 Chappie Chapman, Personal communication, Whitehorse, November 1983.

27 Carey, p. 39.

28 RCMP Correspondence, 11 September 1934, P.A.C., R.G. 23, Vol. 995, File 721-4-27(1), p. 32.

29 Environment Canada, Department of Fisheries and Oceans, Whitehorse files.

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10.0 APPENDICES

APPENDIX 1 Fish Species Referred to Within the Text

Common Name	Scientific Name
Freshwater Species	
Whitefishes:	
(*Pygmy Whitefish	Prosopium coulteri
*Referred to (*Mountain Whitefish	P. williamsoni
generally as (*Round Whitefish	P. cylindraceum
whitefish. (*Lake Whitefish	Coregonus clupeaformis
(*Broad Whitefish	C. nasus
Least Cisco (tullibee)	C. sardinella
Inconnu (sheefish)	Stenoclos leucichthys
Trouts	
Cutthroat Trout	Salmo clarki
Rainbow Trout	S. gairdneri
Steelhead (sea run Rainbow Trout)	S. gairdneri
Lake Trout	Salvelinus namaycush
Arctic Char	S. alpinus
Dolly Varden	Salvelinus malma
Grayling:	
Arctic Grayling	Thymallus articus
Pikes:	
Northern Pike (jackfish, long-nosed pike)	Esox lucius
Suckers:	
Longnose Sucker	Catostomus catostomus
Codfishes:	
Burbot (ling cod, loche)	Lota lota
Salmon:	
Pink Salmon	Onchorhynchus gorbuscha
Sockeye salmon	O. nerka
Kokanee (Land-locked salmon)	O. nerka
Chinook Salmon (king)	O. tshawytscha
Coho Salmon	O. kishutch
Chum Salmon (dog)	O. keta

Appendix 2 Note of Killer Whale Sighting

In the fall of 1919, a killer whale was seen on two different occassions in the Dawson area of the Yukon River.[1] The whale likely followed the chum salmon migration up the river. A killer whale had previously been shot near Tanana, Alaska in 1917.

1 "Leviathan is Sighted in Yukon River," Dawson Daily News, 29 September 1919.
"Rocco Meets Whale," Whitehorse Star, 2 October 1919.
Ed Whitehouse, Personal communication, Whitehorse, 1983.

Appendix 3 "White Catch" Statistics for the Yukon Fishery by Areas, 1908 - 1916. Adapted from Department of Marine and Fisheries Annual Reports.

LOCATION	APPROXIMATE FISH HARVEST (lb)								
	Lake Trout	Whitefish	Pike	Ling Cod	Tullibee	Grayling	Mixed Course	Chinook Salmon	Chum Salmon
1908									
Dawson		18,000		2,000		20,000	1,000	40,000	5,000
Selkirk	5,000	1,000		1,000		8,000	1,000	15,000	3,000
Fortymile		1,000		500		4,000	700	6,000	2,000
L. Laberge	12,000	10,000	2,000			500	1,000	2,000	
Tatlmain L.	6,000	32,000	2,000	2,000	7,000	500	200		
Carcross	1,400	1,500				1,000	1,000		1,000
Klondike R.		1,000				5,000	1,000	3,000	
Thistle						3,000	300	4,000	
Yukon R.		5,000				10,000	1,000	20,000	4,000
Total	24,400	69,500	4,000	5,500	7,000	52,000	7,200	90,000	15,000
								Salmon	Smoked Salmon
1909									
Dawson	120	14,388	717	2,950	1,380	1,764	1,670	18,515	13,850
Selkirk	3,500	1,000	40	2,000	NR	6,000	1,000	14,000	2,650
Fortymile	NR	800	150	450	NR	3,500	750	8,000	5,600
L. Laberge	4,820	15,453	898	200	1,640	2,170	1,000	NR	NR
Tatlmain L.	4,390	33,059	1,145	700	5,470	2,040	510	NR	NR
Carcross	1,460	4,690	320	200	820	1,510	410	NR	NR
Klondike R.	2,030	1,250	180	550	390	19,500	1,800	4,500	950
Thistle	250	300	NR	100	NR	4,500	300	3,000	500
Sixty Mile R.	240	500	550	600	550	4,000	200	500	1,000
Yukon R.	3,000	6,800	900	1,100	1,800	9,000	3,000	5,000	2,500
Total	18,810	78,240	4,900	8,850	12,050	53,984	10,640	53,515	27,050
1910									
Dawson	600	6,000	1,000		1,000	5,000	4,600	41,200	
Selkirk	2,000	3,000	200		300	7,000	1,200	21,600	
Fortymile	100	1,000	100		300	4,000	3,000	15,000	
Tatlmain L.	3,000	18,000	1,100		10,000	1,800	2,000	NR	
Carcross	4,900	17,000	700		5,000	1,400	4,000	NR	
Klondike R.	900	1,100	500		600	20,000	1,800	4,000	
Thistle	200	300	400		200	4,400	500	3,100	
Sixty Mile R.	200	1,000	1,100		800	4,000	800	2,800	
Yukon R.	4,000	7,000	900		2,000	10,000	6,000	17,000	
Total	15,900	54,400	6,000		20,200	57,600	23,900	104,700	

Appendix 3 "White Catch" Statistics for the Yukon Fishery by Areas, 1908 - 1916. (cont'd)

Location	APPROXIMATE FISH HARVEST (lb)				
	Lake Trout	Whitefish	Pike	Mixed Course	Salmon
1911					
Dawson	500	7,400	1,000	10,200	51,100
Pelly District	4,200	25,000	700	2,000	3,800
Fortymile	400	1,000	400	4,300	18,900
L. Laberge	1,000	12,500	1,000	5,000	NR
Carcross	6,100	6,200	10,500	2,500	NR
Klondike R.	1,000	1,200	1,000	15,500	7,500
Thistle/Sixty Mile	700	900	1,000	13,800	8,000
Yukon Territory/generally	4,000	6,900	2,900	14,900	15,500
Total	17,900	61,100	18,500	68,200	104,800
1912					
Dawson	500	7,200	1,000	10,000	50,000
Pelly District	4,000	24,400	900	2,200	3,000
Fortymile	300	800	700	4,000	18,200
L. Laberge	700	12,200	900	4,800	NR
Carcross	6,000	5,700	9,700	2,400	NR
Klondike R.	1,500	1,000	1,100	14,700	7,600
Thistel/Sixty Mile	500	1,000	1,100	13,800	7,500
Yukon Territory/generally	4,000	6,500	2,200	14,900	15,000
Total	17,500	58,800	17,600	66,800	101,300
1913					
Dawson	600	4,000	1,000	10,000	30,000
Pelly District	2,400	10,000	400	2,000	2,500
Fortymile	400	500	100	4,000	18,000
L. Laberge	700	11,500	NR	3,000	NR
Carcross	4,500	3,500	NR	2,000	NR
Klondike R.	1,200	1,000	NR	8,500	5,500
Thistle/Sixty Mile	500	800	NR	7,000	4,500
Yukon Territory/generally	3,000	4,000	500	11,000	15,000
Total	13,300	35,300	2,000	47,500	75,500
1914					
Dawson	600	4,000	1,000	11,000	30,000
Pelly District	2,500	10,000	400	2,000	6,000
Fortymile	400	500	100	4,000	19,000
L. Laberge	700	11,500	NR	3,000	NR
Carcross	5,000	3,500	NR	2,000	NR
Klondike R.	1,200	1,500	200	8,500	7,000
Thistle/Sixty Mile	500	800	NR	7,000	3,800
Yukon Territory/generally	3,500	4,000	500	11,200	14,800
Total	14,400	35,800	2,200	48,700	80,600

Appendix 3 "White Catch" Statistics for the Yukon Fishery by Areas, 1908 - 1916. (cont'd)

Location	APPROXIMATE FISH HARVEST (lb)				
	Lake Trout	Whitefish	Pike	Mixed Course	Salmon
1915					
Dawson	800	3,000	700	10,000	20,000
Pelly District	2,400	10,000	500	2,000	5,000
Fortymile	400	500	100	3,000	14,000
L. Laberge	900	11,500	200	3,000	NR
Carcross	5,000	4,000	400	2,000	NR
Klondike R.	1,000	1,500	NR	8,000	4,000
Thistle/Sixty Mile	500	800	NR	6,000	2,500
Albert Lake	600	4,000	NR	NR	NR
Yukon Territory/generally	3,000	NR	NR	10,000	13,000
Total	14,600	35,300	1,900	44,000	58,500
1916					
Dawson	800	3,000	400	10,000	16,000
Pelly District	2,400	10,000		1,500	5,000
Fortymile	400	400		2,500	13,000
L. Laberge	800	11,500		2,500	NR
Carcross	4,500	4,000		2,000	NR
Klondike R.	1,000	1,000		8,000	4,000
Thistle/Sixty Mile	400	500		5,000	2,500
Albert Lake	400	4,000		NR	NR
Yukon Territory/generally	3,000	3,000		10,000	12,000
Total	13,700	37,400	400	41,500	52,500

NR not recorded

APPENDIX 4 Commercial Sales of Lake Trout and Whitefish in the Yukon in 1981. (Figures taken from sales receipts)

FISHERMAN	LAKE	LAKE TROUT (lb.)	WHITEFISH (lb.)	TOTAL (lb.)	TOTAL INCOME ($)
A	Laberge	480	197	677	$1,158.90
"	Drury	72	0	72	126.00
"	Finlayson	138	73	211	377.00
"	Frances	80	50	130	146.25
"	Bennett	942	1,967	2,909	4,384.82
					$6,192.97
B	Laberge	53	398	451	587.25
C	Kluane	32	5	37	59.00
D	Atlin	204	224	428	650.00
E & F	Atlin	452	676	1,128	1,632.40
G	Atlin	565	64	629	1,067.50
H	Teslin	2	308	310	947.00
I	Teslin	415	1,880	2,295	*
TOTAL		3,435	5,842	9,277	$10,189.12
PERCENT OF TOTAL CATCH		37%	63%		

* Figures not returned

APPENDIX 5. Commercial Sales of Lake Trout and Whitefish in the Yukon in 1982. (Figures taken from sales receipts)

FISHERMAN	LAKE	LAKE TROUT (lbs.)	WHITEFISH (lbs.)	TOTAL (lbs.)	TOTAL INCOME ($)
A	Atlin	317	94	411	687.50
"	Bennett	1,866	829	2,695	4,767.00
"	Laberge	413	336	749	1,440.75
					$6,895.25
B	Atlin	260	307	567	847.50
C	Atlin	560	1,521	2,081	2,871.25
D	Teslin	359	1,610	1,969	5,521.50
E	Teslin	114	555	669	1,333.00
F	Teslin	0	6	6	7.50
G	Drury	580	0	580	825.00
H	Drury	77	0	77	61.00
I	Kluane	221	12	233	463.00
J	Kluane	58	0	58	104.00
K	Kluane	16	37	53	88.00
L	Kluane	24	9	33	55.75
TOTAL		4,865	5,316	10,181	$19,072.75
PERCENT OF TOTAL CATCH		48%	52%		

APPENDIX 6. The 1982 Local Market for Lake Trout (lb.)

PURCHASER	LAKES						FISH SOLD
	ATLIN	BENNETT	DRURY	KLUANE	LABERGE	TESLIN	
Restaurant							
Airport Chalet	0	38 (100)	0	0	0	0	38
Burwash Lodge	0	0	0	22 (100)	0	0	22
Flamingo	150 (51)	142 (49)	0	0	0	0	292
Hot Springs	0	7 (100)	0	0	0	0	7
Sheffield	139 (6)	1,248 (56)	580 (26)	0	268 (12)	0	2,235
Store							
Food Basket	93 (100)	0	0	0	0	0	93
Food Fair	450 (100)	0	0	0	0	0	450
Super A	48 (100)	0	0	0	0	0	48
Super Valu	0	217 (68)	0	0	103 (32)	0	320
Riverdale Market	60 (55)	50 (45)	0	0	0	0	110
Fish Stand	0	0	0	0	0	359 (100)	359
Fish Stand	0	0	0	0	0	114 (100)	114
Miscellaneous							
Vocational School	0	129 (75)	0	0	42 (25)	0	171
Yukon Bible Fellowship	30 (100)	0	0	0	0	0	30
C. Briize Inc.	0	35 (100)	0	0	0	0	35
Whitehorse Motors	15 (100)	0	0	0	0	0	15
Private Sales	152 (29)	0	77 (15)	297 (56)	0	0	526
LAKE TOTAL (lbs.)	1,137	1,866	657	319	413	473	4,856
% of TOTAL PRODUCTION	23%	38%	14%	7%	8%	10%	
TOTAL VALUE	$1,995.87	$3,557.50	$ 886.00	$ 621.75	$1,007.25	$1,863.50	$9,931.87

( ) Indicates percentage purchaser received from each lake

APPENDIX 7. The 1982 Local Market for Whitefish (lb)

PURCHASER	LAKES					FISH SOLD
	ATLIN	BENNETT	KLUANE	LABERGE	TESLIN	
Restaurant						
Hot Springs	0	90 (61)	0	58 (39)	0	148
McCrae	18 (100)	0	0	0	0	18
Sheffield	1,521 (96)	71 (4)	0	0	0	1,592
Store						
Delicatessen	3 (100)	0	0	0	0	3
Food Basket	61 (100)	0	0	0	0	61
Super A	43 (100)	0	0	0	0	43
Super Valu	51 (7)	472 (61)	0	250 (32)	0	773
Fish Stand	0	0	0	0	1,610 (100)	1,610
Fish Stand	0	0	0	0	555 (100)	555
Miscellaneous						
Hospital	0	99 (100)	0	0	0	99
Vocational School	0	32 (100)	0	0	0	32
Yukon Bible Fellowship	120 ( )	0	0	28 ( )	0	148
Pioneer Trailers	0	65 (100)	0	0	0	65
Private Sales	105 (62)	0	58 (34)	0	6 (4)	169
LAKE TOTAL (lbs.)	1,922	829	58	336	2,171	5,316
% of TOTAL PRODUCTION	36%	16%	1%	5%	41%	
TOTAL VALUE	$2,410.37	$1,209.50	$ 89.00	$ 433.50	$4,998.50	$9,140.87

( ) Indicates percentage purchaser received from each lake

APPENDIX 8.1 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983
(All figures compiled from Fisheries files, Whiitehorse)

ATLIN LAKE
Quota: Total - 4,000 pounds; Lake Trout - 2,000 pounds

YEAR	CLOSURES	COMMERCIAL LICENCES		DOMESTIC LICENCES		COMMERCIAL LANDINGS*		DOMESTIC LANDINGS*		LAKE TROUT LANDINGS		TOTAL
		Issued	Used	Issued	Used	Whitefish	L. Trout	Whitefish	L.Trout	Total Lbs	% of Total	LANDINGS*
1972-73		5	3	+	+	5605	1667	+	+	1667	32%	7272
1973-74		15	3	+	+	2309	1142	+	+	1142	33%	3451
1974-75		7	5	7	2	1782	1450	32	49	1499	45%	3313
1975-76	08/11/75	3	3	-	-	1717	834	-	-	834	33%	2551
1976-77		8	4	1	1	580	807	67	21	828	56%	1475
1977-78		4	1	4	0	800	300	-	-	300	27%	1100
1978-79		5	2	6	4	500	315	351	230	545	39%	1396
1979-80	01/23/80	10	3	7	0	2318	768	-	-	768	25%	3086
1980-81		7	5	-	-	1928	1825	-	-	1825	49%	3753
1981-82	11/23/81	8	4	13	2	1307	1128	940	110	1238	36%	3485
1982-83	07/05/82	7	4	9	2	3740	1907	152	440	2347	38%	6239

* Totals given in pounds

\+ Domestic Licences were not issued prior to the 1974-75 season

APPENDIX 8.2 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

BENNETT LAKE
Quota: Total - 9,000 pounds; Lake Trout - 4,500 pounds

YEAR	CLOSURES	COMMERCIAL LICENCES Issued	Used	DOMESTIC LICENCES Issued	Used	COMMERCIAL LANDINGS* Whitefish	L. Trout	DOMESTIC LANDINGS* Whitefish	L.Trout	LAKE TROUT LANDINGS Total Lbs	% of Total	TOTAL LANDINGS*
1972-73		9	4	+	+	271	270	+	+	270	50%	541
1973-74		11	5	+	+	301	341	+	+	341	53%	642
1974-75		8	5	3	1	2061	1372	5	9	1381	40%	3447
1975-76		7	2	3	1	1998	882	45	100	982	32%	3025
1976-77		6	3	2	0	1959	2507	-	-	2500	56%	4459
1977-78		7	1	6	2	485	240	132	183	423	41%	1040
1978-79		7	2	7	1	759	1162	55	81	1243	60%	2057
1979-80		7	3	12	2	182	309	42	8	317	59%	541
1980-81		4	1	9	1	128	509	60	6	515	73%	703
1981-82		8	4	16	5	2674	2628	95	281	2909	51%	5678
1982-83		11	1	18	2	2207	2820	222	165	2985	55%	5414

* Totals given in pounds

\+ Domestic Licences were not issued prior to the 1974-75 season

APPENDIX 8.3 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

LAKE	YEAR	COMMERCIAL LICENCES		DOMESTIC LICENCES		COMMERCIAL LANDINGS*		DOMESTIC LANDINGS*		LAKE TROUT LANDINGS		TOTAL
		Issued	Used	Issued	Used	Whitefish	L. Trout	Whitefish	L.Trout	Total Lbs	% of Total	LANDINGS*
BIG KALZAS	1976-77	-	-	1	0	-	-	-	-	-	-	-
Quota*:	1977-78	2	0	-	-	-	-	-	-	-	-	-
+T : 4000	1981-82	-	-	1	0	-	-	-	-	-	-	-
LT : 2000	1982-83	1	0	2	0	-	-	-	-	-	-	-
DRURY LAKE	1972-73	1	1	-	-	1	140	-	-	-	99%	141
Quota*:	1975-76	1	0	-	-	-	-	-	-	-	-	-
+T : 3000	1977-78	1	0	-	-	-	-	-	-	-	-	-
LT : 1500	1978-79	1	0	-	-	-	-	-	-	-	-	-
	1980-81	2	0	-	-	-	-	-	-	-	-	-
	1981-82	2	0	1	0	-	-	-	-	-	-	-
	1982-83	4	3	2	0	0	1263	-	-	1263	100%	1,263
EARN LAKE	1980-81	1	0	-	-	-	-	-	-	-	-	-
Quota*:	1981-82	-	-	1	0	-	-	-	-	-	-	-
+T : 3000	1982-83	1	0	-	-	-	-	-	-	-	-	-
LT : 2000												

* Totals given in pounds

\+ T = Total Pounds; LT = Lake Trout Total

APPENDIX 8.4 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

LAKE	YEAR	COMMERCIAL LICENCES Issued	COMMERCIAL LICENCES Used	DOMESTIC LICENCES Issued	DOMESTIC LICENCES Used	COMMERCIAL LANDINGS* Whitefish	COMMERCIAL LANDINGS* L. Trout	DOMESTIC LANDINGS* Whitefish	DOMESTIC LANDINGS* L.Trout	LAKE TROUT LANDINGS Total Lbs	LAKE TROUT LANDINGS % of Total	TOTAL LANDINGS*
FAIRWEATHER	1981-82	-	-	2	0	-	-	-	-	-	-	-
Quota*: +T : 3000; LT : 1500												
FORTIN	1974-75	-	-	1	0	-	-	-	-	-	-	-
Quota*:	1975-76	1	0	-	-	-	-	-	-	-	-	-
+T : 3000	1976-77	-	-	1	0	-	-	-	-	-	-	-
LT : 1500	1978-79	1	0	-	-	-	-	-	-	-	-	-
	1979-80	1	0	-	-	-	-	-	-	-	-	-
	1980-81	3	0	1	0	-	-	-	-	-	-	-
	1981-82	2	0	1	0	-	-	-	-	-	-	-
	1982-83	3	0	-	-	-	-	-	-	-	-	-
HUTSHI	1974-75	-	-	1	0	-	-	-	-	-	-	-
Quota*:	1975-76	1	0	1	0	-	-	-	-	-	-	-
+T : 3000	1980-81	1	0	-	-	-	-	-	-	-	-	-
LT : 2000	1981-82	-	-	1	0	-	-	-	-	-	-	-
	1982-83	1	0	-	-	-	-	-	-	-	-	-

* Totals given in pounds

\+ T = Total Pounds; LT = Lake Trout Total

APPENDIX 8.5 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

FRANCES LAKE
Quota: Total - 12,000 pounds; Lake Trout - 6,000 pounds

YEAR	CLOSURES	COMMERCIAL LICENCES		DOMESTIC LICENCES		COMMERCIAL LANDINGS*		DOMESTIC LANDINGS*		LAKE TROUT LANDINGS		TOTAL
		Issued	Used	Issued	Used	Whitefish	L. Trout	Whitefish	L.Trout	Total Lbs	% of Total	LANDINGS*
1972-73		-	-	+	+	-	-	+	+	-	-	-
1973-74		9	1	+	+	1242	234	+	+	234	16%	1476
1974-75		3	0	4	2	-	-	1063	254	254	19%	1317
1975-76		6	0	3	2	-	-	1486	111	111	7%	1597
1976-77		1	0	3	2	-	-	2310	96	96	4%	2406
1977-78		3	0	5	4	-	-	2723	364	364	12%	3087
1978-79		5	2	8	2	390	390	505	213	603	40%	1498
1979-80		5	1	3	0	280	73	-	-	73	21%	353
1980-81		4	1	5	0	200	45	-	-	45	18%	245
1981-82		4	1	7	1	79	190	25	3	193	65%	297
1982-83		9	0	10	1	-	-	447	7	7	2%	454

* Totals given in pounds

\+ Domestic Licences were not issued prior to the 1974-75 season

APPENDIX 8.6 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

KLUANE LAKE
Quota: Total - 37,000 pounds; Lake Trout - 18,500 pounds

YEAR	CLOSURES	COMMERCIAL LICENCES Issued	Used	DOMESTIC LICENCES Issued	Used	COMMERCIAL LANDINGS* Whitefish	L. Trout	DOMESTIC LANDINGS* Whitefish	L.Trout	LAKE TROUT LANDINGS Total Lbs	% of Total	TOTAL LANDINGS*
1972-73		10	5	+	+	507	1346	+	+	1346	73%	1853
1973-74		8	4	+	+	1205	1830	+	+	1830	60%	3035
1974-75		10	5	1	0	2444	2134	-	-	2134	47%	4578
1975-76		6	3	-	-	383	750	-	-	750	66%	1133
1976-77		8	2	-	-	538	555	-	-	555	51%	1093
1977-78		6	1	3	0	132	459	-	-	459	78%	591
1978-79		3	2	5	2	452	697	745	1077	1774	60%	2971
1979-80		8	3	3	0	1303	1278	-	-	1278	50%	2581
1980-81		8	3	4	0	659	1258	-	-	1258	66%	1917
1981-82		13	5	4	1	1685	1837	170	175	2012	52%	3867
1982-83		14	6	8	1	2328	1749	990	4	1753	35%	5071

* Totals given in pounds

\+ Domestic Licences were not issued prior to the 1974-75 season

APPENDIX 8.7 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

LAKE LABERGE
Quota: Total - 20,000 pounds; Lake Trout - 10,000 pounds

YEAR	CLOSURES	COMMERCIAL LICENCES Issued	Used	DOMESTIC LICENCES Issued	Used	COMMERCIAL LANDINGS* Whitefish	L. Trout	DOMESTIC LANDINGS* Whitefish	L.Trout	LAKE TROUT LANDINGS Total Lbs	% of Total	TOTAL LANDINGS*
1972-73		18	5	+	+	971	3668	+	+	3668	79%	4639
1973-74		18	7	+	+	1928	4119	+	+	4119	71%	5831
1974-75		14	7	5	2	1548	1810	29	32	1842	54%	3419
1975-76		12	4	11	5	457	2608	222	59	2667	80%	3346
1976-77		9	3	8	1	110	3830	80	0	3830	95%	4020
1977-78		7	3	11	3	1062	5363	408	273	5636	79%	7106
1978-79		4	2	16	5	72	768	279	368	1136	76%	1487
1979-80		7	2	8	2	-	87	50	80	167	77%	217
1980-81		9	3	14	3	1128	1526	80	66	1592	67%	2800
1981-82		17	7	16	5	776	1498	169	73	1571	62%	2516
1982-83		18	7	20	9	2669	2838	275	90	2928	50%	5872

* Totals given in pounds

\+ Domestic Licences were not issued prior to the 1974-75 season

APPENDIX 8.8 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

LAKE	YEAR	COMMERCIAL LICENCES Issued	COMMERCIAL LICENCES Used	DOMESTIC LICENCES Issued	DOMESTIC LICENCES Used	COMMERCIAL LANDINGS* Whitefish	COMMERCIAL LANDINGS* L. Trout	DOMESTIC LANDINGS* Whitefish	DOMESTIC LANDINGS* L.Trout	LAKE TROUT LANDINGS Total Lbs	LAKE TROUT LANDINGS % of Total	TOTAL LANDINGS*
MAYO	1974-75	-	-	3	0	1	140	-	-	-	99%	141
Quota*:	1975-76	1	0	-	-	-	-	-	-	-	-	-
+T : 8000	1976-77	-	-	2	0	-	-	-	-	-	-	-
LT : 4000	1977-78	2	1	1	0	11	57	-	-	57	84%	68
	1978-79	1	0	1	0	-	-	-	-	-	-	-
	1979-80	1	1	1	0	92	354	-	-	354	79%	446
	1980-81	2	0	9	1	-	-	0	30	30	100%	30
	1981-82	-	-	11	1	20	22	-	-	22	52%	42
	1982-83	-	-	5	0	-	-	-	-	-	-	-

* Totals given in pounds

+ T = Total Pounds; LT = Lake Trout Total

APPENDIX 8 .9 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

PELLY RIVER
Quota: Total - 4,000 pounds; Lake Trout - 2,000 pounds

YEAR	CLOSURES	COMMERCIAL LICENCES		DOMESTIC LICENCES		COMMERCIAL LANDINGS*		DOMESTIC LANDINGS*		LAKE TROUT LANDINGS		TOTAL
		Issued	Used	Issued	Used	Whitefish	L. Trout	Whitefish	L.Trout	Total Lbs	% of Total	LANDINGS*
1972-73		1	1	+	+	25	507	+	+	507	95%	532
1973-74		1	1	+	+	419	-	+	+	-	0%	419
1974-75		2	1	1	1	6	75	1618	-	75	4%	1699
1975-76		3	0	7	0	1247	-	140	-	-	0%	1387
1976-77		1	1	5	0	498	-	-	-	-	0%	498
1977-78		1	0	8	1	-	-	80	-	-	0%	80
1978-79		4	1	9	4	4	-	148	-	-	0%	152
1979-80		6	0	9	3	-	-	198	-	-	0%	198
1980-81		5	2	5	4	150	-	237	-	-	0%	387
1981-82		6	1	10	1	350	-	98	-	-	0%	448
1982-83		4	1	8	2	240	-	290	-	-	0%	530

* Totals given in pounds

+ Domestic Licences were not issued prior to the 1974-75 season

APPENDIX 8.10 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

QUIET LAKE
Quota: Total - 6,000 pounds; Lake Trout - 3,000 pounds

YEAR	CLOSURES	COMMERCIAL LICENCES Issued	Used	DOMESTIC LICENCES Issued	Used	COMMERCIAL LANDINGS* Whitefish	L. Trout	DOMESTIC LANDINGS* Whitefish	L.Trout	LAKE TROUT LANDINGS Total Lbs	% of Total	TOTAL LANDINGS*
1972-73		-	-	+	+	-	-	+	+	-	-	-
1973-74		1	1	+	+	470	455	+	+	455	49%	925
1974-75		3	1	3	0	1190	330	-	-	330	22%	1520
1975-76		6	1	5	1	240	124	40	40	164	37%	444
1976-77		1	0	6	1	-	-	39	71	71	65%	110
1977-78		4	0	5	0	-	-	-	-	-	-	-
1978-79		5	0	9	1	-	-	-	2	2	0%	2
1979-80		5	1	10	2	509	1872	280	235	2107	73%	2896
1980-81		5	0	9	0	-	-	-	-	-	-	-
1981-82		10	0	11	1	-	-	-	20	20	0%	20
1982-83		12	0	11	2	-	-	40	7	7	15%	47

* Totals given in pounds

\+ Domestic Licences were not issued prior to the 1974-75 season

APPENDIX 8.11 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

STEWART RIVER
Quota: Total - 4,000 pounds; Lake Trout - 2,000 pounds

YEAR	CLOSURES	COMMERCIAL LICENCES Issued	COMMERCIAL LICENCES Used	DOMESTIC LICENCES Issued	DOMESTIC LICENCES Used	COMMERCIAL LANDINGS* Whitefish	COMMERCIAL LANDINGS* L. Trout	DOMESTIC LANDINGS* Whitefish	DOMESTIC LANDINGS* L.Trout	LAKE TROUT LANDINGS Total Lbs	LAKE TROUT LANDINGS % of Total	TOTAL LANDINGS*
1972-73		-	-	+	+	-	-	+	+	-	-	-
1973-74		-	-	+	+	-	-	+	+	-	-	-
1974-75		-	-	3	0	-	-	-	-	-	-	-
1975-76		-	-	7	0	-	-	-	-	-	-	-
1976-77		1	0	8	2	-	-	384	-	-	0%	384
1977-78		-	-	7	2	-	-	92	-	-	0%	92
1978-79		1	0	10	5	-	-	1304	-	-	0%	1304
1979-80		-	-	9	1	-	-	331	-	-	0%	331
1980-81		2	0	7	2	-	-	1154	-	-	0%	1154
1981-82		1	0	8	4	-	-	470	-	-	0%	470
1982-83		1	0	8	1	-	-	24	-	-	0%	24

* Totals given in pounds

\+ Domestic Licences were not issued prior to the 1974-75 season

APPENDIX 8.12 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

TESLIN LAKE
Quota: Total - 5,000 pounds; Lake Trout - 2,500 pounds

YEAR	CLOSURES	COMMERCIAL LICENCES		DOMESTIC LICENCES		COMMERCIAL LANDINGS*		DOMESTIC LANDINGS*		LAKE TROUT LANDINGS		TOTAL
		Issued	Used	Issued	Used	Whitefish	L. Trout	Whitefish	L.Trout	Total Lbs	% of Total	LANDINGS*
1972-73		7	4	+	+	1230	976	+	+	976	44%	2206
1973-74		15	5	+	+	4278	1463	+	+	1463	25%	5741
1974-75		14	7	2	0	2728	1494	-	-	1493	35%	4222
1975-76	08/10/75	10	6	4	2	1930	3050	87	63	3113	61%	5130
1976-77		6	3	8	4	4018	1541	810	199	1740	26%	6568
1977-78	07/27/77	7	5	2	2	7080	2164	197	89	2253	24%	9530
1978-79	08/23/78	6	3	9	4	7178	1062	243	149	1211	14%	8632
1979-80	08/11/79	5	4	8	3	8411	2762	345	69	2831	24%	11587
1980-81	07/23/80	5	2	7	3	4794	665	136	21	686	12%	5616
1981-82		6	2	19	6	1090	155	804	291	446	19%	2340
1982-83	08/13/82	15	6	13	6	4255	581	735	154	735	13%	5725

* Totals given in pounds

\+ Domestic Licences were not issued prior to the 1974-75 season

APPENDIX 8.13 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

YUKON RIVER
Quota: Total - 4,000 pounds; Lake Trout - 2,000 pounds

YEAR	CLOSURES	COMMERCIAL LICENCES		DOMESTIC LICENCES		COMMERCIAL LANDINGS*		DOMESTIC LANDINGS*		LAKE TROUT LANDINGS		TOTAL
		Issued	Used	Issued	Used	Whitefish	L. Trout	Whitefish	L.Trout	Total Lbs	% of Total	LANDINGS*
1972-73		-	-	+	+	-	-	+	+	-	-	-
1973-74		1	1	+	+	419	-	+	+	-	0%	419
1974-75		7	1	10	1	-	40	290	40	80	22%	370
1975-76		21	4	23	2	75	-	97	-	-	0%	172
1976-77		37	0	20	0	-	-	-	-	-	-	-
1977-78		37	0	18	0	-	-	-	-	-	-	-
1978-79		35	4	29	3	55	-	35	-	-	0%	90
1979-80		45	4	16	2	11	3	24	4	7	17%	42
1980-81		47	9	14	1	7	-	97	-	-	0%	104
1981-82		39	9	29	4	-	-	-	-	-	-	-
1982-83		-	-	-	-	-	-	392	33	33	8%	425

* Totals given in pounds

\+ Domestic Licences were not issued prior to the 1974-75 season

APPENDIX 8.14 Record of Commercial and Domestic Freshwater Fishing in the Yukon, 1972 - 1983 (Continued).

FINLAYSON LAKE
Quota: Total - 3,000 pounds; Lake Trout - 1,500 pounds

YEAR	CLOSURES	COMMERCIAL LICENCES		DOMESTIC LICENCES		COMMERCIAL LANDINGS*		DOMESTIC LANDINGS*		LAKE TROUT LANDINGS		TOTAL
		Issued	Used	Issued	Used	Whitefish	L. Trout	Whitefish	L.Trout	Total Lbs	% of Total	LANDINGS*
1972-73		2	0	+	+	-	-	+	+	-	-	-
1973-74		2	2	+	+	580	425	+	+	425	42%	1005
1974-75		5	0	2	0	-	-	-	-	-	-	-
1975-76		6	0	2	1	-	-	48	30	30	38%	78
1976-77		3	0	1	0	-	-	-	-	-	-	-
1977-78		2	1	2	0	75	20	-	-	20	21%	95
1978-79		5	0	4	1	-	-	50	-	-	-	50
1979-80		4	1	4	0	120	200	-	-	200	63%	320
1980-81		6	1	4	0	160	275	-	-	275	63%	435
1981-82		6	1	3	0	532	141	302	80	221	21%	1055
1982-83		6	2	3	1	429	66	317	73	139	16%	885

* Totals given in pounds

\+ Domestic Licences were not issued prior to the 1974-75 season

Appendix 9 Yukon Indian Fish Catch Statistics, 1909 - 1916. Adapted from Department of Marine and Fisheries Annual Reports.

LOCATION	APPROXIMATE FISH HARVEST (lb)								
	Lake Trout	Whitefish	Pike	Ling Cod	Tullibee	Grayling	Mixed Coarse	Salmon	Smoked Salmon
1909									
Salmon R.	990	9,875	1,585	1,980	2,970	6,930	1,980	10,929	3,000
Teslin L.	1,480	7,382	1,200	300	4,440	5,180	1,850	NR	NR
Tagish	1,380	6,883	1,030	250	2,760	4,830	2,070	NR	NR
Big Lake*	800	3,990	600	NR	1,600	2,800	1,000	NR	NR
McQueston	500	4,988	750	200	1,500	3,500	1,000	2,000	1,334
Upper Pel	2,150	10,474	1,075	2,100	3,150	7,350	1,050	6,250	4,250
Duncan	1,160	5,786	870	1,160	2,320	4,640	696	NR	NR
Porcupine	400	3,990	600	800	1,200	2,800	800	3,414	2,110
Peel	2,060	6,983	1,050	1,400	2,100	4,900	560	6,280	3,334
Rampart	2,200	10,973	1,650	2,220	3,300	7,700	2,200	9,334	5,774
Hutshi	2,620	13,068	1,965	NR	5,240	9,170	2,615	NR	NR
TOTAL	15,740	84,392	12,375	10,390	30,580	59,800	15,821	38,207	19,802
1910									
Salmon R.	2,000	5,100	1,700		2,100	7,100	4,100	15,300	
Teslin L.	1,900	9,500	2,000		2,800	8,300	3,800	NR	
Tagish	2,000	10,000	1,900		3,000	7,000	4,000	NR	
Hutshi	1,400	7,000	1,100		2,100	4,900	2,000	NR	
Big Lake	200	4,000	200		1,200	2,800	1,600	NR	
McQueston	1,100	1,500	900		1,600	3,800	2,200	6,000	
Upper Pelly	1,600	8,000	1,400		2,400	5,600	3,200	12,000	
Duncan	1,000	5,000	800		1,500	3,500	2,000	4,000	
Porcupine	600	3,000	500		900	2,100	1,200	4,000	
Peel R.	2,300	11,500	2,100		3,400	8,500	4,600	6,900	
Rampart	2,800	14,000	2,400		4,200	9,800	5,600	11,200	
Yukon Cross.	200	900	200		300	600	400	1,800	
L. Laberge	1,600	8,000	1,800		2,400	5,600	1,600	NR	
Hootalinqua	500	2,600	500		800	1,800	1,100	4,000	
Whitehorse	600	3,900	200		1,900	2,200	1,200	NR	
TOTAL	19,800	94,000	17,700		30,600	73,600	38,600	65,200	

Appendix 9 Yukon Indian Fish Catch Statistics, 1909 - 1916. (cont'd)

Location	APPROXIMATE FISH HARVEST (lb)				
	Lake Trout	Whitefish	Pike	Mixed Course	Salmon
1911					
Salmon R.	1,000	7,000	3,000	13,800	18,000
Teslin L.	1,500	8,000	1,300	11,700	NR
Tagish	1,400	6,400	1,100	9,900	3,000
Big Lake	800	3,000	900	5,400	NR
McQueston/Stewart	700	4,000	1,000	6,200	17,000
Selkirk/Pelly	3,000	19,000	2,500	15,700	36,900
Duncan	1,000	4,000	1,500	8,600	6,000
Porcupine	300	2,500	400	4,000	4,000
Peel R.	2,100	6,000	1,600	8,900	13,800
Rampart	2,000	9,500	1,800	15,400	15,500
Hutshi	2,700	12,000	2,500	17,400	10,000
TOTAL	16,500	81,400	17,600	117,000	124,000
1912					
Salmon R.	1,000	6,800	2,900	13,500	17,500
Teslin L.	1,500	7,400	1,200	11,700	NR
Tagish	1,200	6,000	1,300	9,400	3,000
Big Lake	600	3,000	1,000	5,000	NR
McQueston/Stewart	700	4,000	1,000	6,000	17,000
Selkirk/Pelly	3,000	18,400	1,400	15,700	36,400
Duncan	1,000	4,200	1,600	8,000	5,700
Porcupine	200	2,500	400	15,000	4,000
Peel R.	2,000	6,000	1,600	17,000	13,800
Rampart	2,000	9,000	1,800	14,000	15,000
Hutshi	2,700	11,500	2,400	12,200	10,400
TOTAL	15,900	78,800	16,600	127,500	122,800
1913					
Salmon R.	1,000	4,000	200	7,000	16,000
Teslin L.	1,400	4,500		9,000	NR
Tagish	1,000	5,400		7,000	NR
Big Lake	600	1,000		3,500	NR
McQueston	500	2,700		4,000	14,000
Selkirk/Pelly	2,500	8,000		5,500	30,000
Duncan	1,000	2,200		3,000	5,000
Porcupine	200	2,500		2,000	4,000
Peel R.	2,000	5,000		2,500	13,000
Rampart	1,400	7,000		6,400	14,500
Hutshi	2,200	6,000		5,000	10,000
TOTAL	13,800	48,300	200	54,900	106,500

Appendix 9 Yukon Indian Fish Catch Statistics, 1909 - 1916. (cont'd)

Location	APPROXIMATE FISH HARVEST (lb) Lake Trout	Whitefish	Pike	Mixed Course	Salmon
1914					
Salmon R.	1,000	4,000	200	7,000	15,500
Teslin L.	1,500	4,500		9,000	NR
Tagish	1,000	5,400		7,000	NR
Big Lake	600	11,000		3,500	NR
McQueston	600	2,700		4,000	14,000
Selkirk/Pelly	2,500	8,000		5,500	31,000
Duncan	1,000	2,200		3,000	5,000
Porcupine	200	2,500		2,000	4,000
Peel R.	2,000	5,000		2,500	13,500
Rampart	1,400	7,000		6,400	14,500
Hutshi	2,200	6,000		5,000	10,500
TOTAL	14,000	48,400	200	54,900	108,000
1915					
Salmon R.	800	3,000	300	7,200	14,000
Teslin L.	1,200	4,000		8,000	NR
Tagish	1,000	5,000		7,000	NR
Big Lake	500	1,000		3,000	NR
McQueston	500	2,500		4,000	12,000
Selkirk/Pelly	2,000	7,500		5,000	30,000
Duncan	1,000	2,000		3,000	5,000
Porcupine	300	2,500		2,000	4,000
Peel R.	2,000	5,000		2,500	12,000
Rampart	1,200	7,000		6,400	11,500
Hutshi	2,000	5,000		5,000	10,000
TOTAL	12,500	44,500	300	53,100	98,500
1916					
Big & Little Salmon	800	3,000		7,000	12,000
Teslin L.	1,000	3,500		7,500	NR
Tagish L.	1,000	4,500		7,000	NR
Big Lake	400	1,000		2,500	NR
McQueston	500	2,000		4,000	10,000
Selkirk/Pelly	2,000	7,000		5,000	24,000
Duncan	800	2,000		2,500	5,000
Porcupine	300	2,500		2,000	7,500
Peel R.	2,000	5,000		2,000	12,000
Rampart	1,200	6,000		6,000	11,500
Hutshi	1,500	5,000		5,000	9,000
TOTAL	11,500	41,500		50,500	91,000

* Big Lake is probably Aishihik Lake [R. Coutts, Yukon Places and Names, Sidney, B.C., (Gray's Publishing Ltd., 1980) p. 2.]

APPENDIX 10 Sport Fishing Licence Categories and Fees, 1949 - 1983.

YEAR	LICENCE TYPE	FEE ($)
1949 - 1969	Yukon Resident	$ 1.00
	Non-Yukon Resident	$ 2.00
1970 - 1981	Canadian Resident	$ 3.00
	Non-Canadian Resident: 5 day	$ 3.50
	Non-Canadian Resident: Season	$10.00
1982 - 1983	Canadian Resident	$ 5.00
	Non-Canadian Resident: 1 day	$ 5.00
	Non-Canadian Resident: 5 days	$10.00
	Non-Canadian Resident: Season	$20.00

APPENDIX 11. Distribution of Yukon Sport Fishing Licences, 1982 - 1983

	SEASON	5-DAY ($10.00)	1-DAY ($5.00)	UNDER 16 YEARS OLD (Free)	OVER 64 YEARS OLD (Free)	INDIAN/ INUIT (Free)	TOTAL FREE LICENCES	TOTAL LICENCES
Yukon Resident								
Licences	6,621	-	-	117	176	279	(572)	7,193
Revenue	$33,105	-	-	-	-	-	-	$33,105
Canadian Resident (Non-Yukon)								
Licences	3,277	-	-	35	307	12	(354)	3,631
Revenue	$16,385	-	-	-	-	-	-	$16,385
Non-Canadian Resident								
Licences	1,384	1,821	559	49	135	-	(184)	3,948
Revenue	$27,680	$18,210	$2,795	-	-	-	-	$48,685
TOTAL LICENCES:	11,282	1,821	559	201	618	291	(1,110)	14,772
TOTAL REVENUE:	$77,170	18,210	2,795	-	-	-	-	$98,175

APPENDIX 12 Area Closures to Salmon Sport Fishing in the Yukon Territory, 1982/83.

PLACE	DATES
Tatchun Creek - mouth	August 1 - September 30
Yukon River - between Whitehorse dam and Robert Campbell Bridge	July 15 - September 30
Takhini River - Kusawa Lake to Yukon River	August 20 - September 15
Klukshu River - Klukshu Lake to 1 km. past Haines Road	June 1 - July 7
Klukshu River - Klukshu Lake to 30 M above Tatshenshini River	July 7 - November 30