

**ADDITIONAL HISTORICAL
FISHERIES INFORMATION
FROM THE MUSKWA-KECHIKA
MANAGEMENT AREA**

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SUMMARY

The primary purpose of this research project was to compile and preserve historical fisheries information from within the Muskwa-Kechika Management Area. This is the second year of the project, and this report will outline the information obtained from the 2001 study year. The purpose of the first year of research was to learn more about the stocking and transplanting of fish that occurred historically in the Muskwa-Kechika Management Area. The project soon began to gather a wide variety of historical fisheries information. This year, the goal of the project was to try and obtain information that was not collected previously as well as to broaden the aspects of this project by including the historical aboriginal uses of fish in the Muskwa-Kechika Management Area. The Fisheries Section Head, Fort St. John, obtained funding for this project through an application to the Muskwa-Kechika Trust Fund.

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1.0 INTRODUCTION

The Muskwa-Kechika Management Area has expanded, and with this expansion, more knowledge of the area is constantly being demanded. The management area now encompasses a large portion of northern British Columbia, and more attention is being drawn to the many resources within the management area. In a case such as the Muskwa-Kechika Management Area (MKMA), special planning and regulations are used to ensure the preservation of the land in conjunction with the extraction of natural resources. The purpose of this project is to discover, preserve and provide historical fisheries information in order to increase the base of fisheries information from the Muskwa-Kechika Management Area. This project was initiated in the spring of 2000, and this document is a continuation to provide a more complete information database.

This year's report includes the aboriginal use of fisheries in the Muskwa-Kechika Management Area as well as additional general fisheries information. Topics covered in the report include the introductions and transplanting of fish, how populations and habitat have changed over the years, and considerations and recommendations from the public.

The report has been separated into two sections: Part I describes the historical and present aboriginal use of the fisheries resource and Part II describes the historical information gathered from both First Nations and non-First Nations, by watershed. The report was separated into the two sections in order to give proper attention and description of how fish were viewed and used as a resource by the First Nations people within the Muskwa-Kechika Management Area. Specific fisheries accounts and observations obtained from the First Nations will also be included within the second part of the report in order to provide the most complete information source for each specific water body.

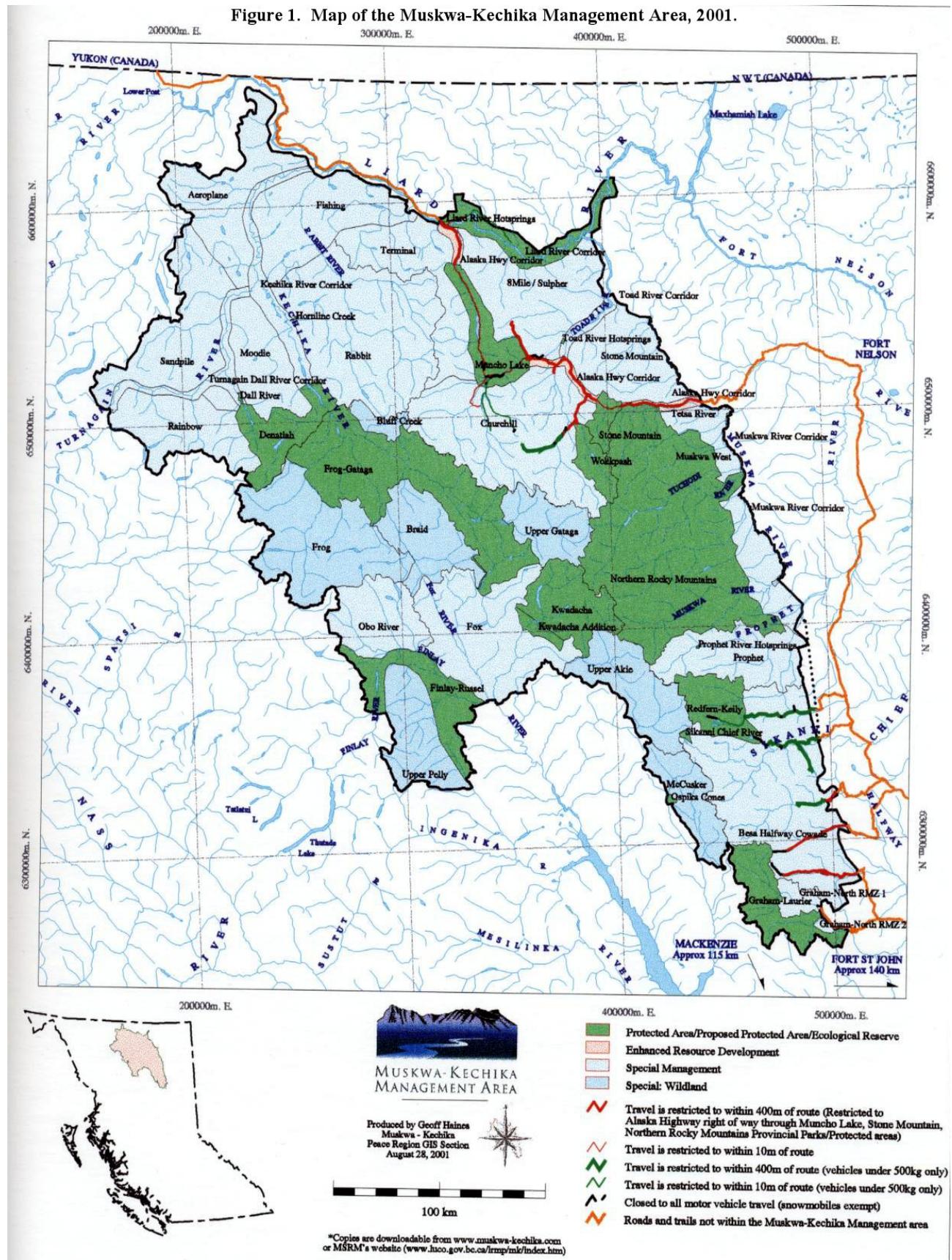
2.0 METHODS

2.1 Description of Study Area

First established in 1997, the Muskwa-Kechika Management Area was developed to be a special management area where conservation and industrial activities would work be co-ordinated for the benefit of the land and its resources. Initially encompassing 4.4 million hectares of land, additions have been made to the MKMA. In November of 2000, the Mackenzie Addition of 1.9 million hectares was added, increasing the Muskwa-Kechika Management Area's total land area to 6.3 million hectares (Figure 1).

Information obtained from this historical fisheries study was primarily focussed on the Muskwa-Kechika Management Area. However, in conducting interviews, information was discovered pertaining to other areas in northeastern British Columbia. Information not pertaining to the Muskwa-Kechika Management Area has been included in the interview summaries, which can be found in Appendix IV.

Figure 1. Map of the Muskwa-Kechika Management Area, 2001.



The Muskwa-Kechika Management Area offers a variety of fisheries resources due to the diversity of fish species found within the area (Table 1). In general, most of the collected information is focussed on the sport fish species as defined in the Freshwater Fishing Regulations Synopsis (MOELP, 2001). One discrepancy arises in the classification of bull trout (*Salvelinus confluentus*) and Dolly Varden (*Salvelinus malma*) in northeastern British Columbia. Until recently, these two species were classified as the same species, Dolly Varden. However, it is now known that these two fish are different species, and this has caused confusion for local residents in the area. Dolly Varden are absent from northeastern British Columbia, but are known to occur in the headwaters of the Finlay River Watershed (Down, *pers. comm.*). Throughout this report many references will be made to “Dolly Varden”, however, it should be known that the species being discussed is bull trout, unless specifically noted for areas in which both species are present.

Table 1. Fish species present in the Muskwa-Kechika Management Area.

COMMON NAME	SCIENTIFIC NAME
Arctic Grayling	<i>Thymallus arcticus</i>
Arctic Cisco	<i>Coregonus autumnalis</i>
Bull Trout	<i>Salvelinus confluentus</i>
Burbot	<i>Lota lota</i>
Chum Salmon	<i>Oncorhynchus keta</i>
Chinook Salmon	<i>Oncorhynchus tshawytscha</i>
Dolly Varden	<i>Salvelinus malma</i>
Goldeye	<i>Hiodon alosoides</i>
Inconnu	<i>Stenodus leucichthys</i>
Lake Trout	<i>Salvelinus namaycush</i>
Lake Whitefish	<i>Coregonus clupeaformis</i>
Mountain Whitefish	<i>Prosopium williamsoni</i>
Northern Pike	<i>Esox lucius</i>
Rainbow Trout	<i>Salmo gairdneri</i>
Round Whitefish	<i>Prosopium cylindraceum</i>

2.2 Methods of Study

The majority of information collected for this report was obtained through personal interviews with people within communities surrounding the Muskwa-Kechika Management Area. To initiate this year's project, people that were unable to be contacted from the previous year were interviewed first. From these interviews additional contacts were discovered and further pursued.

People being interviewed were contacted and a meeting time would be arranged at time convenient to the interviewee. Before any questions were asked, the purpose of the project and how the information provided would be used, was thoroughly explained. Interviews were conducted in a casual manner in order to allow the interviewee to feel comfortable to share their information, rather than being interrogated. If possible, interviews were recorded on a micro-

cassette recorder so information would not be missed. If the situation prohibited the use of the recorder, handwritten notes were taken and then later written out in full detail. In addition to conducting interviews, research was conducted at local libraries and museums to discover any historical literature pertaining to northeastern British Columbia.

3.0 PART I: ABORIGINAL USE OF FISH IN THE MUSKWA-KECHIKA MANAGEMENT AREA

3.1 Introduction

One of the important perspectives of historical fisheries not covered in the previous year's report was the aboriginal use of the fisheries resource. A large part of the project this year was dedicated to covering the aboriginal aspect of historical fisheries. Aboriginal use of fish differs greatly from the many other aspects of the fisheries resource in that fish were used by the First Nations, primarily as food source. Historically, fishing in the Muskwa-Kechika Management Area was largely viewed as a recreational pastime, but was never seriously considered important to the survival of the people in the area. The purpose of this section is to illustrate the historical and present importance of fish to the First Nations people and to explore how fish were viewed, used and managed.

Within the Muskwa-Kechika Management Area there are many First Nations bands in which territories overlap with the Muskwa-Kechika Management Area. However, due to on going debates over traditional boundary distinctions, it is extremely hard to provide accurate information with regards to boundaries, territories and the different bands. Due to the ongoing political issues associated with this topic, detailed information gathered will be grouped under the three main tribal councils in northeastern British Columbia to avoid reporting incorrect information.

There are three main tribal councils in whose traditional areas overlap the Muskwa-Kechika Management Area. These include the Kaska Dena Council, the Treaty 8 Tribal Council and the Carrier Sekani Tribal Council. Refer to Table 2 for a list of the First Nations located within the MKMA. Within each of these three primary councils are many different bands, each associated with their own traditional areas. For this report, the Treaty 8 Tribal Council and Kaska Dena Council were the only councils to be contacted. Within the Treaty 8 Tribal Council, representatives from the Halfway River First Nations, Fort Nelson First Nations, Blueberry River First Nations and Prophet River First Nations were interviewed. Information received from the Kaska Dena Council was obtained from a member of the Kwadacha First Nations.

Table 2. First Nation Councils with traditional lands overlapping with the Muskwa-Kechika Management Area.

FIRST NATIONS COUNCILS	REGION
Kaska Dena Council	Northcentral British Columbia
Treaty 8 Tribal Council	Northeastern British Columbia
Carrier Sekani Tribal Council	Mackenzie Region

Working with First Nation groups for the purpose of obtaining information, often requires much planning and arrangements. Due to the time limitations of this project, only a few representatives from two of the councils could be contacted and interviewed. This presents the weakness of the aboriginal information obtained for this report. It should be known that only a few, randomly selected people from each band were interviewed. Therefore, the scope of the information included in this report has, unfortunately, been limited to one or two persons view, rather than the entire band. This is not the case, and it is not the intention of this report to reflect that the information presented is the view of the entire band. The people that were interviewed discussed their personal opinion of the subject and this should not be reflective of the opinion of the entire band.

Information will be presented according to the bands interviewed. Representatives were interviewed from the Kwadacha First Nations, Halfway River First Nations, Fort Nelson First Nations and the McDonald Family, and information will be discussed under these four headings. Unfortunately, a map outlining the boundaries and traditional territories of the councils and bands is not to be released to the public due to sensitivity issues and ongoing debates with regards to the location of boundaries. In order to obtain a graphical representation of the boundaries of the three councils in the Muskwa-Kechika Management Area, please contact the British Columbia Ministry of Community, Aboriginal and Women's Services.

3.2 Kwadacha First Nations

The people of the Kwadacha First Nations have utilized the fisheries resource as long as the First Nation of Kwadacha have been in the area (Boya, *pers. comm.*). Located out of Fort Ware, areas that were commonly fished include the Fox River, Weissener Lake, the Finlay River and the Williston Reservoir both before and after the construction of the WAC Bennett Dam.

The fisheries resource was used primarily as a food source for the people of the Kwadacha First Nations. The people of the band relied on the fish during certain times of the year, specifically when the fish were numerous (Boya, *pers. comm.*). People would go to fish when they knew that the fish would be abundant at specific locations during certain times of the year. Other than these important times during the year, people would fish as food was required. Fish were never relied upon as the primary food source. Boya (*pers. comm.*) explained that fish were not depended on, but would be eaten when variety in diet was needed or for speciality occasions. Boya described that some would live off of fish if they could, but for the most part, moose was the primary food source for the people.

The native community viewed fish with great respect, and for this reason, fishing was only done for the sole purpose of feeding the community. Fishing in the native community was never done for "fun", pleasure or enjoyment. Boya (*pers. comm.*) described he has never witnessed anyone from the community fishing for pleasure, and being located in a rather remote area, fishing was done solely for survival purposes. Some people had the ability to communicate spiritually with the fish as well as other animals, while to others; the fish represented a religious importance. First Nations people have inhabited and utilized the Muskwa-Kechika Management Area long before the management area was established and before other nations even landed on this continent. Historically, methods of catching and preparing fish were simple, but successful. In

the Kwadacha First Nation, fishing was done using homemade hooks that were usually baited with insects or meat (Boya, *pers. comm.*). Once the fish were caught, they were de-boned and then smoked, dried or eaten fresh (Boya, *pers. comm.*). The Kwadacha First Nations did not eat fish that were spawning, but rather dried and smoked the meat, which was later used to feed dogs during the winter months (Boya, *pers. comm.*). In the past, spawning runs were very important to the people of the Kwadacha, and many fish were usually taken at this time. However, Boya (*pers. comm.*) explains that this practice of taking many spawning fish will have to decrease if the community plans to rely on spawning fish in the future.

The summer season was the most important season for fishing, and it was not uncommon for fishing activities to occur on a daily basis, primarily because the fishing was best during this season (Boya, *pers. comm.*). Fishing usually occurred on the rivers and small lakes that were accessible in the area and boats were used as necessary to get to certain fishing locations. The boats were only used as a means of transport to fishing locations, where they would walk to the lakes, or would fish off the shore (Boya, *pers. comm.*). The summer provided the most plentiful food source, but ice fishing also occurred from the end of January to the middle of March (Boya, *pers. comm.*). Rainbow trout, lake char (lake trout), bull trout and Arctic grayling were the most utilized fish; however, Boya (*pers. comm.*) explained, “as long as there were some sort of fish left over, it didn’t matter what species it was”. In the aboriginal view, species was not important; what was caught was taken for food, regardless of species.

The Kwadacha First Nation’s current territory is centred around the Finlay, Fox and Kwadacha River systems. Boya (*pers. comm.*) described that rainbow trout populations in the area have decreased dramatically in the past 4 years, and the fish numbers are the lowest the community has ever experienced. Boya (*pers. comm.*) believes the reason for this decline is the movement of fish down the larger river systems, into the Williston Reservoir. The fish remain in the reservoir and do not return back to the smaller streams of the headwaters. Boya (*pers. comm.*) explains that 30 years ago, rainbow trout could be frequently caught in almost any lake or stream in the area; however, today the rainbow trout are not as numerous and are much harder to catch.

According to Boya (*pers. comm.*), Coho salmon, which were never seen in the Fort Ware region prior to this, have been seen in the lakes and rivers north of Fort Ware. These fish are described as a stout, wide-bodied, red fish with a flat nose, which is known to spawn north in the headwaters of the rivers. In the past two years, the fish are becoming more numerous in the water bodies of the area, and have even been recorded to be present in the Fox River and the outlet of Weissener Lake.

In addition to the decreasing rainbow trout populations, and the apparent appearance of the Coho salmon in the water bodies of the Kwadacha First Nation, many of the fish being caught have been unhealthy or diseased. Fish caught north of “Wolsey Lake” (location unknown) contain a lot of black meat, which is believed to be a result of mercury present in the fish (Boya, *pers. comm.*). Changes have also been noticed in the health of the bull trout. The bull trout caught have been described as being softer than normal; this is especially prevalent in the larger fish which are noticeably softer bodied than they were previously (Boya, *pers. comm.*).

3.3 Fort Nelson First Nations

The Fort Nelson First Nations traditional area encompassed a large portion of northeastern British Columbia; however, most of the fisheries use was located outside the Muskwa-Kechika Management Area. Primary areas used by the aboriginal peoples of the Fort Nelson area included the Snake River, Klua Lakes, and the Fort Nelson River (Behn, *pers. comm.*).

Fishing in the Fort Nelson area was not critical to the people of the native community because the land did not supply the quality of fishing that one could survive off of (Behn, *pers. comm.*). George Behn (*pers. comm.*), an elder with the Fort Nelson First Nations, stated, “if someone had to survive off fish in the Fort Nelson area, they would starve”. This is reflective of the quality of fishing in the area. To the First Nations community, the chub and other non-sport fish were just as significant as the sport fish species because of the lack of good fishing opportunities in the area (Behn, *pers. comm.*).

When fishing was done, it was for the purpose of providing an extra food source to the community or to feed the dogs (Behn, *pers. comm.*). Fish were most important to the people that travelled. The fish were used as sustenance for those that seasonally travelled along the rivers, and during these times, the fish meat was relied upon, in part, for survival (Behn, *pers. comm.*). In another situation, a native village located on the Snake River was reliant on the spawning activity of fish during the spring and summer, and would move to different places along the river according to the availability of fish (Behn, *pers. comm.*). In these cases, parts of the community depended on the fish when times were critical.

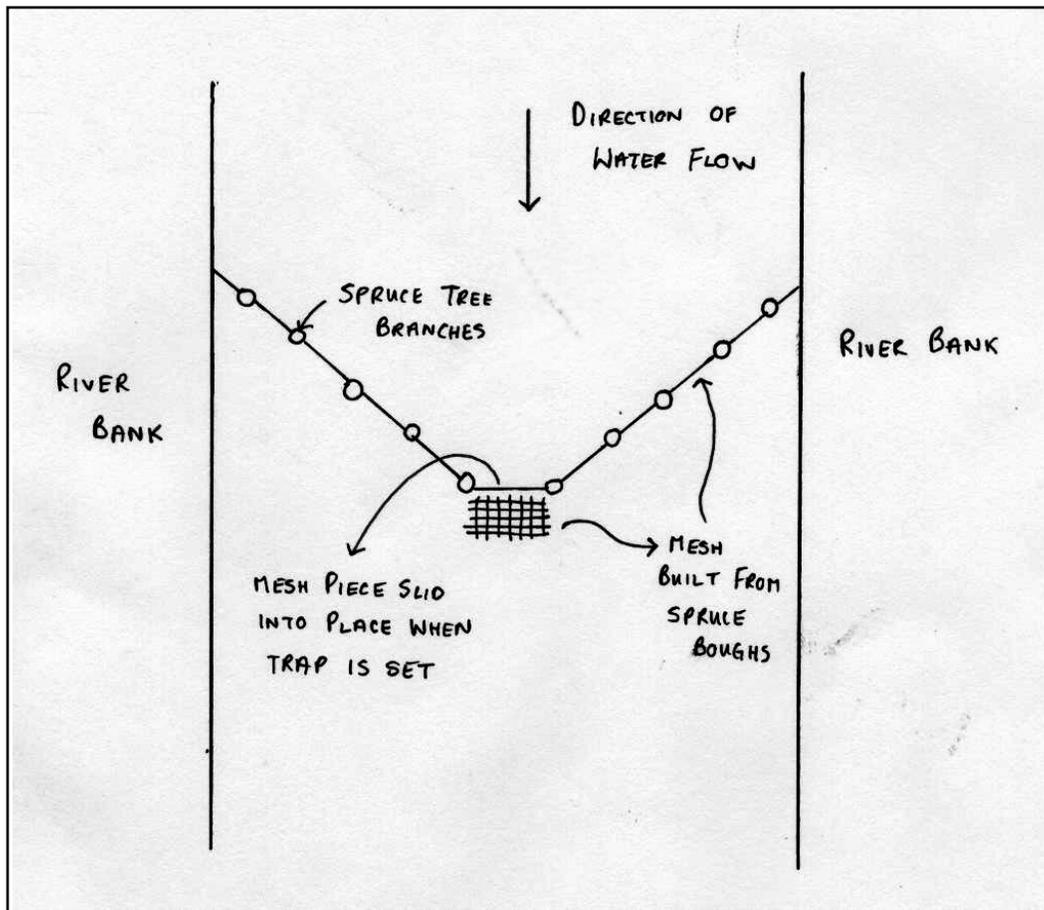
Methods used by the Fort Nelson First Nations for catching fish included night-line fishing, pole and line fishing, and the use fish traps (Behn, *pers. comm.*). Nightline fishing involved leaving a baited, hooked line in the water over night (Behn, *pers. comm.*). In the morning, the line was checked and if fish were caught, they were removed and the line was put back in the water. This method of catching fish was used both historically and presently (Behn, *pers. comm.*).

Fish traps used by the Fort Nelson First Nations were simple structures that were constructed and placed in a stream during the spring months when the fish were spawning. In order for the traps to be effective, water levels had to be ideal (Behn, *pers. comm.*). Refer to Figure 2 for a schematic of the fish trap used by the Fort Nelson First Nations.

The trap was constructed using small spruce trees and branches, measuring approximately 2 to 3 inches in diameter, as stakes, arranged in V-shaped formation in the river. The trap would funnel the fish into the point of the V as they moved downstream (Behn, *pers. comm.*). Spruce boughs were woven crosswise, like a mesh, and placed between the stakes. This would prevent the fish from moving through the trap, but allow the water flow to continue. The stakes and woven spruce boughs would reach above the water 4 to 6 inches to prevent the fish from going over, and escaping the trap (Behn, *pers. comm.*). As the fish move down the river, they are forced to the small opening at the point of the V. When the trap is set, a small, partial box is created out of woven spruce boughs (Behn, *pers. comm.*). At the point of the V, three sides and a bottom is constructed so that the front piece can be slipped into and out of place, setting or releasing the trap. When the trap is set, the front piece is slipped into place; fish are prohibited from moving

through the trap, and are held in this V-shaped “holding pen” (Behn, *pers. comm.*). The fish can then be caught from the pool behind the trap. When fish are not needed, the front piece is removed and the fish are free to swim through the small opening in the trap (Behn, *pers. comm.*).

Figure 2. Schematic of the fish trap used by the Fort Nelson First Nations, as described by George Behn (*pers. comm.*).



Areas that were important to the Fort Nelson First Nations because of their fisheries resource included the Snake River and Klua Lakes; both located outside of the MKMA, but will be included because of their historical value. Although the Fort Nelson River was widely used by the First Nations community, the people of the Fort Nelson First Nations did not fish the Fort Nelson River because the water levels of the river were generally very high and the waters extremely muddy (Behn, *pers. comm.*). The Snake River was of importance because of the spawning fish that sustained a village through the spring months. Klua Lakes were historically and presently important to the First Nations community due to the whitefish populations occurring in the lake (Behn, *pers. comm.*). People depended on the whitefish populations as a food source for themselves and their dogs (Behn, *pers. comm.*). In general, the rivers in the area were of importance, not for their fish populations, but for the means of transportation that was provided within them. The people of the Fort Nelson First Nations would often travel seasonally

along the many rivers around Fort Nelson and a large proportion of their food was obtained through the fish caught from the rivers on which they were travelling (Behn, *pers. comm.*).

In the many years that the Fort Nelson First Nations have survived and lived in the area, they have seen many changes experienced by the land. The most important change observed by the people is the increasing use of jet boats on the rivers in the area (Behn, *pers. comm.*). The jet boats are detrimental to the river system because of the harm that they cause to the fish populations. Due to low water levels and the timing of spawning runs, jet boat use during the summer and fall months contributes to a large number of fish deaths in the rivers (Behn, *pers. comm.*). In addition to damaging fish populations, the jet boats also cause increased erosion of banks and leads to bank instability (Behn, *pers. comm.*).

Industry has also played an important role in changing the river habitat for fish. Logging activities have caused many problems for the river systems such as increasing silt in the water and adding pollution to both the land and the water systems (Behn, *pers. comm.*). Industrial activities, by opening up land and creating useable roads, also increase access to the more remote areas, thus increasing the amount of traffic and industrial activities in the region (Behn, *pers. comm.*). Behn (*pers. comm.*) suggests that these type of activities need to stop in order to save what remains of an already fragile fishery in the Fort Nelson area rivers.

3.4 Halfway River First Nations

The Halfway River First Nations band is located in the area of the confluence between the Graham River and the Halfway River. The traditional area of the Halfway River First Nations is described to encompass an area stretching from the Rocky Mountains north to Fort Nelson and east to the Alberta border.

The people of the Halfway River First Nations have always held great respect for both the fish and the wildlife that were used as a food source for the people of the community. The fish were relied upon as a food source by the community, and if the elders decided a different food source was required for a meal, fish were often provided. The elders of the community have instilled respect for the fish in the people of the community. Wolkley (*pers. comm.*) described that the elders taught people from the community at a young age, that the fish are used strictly as a food source. Fishing was viewed as an important aspect of the community's food source and demanded much respect. Never was fishing taken for granted. It was never done as a pastime or for fun: if people were fishing it was for the sole reason to provide food for themselves and their families.

Fishing only occurred at specific times and places, and the same location was not to be fished repeatedly, in order to maintain fish populations: "We do not want to fish out the rivers and therefore, we must move around to different places to fish" (Wolkley, *pers. comm.*). The elders did not permit fishing during times of the year when the fish were spawning. They believed that in allowing the spawning fish to reproduce, grow and survive, they would be ensuring future fish for generations to come (Wolkley, *pers. comm.*).

An example of the respect held for the fish is seen when women are not permitted to consume fresh meat while on their monthly cycle (Jackson, *pers. comm.*). If the women from the Halfway First Nations eat fresh meat during this time, it is believed that the fish and wildlife will be hurt and greatly disrespected (Jackson, *pers. comm.*). Dried and frozen meats are allowed to be eaten, but the fresh meat was not.

Many areas throughout the Muskwa-Kechika Management Area hold spiritual significance to the Halfway River First Nations. Areas that are significant to the band were designated with a cross. Crosses are placed in areas where an elder or an ancestor had a vision, and the crosses symbolize an area that was of importance in the past (Jackson, *pers. comm.*). An area considered significant for its fisheries value was “where the three rivers meet” in the Besa River system (Keily Creek, Petrie Creek and the Besa River) (Jackson, *pers. comm.*). A cross was placed at a set of falls located on the Besa River because of a vision had by elders many years ago (Jackson, *pers. comm.*). In the past fish were never present at these falls; however, when the people travelled through this area, there were always fish to be caught from the falls (Jackson, *pers. comm.*). A cross was placed at this location to show its spiritual significance to the Halfway River First Nations.

Unlike the Fort Nelson First Nations, fish were caught using only a line and pole. Wolkley (*pers. comm.*) described that if true fishing rods were not available, a stick would be used with a hook attached to some line. When fish were caught, they were cut into small pieces, smoked, dried and kept for the winter season. Fresh fish were eaten when a change in diet was needed, and ice fishing would happen on occasion to provide fresh meat for the winter.

The Halfway and Graham River were the most commonly used rivers for fishing because of their close proximity to the village. However, there are many accounts of fishing that occurred in other areas throughout the Muskwa-Kechika Management Area. Jackson (*pers. comm.*) told a story of a number of ancestors who ice-fished along the Prophet River for many seasons. Every year a group would travel up on dogsleds, to the river where the two mountains come together (Jackson, *pers. comm.*). They would catch many fish and bring them back to the community, where the food would be sliced up and dried (Jackson, *pers. comm.*). All the fish that were caught were equally distributed throughout the members of the community (Jackson, *pers. comm.*).

Trimble Lake was another area used by the Halfway River First Nations and is known to have many traditional stories associated with it. One story that has been told of the lake is with regards to the size of the fish present in the lake. There are over sixty aboriginal graveyards present in the Trimble Lake area, and the ancestors tell many stories of the fishing from the lake (Jackson, *pers. comm.*). Years ago, the natives would tie their fishing line to large tree stumps on the shore of the lake. They would hook and bait the line, leave it in the water over-night and return to it the next day. On one occasion, the men returned the next morning to find the stump that the line was attached to was gone (Jackson, *pers. comm.*). It is believed that the fish are so large in Trimble Lake that the fish pulled the stump out of the ground (Jackson, *pers. comm.*). Elders from the community believe there are fish that weigh over 100 lbs. present in Trimble Lake (Jackson, *pers. comm.*).

The rivers were of greatest importance to the Halfway River First Nations. The rivers in the area were known by different names to the native people. For example, the Cameron River was called “kweesy” as the river comes from a valley and not from the mountains (Jackson, *pers. comm.*). The names of the rivers were changed with growing activity in the area and the development of maps (Jackson, *pers. comm.*).

Since the Halfway River First Nations band have been in the area, they have seen many changes in the quality and quantity of fish in the river systems. Wolkley (*pers. comm.*) described that the quality of fishing in the Halfway, Graham and Chowade Rivers has decreased immensely in the past three years. Previously, one could go down to the river and catch enough fish for dinner in a few hours. Today, the fishing is much different and it is not uncommon for any fish to be caught in an entire day of fishing. The decreases in fish populations are believed to be the cause of increased logging activities occurring at the headwaters of the Halfway, Graham and Chowade Rivers (Wolkley, *pers. comm.*). Wolkley explained logging is now being done right to the rivers edge, which is causing an increase in silt content and water temperatures of the river system, ultimately affecting the fish populations.

The size of fish has also decreased over the years. In the past, Wolkley (*pers. comm.*) described catching 18 to 20 lbs. fish from the Halfway River, but currently a 6 lbs. fish is the largest that can be caught. Wolkley (*pers. comm.*) attributes this decrease in size to the increasing amounts of industrial wastes and run-off coming into the rivers. The health of the fish within the rivers is also being jeopardized. Wolkley (*pers. comm.*) explained the skin of the fish is becoming softer than normal; the skin used to be very solid and firm, but now “the skin is almost like water”.

3.5 McDonald Family

The McDonald family are a family associated with the Fort Nelson First Nations. However, they do not live on the reservation, but rather live traditionally off the land surrounding Moose Lake. The McDonald family have resided in the Moose Lake area since the late 1800s (Mearow, *pers. comm.*). The family came over the mountains from the northern Pacific coast, travelling through northern British Columbia and the northern parts of what is now the Muskwa-Kechika Management Area (Mearow, *pers. comm.*). There are currently seven members of the McDonald family living traditionally at Moose Lake, all of whom were born on the land of the Moose Lake area. Only a few of the seven people can speak English, so communication is achieved largely through sign language and hand gestures. Ron Mearow, a resident of 9 Mile Camp, has lived traditionally with the McDonald family for the past eleven years. The information reported here was gathered from conversations with Ron and George McDonald.

Moose Lake is not heavily populated with fish, and because of its location, surrounding habitat provides more opportunity for wild game hunting as a food source. Mearow (*pers. comm.*) reported that the McDonald family utilized fish as a secondary food source. If not enough food was provided through hunting, fish populations were relied upon from Moose Lake and the Toad River to provide a meal. People would catch fish as an added food source when it was needed (McDonald, *pers. comm.*).

Methods of catching fish included line and pole or the use of fish traps. Approximately twelve to fourteen years ago, Walter McDonald attempted to fish Moose Lake with a net. The net was set in the lake, and when it was pulled out of the water, Walter found it full of black-finned suckers (Mearow, *pers. comm.*). Nets have never been actively used as a method for catching fish in Moose Lake. Preparation of fish included the smoking and drying of the fish (McDonald, *pers. comm.*).

Fish traps were another method commonly used on the surrounding rivers and streams for catching fish (McDonald, *pers. comm.*). The fish trap used by the McDonald family was similar to that used by the Fort Nelson First Nations. McDonald (*pers. comm.*) described the trap as a V-shaped structure placed in the river or stream, which was used to contain the fish moving downstream. The trap was built similar to a small log house, with tree branches stacked on top of each other (McDonald, *pers. comm.*). This would allow the water to flow through, but still hold the fish behind the trap. The trap was constructed so it would stick out of the water to prevent fish from going over the trap, but could only be used during certain times of the year when water levels were not too high or too low (McDonald, *pers. comm.*). By creating a small pool behind the trap, one could pick out the larger fish when needed and release the others unharmed.

According to George McDonald (*pers. comm.*), species present in Moose Lake include mountain whitefish, Arctic grayling, bull trout and various types of suckers. However, in the past, McDonald described the presence of lake trout in Moose Lake. Between 1905 and 1920, George McDonald's father used to catch lake trout from the lake. The lake trout being caught would reportedly reach sizes of up to 3 feet in length; however, presently there are no lake trout in the lake. Apparently, lake trout disappeared from Moose Lake in 1962 due to over-fishing activities.

Both George McDonald and Ron Mearow have great concerns over the preservation of Moose Lake and the Toad River. One of the recent concerns is the increasing use of powerboats and jet boats on the Toad River and Moose Lake (Mearow and McDonald, *pers. comm.*). Moose Lake is fairly shallow, having a deepest point of only thirty feet (McDonald, *pers. comm.*). Due to the shallow waters of the lake, powerboat motors kill many fish because the fish do not have deeper waters to escape to. In addition to the harm caused to the fish, the large wake created by the jet boats also destroys the river and lake habitat by causing additional erosion to the riverbanks and increasing bank instability (McDonald, *pers. comm.*). McDonald described more trees are falling into the river, which is in turn changing the dynamics of the river system.

Jet boats are increasing the accessibility of the area to the general public. This is creating a problem for the fish populations of Moose Lake by bringing in more traffic, pollution and garbage. Large groups of people commonly travelling into Moose Lake are fishing and keeping large amounts of fish. McDonald explained many people come in and keep five to ten fish per person. This is detrimental to both the McDonald family who rely on the fish from the lake, but also to those who come in and fish to keep only one fish for dinner.

Ron Mearow described certain groups of people are coming to the lake to fish for large bull trout. They are catching and keeping the large fish. There are reports of one person bragging about catching twenty-nine fish in one day, just barely beating his fishing companion who also

caught more than 20 fish himself. Mearow (*pers. comm.*) has not fished Moose Lake for the past two years largely because of the many people coming in to fish the lake, and because the quality of fishing is decreasing. Arctic grayling used to be caught frequently; however, presently one is lucky to catch an Arctic grayling once in awhile (Mearow, *pers. comm.*). Moose Lake experiences the greatest fishing pressure during the winter when fishing parties come to the lake on snowmobiles (Mearow, *pers. comm.*).

3.6 Summary

The First Nations of northeastern British Columbia have always placed significance on the fisheries resource in the Muskwa-Kechika Management Area. Whether the fish were utilized as a secondary or as a primary food source while travelling along the river systems, the First Nations groups have shown that their people used fish historically. How the communities utilized the fish largely depended on the location of the First Nation's territory. For example, if moose or other wildlife were readily available, fish were not as necessary as a food source. Conversely, some of the rivers used by the First Nations communities did not support good fishing opportunities and therefore, fish were not as important to the community. Differences in the methods of catching and preparing fish varied between the different bands, as did the importance of fish to the community.

It is unfortunate that politics often drive much of the controversy between the First Nations bands of northeastern British Columbia. Even though the McDonald family are members of the Fort Nelson First Nations, they have been reported as separate from the Fort Nelson First Nations because of the beliefs and views expressed during the interview. The McDonald family has chosen to live traditionally and do not believe that they are part of any distinct band, but believe they are a part of their family who travelled to the Moose Lake area many years ago. They live much differently than the Fort Nelson First Nations or the Kaska Dena First Nations in Lower Post, British Columbia, and because of this, they place a different importance on the fisheries resource in their area.

Common to all groups interviewed, the First Nations believe that certain things must change in order for the fish to remain in their natural state. Feelings expressed by all persons interviewed included the need for stricter control over the continuing industrial development in and around the lakes and rivers of the Muskwa-Kechika Management Area. In addition, enforcement and regulations should be altered to ensure that sensitive water bodies are not being over-fished or destroyed through motorboat use. The ultimate goal of all parties involved is the preservation of the fish in order to ensure their presence for future generations.

The purpose of this section of the project was not to discover the possible resources held within the territories of the northern British Columbia First Nations. The purpose for gathering this information was to provide a historical database of the fish in the Muskwa-Kechika, including as many fisheries details and observations as possible. Much appreciation is expressed to all of the First Nations people of northern British Columbia that cooperated and were willing to share their information for this report.

4.0 PART II: HISTORICAL FISHERIES INFORMATION FROM THE MUSKWA-KECHIKA MANAGEMENT AREA

4.1 LOWER HALFWAY RIVER WATERSHED

4.1.1 Graham River

The Graham River runs through the southern portion of the Muskwa-Kechika Management Area and receives a great deal of activity because of easy access to the lower portions of the river. Species present in the river include Arctic grayling, bull trout, rainbow trout and mountain whitefish (Woods, 2001).

In the past, the Graham River has been known to be excellent fishing for bull trout and Arctic grayling. In the 1950's, Matt Westergaard (*pers. comm.*) described catching many fish upstream of the Federal Ranch, located on the Graham River. Before the river changed course due to high waters, a large bend in the river created a deep pool that was known to many locals as the Glory Hole (Beattie, *pers. comm.*). The Glory Hole was known for its good fishing, but was largely kept a secret between local residents. John Bedell (*pers. comm.*) described catching a few rainbow trout from the fishing hole. Presently, due to changes in the river's flow, the Glory Hole is not fished as it no longer exists; flooding by high waters has caused the river to change and the Glory Hole is now part of the main river (Beattie, *pers. comm.*).

Westergaard (*pers. comm.*) described that the Graham River provided good habitat for bull trout. Along the river there are many large logjams, and the pools created behind them would contain many large bull trout. Westergaard reports one could put a fishing line in directly along the logjam and be able to catch a fairly large bull trout. Approximately two years ago, Stan Westergaard caught a 15 lbs. bull trout from one of these logjams on the Graham River.

In the first year of research, it was discovered that Lady Laurier Lake, located at the headwaters of Horn Creek, a tributary to the Graham River, was stocked with rainbow trout (Woods, 2001). This is significant because rainbow trout populations were not known to exist in the Graham River above the impassable Christina Falls (Woods, 2001). However, Bedell (*pers. comm.*) reported in the mid-1980s, firefighters working along Horn Creek caught rainbow trout from the creek, which drains into the Graham River above the falls. Bedell (*pers. comm.*) explained that he has never caught rainbow trout above the falls, but during the winter of 2000, he observed what was believed to be an 8 to 9 inch rainbow trout, through a hole in the ice of the Graham River. Both these accounts of rainbow trout in the river are significant as prior reports detail the absence of rainbow trout populations above Christina Falls. It is believed that the rainbow trout stock introduced to Lady Laurier Lake in the late 1970s or early 1980s have possibly moved down from the lake into Horn Creek and are now in the upper Graham River.

Recently, concern has risen with regards to the state of both Arctic grayling and bull trout populations of the Graham River. Dennis and Debbie Beattie (*pers. comm.*), residents of the Graham and Halfway River area since 1964, say bull trout and Arctic grayling populations in both the Graham and Halfway Rivers are, today, only five percent of what the populations were in 1964. Refer to Table 3 for a comparison of populations and angling observations between

1964 and 1996. Not only has the number of fish in the rivers decreased, but the quality of the fish being caught has also decreased (Beattie, *pers. comm.*). Beattie believes there is one main reason for the declining fish numbers in the Graham River: logging activities. Extensive clear-cut logging around the Graham River is having a great impact on the smaller tributary streams. Due to the decreasing amount of trees and canopy cover, run-off has increased and is changing the dynamics of the smaller streams and, in turn, is affecting the river. Beattie (*pers. comm.*) believes this is also the reason for the declining fish populations in the Halfway River.

Needham Creek, a major tributary to the Graham River, converges with the river below Christina Falls. Years ago, Bedell (*pers. comm.*) fished Needham Creek using only a willow pole. In half of an hour, Bedell caught one each of rainbow trout, bull trout, Arctic grayling and mountain whitefish all measuring over sixteen inches in length. However, in more recent visits to the creek, the fishing quality has declined. Bedell believes the reason behind the decline is the development of a seismic line through the area, which caused extensive habitat destruction.

Table 3. Comparison of fish populations and angling observations from 1964 to 1996 for the Graham and Halfway Rivers (as described by Dennis and Debbie Beattie, *pers. comm.*).

1964	1996
Could catch enough fish for dinner in approximately 10 minutes	Requires the entire day to catch enough fish for dinner
Arctic grayling 18 to 20 inches angled frequently	One large Arctic grayling (18-20 inches) angled per year
Bull trout measuring 24 to 28 inches angled frequently	A bull trout 24 inches in length is rarely caught
On average, Arctic grayling were commonly angled and measured 14 to 16 inches	On average, Arctic grayling commonly angled measure 8 to 10 inches
Rainbow trout angled averaged 12 to 16 inches	Rainbow trout angled are only 8 inches in length

4.2 UPPER HALFWAY RIVER WATERSHED

4.2.1 Halfway River

The Halfway River is one of the major rivers located in the southern part of the Muskwa-Kechika Management Area and is known to contain populations of Arctic grayling, bull trout, mountain whitefish, rainbow trout, northern pike, lake whitefish and kokanee (Woods, 2001). The Halfway River is in an area of high industrial activity, is easily accessed by the general public and supports several ranches as well as a large Russian colony. With such activity, the river has been found to be rapidly depleting from its natural state.

Westergaard (*pers. comm.*) described that the river contains many different kinds of fish, and historically the fish were very plentiful. Suckers are also present in the river, but do not extend their range past Mile 95. This also holds true for the northern pike, commonly known as “Jackfish”, which do not move into the faster waters of the river. At the confluence of the

Cameron River with the Halfway River, northern pike are very abundant. Westergaard (*pers. comm.*) explained that when fish populations are lower than normal, northern pike are seen farther upstream, chasing the bull trout out of their pools. Northern pike are extending their range farther upstream into the faster waters of the river, which is causing problems with other species such as the bull trout in some of the northern streams (Westergaard, *pers. comm.*).

Historically, the Halfway River used to provide successful fishing opportunities for both the residents of the area and visitors seeking fishing or hunting excursions. Lamereux (*pers. comm.*) described catching numerous Arctic grayling, rainbow trout and bull trout from the Halfway River approximately ten years ago. In 1973, Lamereux recalled catching large bull trout from the river that measured 3 feet in length and were 6 to 8 inches deep. It was very common to catch bull trout of this size in the past; however, today, it is rare to catch this size of fish on a regular basis. Westergaard stated the largest bull trout he has caught from the river was 12 lbs. and the largest rainbow trout caught was only 2 lbs. The large bull trout are still present, but are not as commonly caught as they were in the past (Lamereux, *pers. comm.*).

Westergaard says, prior to 1960, the river provided “fantastic fishing”. However, in January of 1960, Hudson Bay Oil Company drilled a rig approximately eight miles upstream of Two Bit Creek. A mechanic with the company used to bring up a spin rod and a fly rod, and would ride his cat up along the river to the fishing hole. After the rig was drilled, Westergaard (*pers. comm.*) described that the fish populations changed drastically both upstream and downstream of the development. “The rig turned out to be a dry hole, but it sure made a dint in the fish populations in the river” (Westergaard, *pers. comm.*).

The Halfway River has provided many good fishing opportunities in its varied habitat. Westergaard described a place he used to fish, called Billy’s Fishing Hole. The fishing hole was named after an old native named Billy, who used to live in the area. As Billy got older, his teeth started to fall out and he was no longer able to eat meat, and all he could chew was fish (Westergaard, *pers. comm.*). Because of his predicament, Billy lived by this fishing hole so he could survive off the fish caught from this place in the river. Lamereux (*pers. comm.*) described Billy’s Fishing Hole to, in the past, provide excellent fishing for bull trout. However, today, large bull trout are seldom caught from the fishing hole. A deep hole, located on a bend of the river, bull trout and rainbow trout could often be observed through the ice during the winter months.

Lamereux describes changes in the fish distribution in the river over the past 10 years. Mountain whitefish, rainbow trout, bull trout and Arctic grayling were always the most common fish to be caught. Arctic grayling were the most abundantly caught fish, but now are rarely caught. Lamereux stated presently it is very uncommon to catch an Arctic grayling from the Halfway River and the fish are almost completely gone from the system. Westergaard stated in the past five years, Arctic grayling populations have almost completely disappeared from the river. Years ago Arctic grayling could be easily caught, but now they are not even been observed in the river (Westergaard, *pers. comm.*). Arctic grayling are the most sought after sport fish by resident and guided fisherman largely because of the challenge of catching them on a fly (Lamereux, *pers. comm.*). Bedell described a recent example of how the fishing quality for Arctic grayling

in the Halfway River has decreased. A couple of people had been fishing the river and showed Bedell their daily catch: one eight-inch Arctic grayling caught on an illegal treble hook.

Apparently, bull trout populations are starting to progressively return to normal and the fish are becoming more numerous within the river. Westergaard (*pers. comm.*) believes that by placing strict regulations on the bull trout, other fish populations within the river are suffering. Bull trout are a predatory fish, and it is believed that by halting fishing for bull trout, population dynamics between the species are being altered and bull trout are becoming more numerous at the cost of the other species. Westergaard described the Arctic grayling and rainbow trout, which are becoming fewer than what they used to be, are decreasing due to the predatory bull trout. Historically, mountain whitefish have always been abundant in the Halfway River (Westergaard, *pers. comm.*). When other dominant species would begin to decrease, increases in mountain whitefish populations would be noticed (Westergaard, *pers. comm.*). Today, the mountain whitefish are much more numerous than they have ever been in the past, however, it is not known why these fish have thrived while the Arctic grayling seem to be decreasing (Lamereux, *pers. comm.*). Lamereux stated the rainbow trout are more numerous today than they were twenty years ago.

Wolkley (*pers. comm.*) reported the fish being caught from the river are becoming smaller in size. The largest fish being caught used to be eighteen to twenty lbs., but presently the largest fish one can catch is approximately six lbs. The health of the fish is also being jeopardized. Wolkley described the skin of the fish to be changing from the normal solid skin, to a more water-like and very weak skin. Lamereux also reported exterior lumps have been found on the bodies of fish being caught from the Halfway River.

Lamereux discussed Turnoff Creek and Fiddes Creek, tributaries to the Halfway River, to provide good habitat for spawning. He observed spawning bull trout using Fiddes Creek during the fall spawning period.

Much like the Graham River, concern has arisen over fish populations of the Halfway River. The habitat of the river has changed dramatically due to heavy rains and the influx of more waters through run-off and decreased infiltration (Lamereux, *pers. comm.*). Logging is posing a large threat to the river, as the increased amount of waters is changing the flow of the river. Westergaard described most of his “secret fishing holes” are no longer present because they have been destroyed by the increase in water and change in the rivers direction. Deep fishing holes located on river bends and created behind logjams have all been flooded or washed away (Lamereux, *pers. comm.*). In some cases, new logjams are being created downstream, building new pools and hopefully replacing the important fish habitat that was lost (Westergaard, *pers. comm.*).

Several theories have been presented as to why fish populations and distributions are changing so dramatically. One of the major reasons believed to be a cause for the decline in Arctic grayling populations is the Russian colony located along the Halfway River (Lamereux, *pers. comm.*). The colony, with a population of over three hundred people, relies on the river to provide fish in order to feed and support the village (Lamereux, *pers. comm.*). Beattie stated the people of the colony are catching and keeping Arctic grayling that are only four to six inches in length. Many

residents of the area believe the fish populations are not able to support this type of fishing pressure (Beattie, Bedell, Jackson, Lamereux and Wolkley, *pers. comm.*).

In addition to the colony, the lower part of the river experiences heavy fishing pressure because of its accessibility (Lamereux, *pers. comm.*). Riverboats are becoming more common and allow more people to fish the river and move farther upstream to some of the more untouched areas (Lamereux, *pers. comm.*). One positive aspect is the lack of fishing pressure to the headwaters of the Halfway River. Lamereux stated very few people travel up to the headwaters of the river to fish. Many people go to the area to hunt or for other outdoor activities, but few people visit the area strictly for fishing. Resident fishermen are not common, and it is thought that the Halfway River is not known for its good fishing. However, guided hunting and fishing trips to the river and its headwaters are becoming more popular and common with non-residents (Lamereux, *pers. comm.*).

Similar to the Graham River, the upper parts of the Halfway River experience a great amount of logging activity, which is causing changes in the river's water quality, temperatures and ultimately the fish populations. In Table 3, Beattie described how the fishing quality changed in the Halfway River between 1964 and 1996. Beattie thinks because of logging activities, the river now experiences flash floods instead of the slow rise waters that have occurred in the past.

4.2.2 Cypress Creek

Cypress Creek is one of the major tributaries to the Halfway River. Fish species present in the creek include bull trout, Arctic grayling, rainbow trout and mountain whitefish (Woods, 2001). Westergaard says the most common fish caught from the creek were Arctic grayling, bull trout and rainbow trout. The rainbow trout of the lower parts of Cypress Creek are known to be "scrappy" fish when on the line (Bedell, *pers. comm.*). Rainbow trout in the lower parts of the creek are on average between ten and twelve inches in length. Bedell (*pers. comm.*) described fishing the upper parts of the creek, but was not able to catch any rainbow trout. He is unsure why the rainbow trout are harder to catch in this part of the river (Bedell, *pers. comm.*).

4.2.3 Chowade River

The Chowade River is one of the most popular bull trout fishing streams in the lower Muskwa-Kechika Management Area. Local fishermen as well as non-residents heavily fish the Chowade River primarily for its large bull trout. Bedell describes the river as "the greatest changed river in the last thirty years". The Chowade River differs from many other rivers as it flows underground for a period (Bedell, *pers. comm.*). The river runs above ground at the headwaters, goes underground for four to eight miles, and then returns to the surface again. Bedell states there are fish in all parts of the river regardless of the portion that runs underground.

In 1977, bull trout above six pounds could be consistently caught from the Chowade River. Bedell states the largest bull trout he has ever caught was a thirty-three inch, thirteen lbs. fish. On a regular basis, five to six-pound fish could be caught. However, the bull trout populations have changed, and presently the only fish you can catch on a regular basis are small mountain whitefish and a few rainbow trout.

Before the bull trout populations started to decline, Bedell describes observing the bull trout migrating upstream:

“The bull trout were like a caravan; like a bunch of RVs on patrol. The fish would line up along the shore for thirty yards. For a period where there would be shoulder-to-shoulder fish resting along the bank”.

The Chowade River has been important to the Halfway River First Nations for generations. Wolkley describes at the headwaters of the river, many bends and turns in the river provide good fish habitat. It has been observed by many of the First Nations that spawning fish use this habitat widely and it is critical to this stage of the fish’s lifecycle (Wolkley, *pers. comm.*). Concern over this spawning habitat has grown in the past year with proposed road development along the banks of the river.

Unfortunately, the river experiences a heavy amount of fishing activity. Bedell discusses an instance when a fishing group from Alberta came up the river on ATVs. They fished and caught enough bull trout to fill a large Coleman cooler. Bedell states the group took more than the limit for their group numbers and that many groups, which come to fish the river, do not respect the regulations and therefore the fish populations have suffered on such a popular river like the Chowade. Bedell observed another example of the disrespect held by people while on the Chowade River. He describes the river still has the potential habitat for large bull trout to be present in. There is a pool located on the river that is surrounded with sheer cliff walls. He believes the deep pool would provide great habitat for bull trout, but in the past times he has visited the pool, he has found gun shell casings and believes people are shooting down at the large bull trout in the pool.

Bull trout populations have obviously decreased in the past twenty years. Bedell believes the primary problem is the lack of enforcement or policing of fishermen on the Chowade River. In increasing the enforcement, he hopes more respect will be held for the regulations and the bull trout populations will be able to recover. Although it is not the main cause of the decreasing number of bull trout, Bedell states too many of the large, old bull trout are being kept and not released. This becomes a problem when populations start to diminish and the older, larger, dominant fish are no longer around to maintain definable population levels.

4.2.4 Blue Grave Creek

One of the primary concerns associated with Blue Grave Creek is the lack of bull trout in a stream that used to provide excellent habitat and abundant bull trout. Westergaard says in the past, the creek used to have plentiful fish in it and was very good fishing for rainbow trout, Arctic grayling and bull trout. Wolkley discusses there are no fish left because of the logging activities that occurred around the creek.

4.2.5 Two Bit Creek

Two Bit Creek is a tributary to the Halfway River and is located upstream from “the elbow” in the Halfway River. Westergaard describes Two Bit Creek to be a fairly big creek that is used by many fish. Approximately twenty-five to thirty miles upstream of the creek there is a set of falls

that provided good fishing for Arctic grayling. The Arctic grayling used to be very abundant in the creek, but now there are very little Arctic grayling left. Westergaard discussed the major fishing pressure on the creek is experienced from the local packers and First Nations that fish the creek often. In addition, another bridge was put across the creek, and Westergaard believes this might have contributed to the decline of Arctic grayling.

4.2.6 Robb Lake

Robb Lake is located at the headwaters of the Halfway River. Robb Lake is not known for fishing, and it does not receive the fishing pressure, the Halfway River does. There are no obstacles that prevent the movement of fish from the Halfway River into the lake (Lamereux, *pers. comm.*). The Halfway River contains a wide variety of fish, but Robb Lake is only reported to contain bull trout. A set of falls, approximately twenty to thirty feet high, is located on the Halfway River approximately thirty miles from Two Bit Creek (Sorenson, *pers. comm.*). Westergaard, however, explains they have always caught bull trout, Arctic grayling, rainbow trout and mountain whitefish on both the upstream and downstream side of the falls. With fish species present on both sides of the falls, it is not known why the fish do not move upstream to Robb Lake. It is, however, possible that the fish do reside in the lake, but the only angling records exist are of bull trout. No records exist of Arctic grayling, rainbow trout or mountain whitefish being angled from Robb Lake.

Approximately five to ten years ago, Bedell caught bull trout from Robb Lake that measured between sixteen to twenty inches in length. Fish were caught from the inlet creek using a simple spinner. Westergaard reports fishing Robb Lake during the winter, but was never successful. Sorenson describes the fishing at Robb Lake as satisfactory, catching a few bull trout from the lake. Sorenson caught fish from the lake in the 1960s, and explained that during this time the lake received very little traffic.

Lamereux reports Robb Lake is not a prime lake for fishing. Very few people travel up to the lake, and even fewer travel to the lake to fish. Those that do fish the lake are generally unsuccessful, and it is not common to hear that the fish in Robb Lake are hard to catch (Westergaard, *pers. comm.*).

4.3 UPPER SIKANNI CHIEF RIVER WATERSHED

4.3.1 Cranswick Lake

Located at the headwaters of Trimble Creek, little is known of the fish occurring in Cranswick Lake. Trimble Creek, the outlet of the lake, is known to contain Arctic grayling and rainbow trout (Woods, 2001). However, fish are not known to occur in the lake. Bedell describes Cranswick Creek (Trimble Creek) provides good habitat for the movement of fish upstream into the lake. Bedell states there are no impassable falls or barriers that could prevent the movement of fish into the lake; however, Don Beattie described a number of logjams that could inhibit fish from moving upstream (Woods, 2001). This type of barrier could change annually and fish could possibly have moved into the lake. Bedell suspects there is some factor that is preventing

the fish from moving into the lake. A sulphur spring flows into the creek, which may prevent fish from moving past the spring.

4.3.2 Trimble Lake

Trimble Lake was stocked on numerous occasions by guide outfitters and by an oil company working in the area approximately forty-two years ago (Woods, 2001). The lake used to be called Deadman Lake (Bedell, *pers. comm.*). Many years ago, two trappers at the lake got involved in a pistol fight during the winter and the next spring they were both found dead at the lake, and thus the lake was known as Deadman Lake.

Fish present in Trimble Lake, but are not necessarily native to the lake, include Arctic grayling, bull trout, rainbow trout and mountain whitefish (Woods, 2001). Gillis reports Trimble Lake has very good-sized Arctic grayling, weighing in the range of one to two lbs.

Approximately twenty-two years ago there were no fish present in Trimble Creek, the outlet creek to Trimble Lake (Bedell, *pers. comm.*). A set of impassable falls is located on Trimble Creek, Indian Maiden Falls, prevents the upstream movement of fish into Trimble Lake from the Sikanni Chief River (Bedell, *pers. comm.*). However, with the introductions and transplants of fish into Trimble Lake, the lake itself, Trimble Creek and the Sikanni Chief River have become more populated with various fish.

Trimble Creek is very important to the Sikanni Chief River system. It is often used as spawning habitat by the fish in the Sikanni Chief River as well as from Trimble Lake (Bedell, *pers. comm.*). Pools located along Trimble Creek are regularly full of fish during spawning runs.

4.3.3 Sikanni Chief River

The Sikanni Chief River has been one of the most highly influenced rivers because of the many fish introductions that have occurred to water bodies within the Sikanni Chief Watershed. Currently, fish present in the river include Arctic grayling, bull trout, rainbow trout, mountain whitefish and burbot.

Historical accounts of fishing the Sikanni Chief River include Arctic grayling angled in 1979, which measured eighteen to nineteen inches in length (Bedell, *pers. comm.*). Bedell described the fish to be the largest Arctic grayling he has even seen.

The Sikanni Chief River is closely linked with the Buckinghorse River, which is located outside of the Muskwa-Kechika Management Area. Gillis discussed the movement of fish out of the Buckinghorse River and into the Sikanni Chief River during the winter season. The Buckinghorse River is smaller than the Sikanni Chief River, and therefore completely freezes during the winter (Gillis, *pers. comm.*). During the winter, Arctic grayling move out of the Buckinghorse into the larger waters of the Sikanni Chief River. Gillis described the Arctic grayling remain in large pools within the Sikanni Chief until the ice retreats off of the Buckinghorse River.

Along the Sikanni Chief River, there are several areas where sulphur springs flow into the river (Bedell, *pers. comm.*). Generally, for two to three miles downstream of these springs, fish are usually absent. However, Bedell described during certain times there would be good fishing in these strips, where the fish have moved past the sulphur springs during times when the sulphur does not greatly affect the water quality.

Problems associated with the river include a decrease in the size of fish being caught (Westergaard, *pers. comm.*). At Mile 158 of the Alaska Highway, Westergaard reports the Arctic grayling they caught from the river were very small and young. Westergaard believes the lack of larger fish is due to over-fishing, which is removing the larger and older fish at a rate that the fish populations cannot sustain.

4.3.4 Pocketknife Creek

Pocketknife Creek originates inside the Muskwa-Kechika Management Area's boundary, but moves out and converges with the Minaker River. The creek is fairly small, but is known for the abundant Arctic grayling present (Bedell and Gillis, *pers. comm.*). The creek is accessible by ATV, but to hike into the area is much more difficult due to the surrounding marshy and muskeg habitat (Gillis, *pers. comm.*). Gillis describes the creek as being "full of Arctic grayling and is a wonderful stream for fishing".

Arctic grayling were the most abundant fish in the creek, but bull trout and mountain whitefish are also present. Arctic grayling used to average between ten and twelve inches in length, and would get as large as eighteen inches (Gillis, *pers. comm.*). Gillis stated the Arctic grayling were large, but never did get to be as big as the Arctic grayling caught from Trimble Lake. Bull trout would average between twelve to fourteen inches and the mountain whitefish were eight to ten inches in length (Bedell, *pers. comm.*). Bedell recalled fishing Pocketknife Creek, often catching fish using willow poles.

4.4 UPPER PROPHET RIVER WATERSHED

4.4.1 Fairy Lake

Fairy Lake is one of the lakes within the Muskwa-Kechika Management Area that has been legally stocked by the Ministry of Environment for the purpose of promoting recreational fisheries. Fairy Lake, located in the Besa River System, is commonly associated with the glacial silt found in the waters of the Besa River. However, Fairy Lake, unlike Redfern Lake, does not experience the heavy influx of glacial waters because of a smaller pothole lake. This pothole lake is located upstream of Fairy Lake and it collects the majority of the glacial silt before it enters Fairy Lake (Gillis, *pers. comm.*).

Fairy Lake is known for the large and abundant rainbow trout. Many people are drawn to both Fairy Lake and Redfern Lake because forty-pound rainbow trout have been angled from both lakes (Gillis, *pers. comm.*). Gillis described a situation where a man used a fish finder on Fairy Lake. Not only the number of fish in the lake, but also the size of the fish astonished him.

However, most people who fish the lake are not successful, even with abundant fish present. Gillis explained people who go to Fairy Lake to fish for large rainbow trout do not know the proper depths at which to fish. Gillis discussed after the lake turns over, the fish remain at a certain depth and people trying to catch the rainbow trout have yet to determine what this depth the fish remain at. In order to reach some of these depths, a boat is required, and because of the locality of the lake, boats are not readily used. Gillis is pleased boats are not common to the lake, as he feels the fish populations would be more susceptible if the proper equipment was available.

Bedell described prior to the introduction of rainbow trout to Fairy Lake, the falls at the outlet of the lake never provided very good fishing opportunities. However, after the rainbow trout were introduced, Bedell explained rainbow trout are routinely caught from the pool at the base of the falls, implying that the fish have dispersed from the lake.

4.4.2 Redfern Lake

Redfern Lake is located along the Besa River and is commonly known for its large rainbow and lake trout. The rainbow trout were not native to Redfern Lake. The Ministry of Environment introduced the fish into the lake in 1984 in order to create a recreational fishery. Bedell described fishing Redfern Lake during the winter and catching fish fairly reliably. Westergaard stated Redfern Lake is known to have large lake trout, but are a challenge to catch. Cabins located along the lake, used by snowmobilers, are decorated with records of fish caught from the lake: lake trout were caught measuring twenty-eight inches in length and weighing over 12 lbs (Bedell, *pers. comm.*).

4.4.3 Prophet River

The Prophet River is a large river that supports a diversity of fish. Fish species present in the river include Arctic grayling, bull trout, burbot, inconnu, mountain whitefish and northern pike (Woods, 2001). Historical fisheries information discovered pertaining to the Prophet River includes an account from 1945, describing the junction between the Prophet River and the Minaker River as a good fishing location (Andrews, *pers. comm.*). However, Andrews described the area experiences a lot of fishing pressure, and is concerned that this will lead to a decrease in the fishing quality of the river.

4.4.4 Besa River

The Besa River is heavily influenced by the influx of glacial waters and therefore is usually very silty. The Besa River contains a variety of fish species including Arctic grayling, bull trout, mountain whitefish and rainbow trout (Woods, 2001).

Gillis described the rainbow trout of the Besa River to be somewhat different from those caught from Redfern and Fairy Lakes. Known to some as “river trout”, the rainbow trout found in the Besa River, Nevis Creek and other tributaries to the river, differ in the shape, size, colour and form than the rainbow trout found in the lakes (Gillis, *pers. comm.*). The rainbow trout in the Besa River are a result of the stocking that occurred to both Redfern and Fairy Lake a number of

years ago. The fish have moved down into the river system and are commonly caught throughout the Besa River. Gillis also described the rainbow trout in the river are not the same as the sixteen lbs. fish that are caught from Fairy Lake. It is not known why these fish differ from the original stock in the lakes.

“The Fishing Hole” is a popular fishing spot, located where the bridge crosses the Besa River (Gillis, *pers. comm.*). At this spot, the river narrows to approximately 5 feet wide and provides very good fishing. Gillis explained this fishing hole is gravely over-fished. It is known that people who fish the hole catch and keep up to twenty bull trout, fifty Arctic grayling and ten rainbow trout per day. The fishing hole also produces large bull trout that can reach weights of twenty lbs. and are generally not released (Gillis and Wolkley, *pers. comm.*).

This fishing pool on the Besa River is fished frequently during the summer. Gillis reports six to seven people at a time, would line up and the hole would be fished out quickly. This type of fishing activity must be stopped, and this can only be done through increased enforcement around areas like this fishing hole. It is known that the area is heavily fished, and if this type of activity continues, fish populations could be hurt.

4.4.5 Nevis Creek

Nevis Creek is best known for its Arctic grayling fishing. A major tributary to the Besa River, Nevis Creek contains plentiful Arctic grayling, bull trout and rainbow trout (Woods, 2001). Gillis stated Nevis Creek is “full of fish”. At the base of the falls, at Nevis Canyon, one can easily catch Arctic grayling, bull trout and rainbow trout. The bull trout are abundant and can reach good sizes (Gillis, *pers. comm.*) Bedell described the little pools on Nevis Creek are often full of fish and the creek provides great fishing for Arctic grayling. Nevis Creek is important to the Arctic grayling as a spawning stream as well. Gillis described spawning activity in Nevis Creek: “The grayling hit spawning streams and you could pick them up in a gunny sac”.

One of the problems associated with Nevis Creek is the amount of fishing it receives (Gillis, *pers. comm.*). Many people are fishing the creek, however, the problem lies in the fish are not being released to the extent that they should be. Many of the larger bull trout are being kept and thus reducing the important genetic stock present in the creek. Gillis believes both the Besa River and Nevis Creek should receive more enforcement because of the fishing pressure experienced.

4.5 MIDDLE MUSKWA RIVER WATERSHED

4.5.1 Tuchodi Lakes

The Tuchodi Lakes are becoming increasingly more popular with fishermen and hunters, and thus both the Tuchodi River and the Tuchodi Lakes are receiving increased activity. Fish species present in the lakes include Arctic grayling, bull trout, lake trout, lake whitefish, rainbow trout and mountain whitefish (Woods, 2001). However, the rainbow trout present were introduced into Lower Tuchodi Lake in the early 1960s by a local guide outfitter (Woods, 2001).

Andrews described fishing the Tuchodi Lakes where the two lakes meet. The fish were abundant and a number of fish were angled from the area. In the 1950s, Andrews observed very large lake trout and bull trout in the stream between the two lakes. A small fish was caught and put on the line as bait. When the bait was dropped into the stream, Andrews reports watching ten to twelve lake trout and bull trout coming after the bait.

4.5.2 Tetsa Lake

Tetsa Lake is a high elevation lake located at the headwaters of the Tetsa River. Fish species found in Tetsa Lake include Arctic grayling, bull trout and lake trout (Woods, 2001). All fish found in the lake are natural populations and have not been stocked. Andrews discussed the lake is in no threat to being over-fished because of the limited access to it.

There are several small, high elevation lakes surrounding Tetsa Lake. One of these lakes is commonly called Bathtub Lake. Andrews reports Bathtub Lake, as well as the other high elevation lakes, is barren of fish. Most of the lakes are located in high, narrow valleys and are isolated by steep falls, which prevent any fish from moving up into them. Andrews discussed he has never fished these lakes, but has heard from others who have, that there are not fish present in them.

4.5.3 Tetsa River

The Tetsa River is one of the most easily accessible rivers within the Muskwa-Kechika Management Area because of its location along the Alaska Highway. The river is well known for its Arctic grayling fishing, and therefore receives heavy fishing pressure where the river runs alongside the highway (Parker, *pers. comm.*). In addition, an annual fishing derby is held on the Tetsa River during July (Andrews, *pers. comm.*). Arctic grayling angled from the river are on average twelve inches in length and bull trout can reach sizes of up to and exceeding ten lbs. Parker reports the largest bull trout he has angled from the Tetsa River weighed ten lbs. Andrews states the Tetsa River contains some large Arctic grayling. On average, Arctic grayling do not get much larger than one to two-pounds. However, behind Tetsa River Services, Mile 383, in a small pool in the Tetsa River, a twenty-four inch, four to five lbs. Arctic grayling was angled, using grub as bait.

While conducting interviews in the Fort Nelson area, a book describing the building of the Alcan Highway was discovered to contain a number of historical fisheries segments. A few of the fishing excerpts did not mention the exact river or stream, largely because the author did not know it at that time. It is known, however, the general area of the experiences, so they will be included with the information pertaining to the Tetsa River.

Chester L. Russell, a “catskiner” working in the “A” company of the 35th Engineer Combat Regiment in the United States Army, described his fishing experiences while building the Alcan Highway from Fort Nelson toward Whitehorse.

“We hadn’t gone too far before we crossed a small river, possibly Strawberry Creek, the first one we had encountered out of Fort Nelson. I could see that I

would need some fishing gear, so I wrote my parents to send me some fish hooks, line, and also my “bean” shooter, a .38-caliber Smith-and-Wesson six shooter.” (Russell, 1999, p.26).

“In the pile was a box of Thompson raisins, my good old .38-caliber six shooter, a hundred rounds of ammunition, a package of black gnat and gray hackle fishing flies, along with some fishing line.” (Russell, 1999, p.33).

“Along the way [to Steamboat Mountain] we came to a river, so my newly gained fishing gear sure came in handy. Thereafter we had lots of fresh fish to eat as we built the pioneer road. I also will always think that eating fish helped us to recover from the yellow jaundice.” (Russell, 1999, p.37).

Russell had many fishing experiences while building the Alcan Highway through northern British Columbia. These experiences will be included with the appropriate water bodies in which the events occurred.

Areas that are most heavily fished along the Tetsa River are where the river runs beside the highway. Andrews explained there is a stretch from Mile 370 to Mile 380 that experiences the heaviest fishing pressure. Other than this ten-mile stretch, most people cannot access the remaining parts of the river. A few people walk down to Milk Creek and fish the southern, lower part of the river. Andrews explains the headwaters of the river experience very little fishing pressure.

Some areas along the Tetsa River have received enough pressure that populations have decreased, and it is becoming harder to catch fish. Andrews described catching numerous fish from the pool by the “rock cut”. However, now it is harder to catch fish as in the past. Andrews stated this pool receives a large amount of fishing pressure from people travelling along the highway. Pools located farther upstream have not received as much fishing pressure and the populations within these areas have remained the same.

4.5.4 Chischa River and Chlotapecta Creek

The Chischa River and Chlotapecta Creek are both located south of the Tetsa River and both drain into the Muskwa River. The fish commonly congregate at the mouth of the Chischa River and this has, in the past, provided good fishing opportunities. Parker (*pers. comm.*) also described catching twelve Arctic grayling and one six lbs. bull trout from Chlotapecta Creek.

4.6 TOAD RIVER WATERSHED

4.6.1 Wokkpash Lake

In the first year of this project, it was found that Wokkpash Lake contained Arctic grayling, bull trout and mountain whitefish (Woods, 2001). However, in discussion with Cliff Andrews (*pers. comm.*), it was discovered that the lake also contains lake trout. Andrews described the lake to be good fishing for lake trout and that the fish are fairly abundant.

4.6.2 Moose Lake

Moose Lake is located south of Muncho Lake, on the Toad River. Today, the lake is very shallow, with a maximum depth of only thirty feet (McDonald, *pers. comm.*). However, the lake was not always this shallow. In 1967, the Toad River, which flows through the lake, changed its path and broke through the lake (McDonald, *pers. comm.*). Previous to 1967, the lake was over fifty feet deep at the south end; however, today the lake, at the south end is only two feet deep. The deepest point of the lake is now thirty feet, in the north bay of the lake.

Fish species present in the lake include Arctic grayling, bull trout and mountain whitefish. Historically, lake trout were present in Moose Lake (McDonald, *pers. comm.*). Between 1905 and 1920, George McDonald's father used to catch lake trout that would reach lengths of over three feet, from Moose Lake. The lake trout disappeared from Moose Lake in 1962 due to over-fishing (McDonald, *pers. comm.*). It is also possible that the change in depth of the lake could have affected the lake trout, which generally prefer deeper lakes.



Plate 1. The north end of Moose Lake, July 2001. (Picture Source: Alicia Woods)

There is growing concern over the current state of Moose Lake with regards to the amount of fishing pressure and activity that is occurring. According to Mearow, Arctic grayling populations are rapidly decreasing in Moose Lake. In the past, Arctic grayling were frequently caught, but now it is uncommon to even catch Arctic grayling from the lake (Mearow, *pers. comm.*).

Residents of Moose Lake do not fish the lake as frequently anymore, primarily due to the lack of fish being produced (Mearow, *pers. comm.*). More and more parties of people are coming into the lake to fish. The winter months are busy with groups coming in on snowmobiles to ice-fish. Between powerboat use in the spring and summer months, and snowmobile access in the winter, Moose Lake receives large amounts of traffic and activity (McDonald, *pers. comm.*). McDonald described this to become a problem when the groups begin to take in excess of their legal limit of fish. Not only is this activity harming the fish populations, but when groups who come in to catch and release or to catch one or two fish are no longer even able to catch fish, it becomes a problem for those who want to primarily enjoy the experience.



Plate 2. The shallow, marshy channels of Moose Lake, July 2001. (Picture Source: Alicia Woods)

In addition to over-fishing, the increased traffic in the area is causing potential destruction of the habitat through the use of riverboats and powerboats on the rivers and lakes (McDonald, *pers. comm.*). The majority of Moose Lake is extremely shallow, and the groups with powerboats that are coming into the area are unaware of this. Fish in the lake do not have areas to retreat to because of the shallow waters; therefore, the powerboats tend to kill many fish and destroy the habitat in the area (McDonald, *pers. comm.*).

Years ago an old mine site located at the headwaters of the Toad River was a direct source of pollutants added to the Toad River and thus into Moose Lake (Behn, *pers. comm.*). George Behn, an elder with the Fort Nelson First Nations, described a spill at the mine site, which contributed to a large amount of fish deaths from Moose Lake at one time.

4.6.3 Blue Lake

Known to the McDonald Family as Blue Lake, the lake is located fifteen miles upstream on the Toad River from Moose Lake. The lake is also known as Amber Lake or Beaver Lake because it commonly changes colour (McDonald, *pers. comm.*). Sorenson describes the blue colour of the lake is obtained through the influx of glacier silt.

The lake was naturally barren of fish, however, in 1992, George McDonald planted bull trout into the small, high elevation lake (McDonald, *pers. comm.*). The bull trout were caught from the Toad River and moved upstream into the lake. It is unknown how many fish were moved. Within one year of the planting, the fish were fished out of the lake due to heavy fishing pressure during the winter. In 1995, Blue Lake was planted again, also with bull trout caught from the Toad River, which remain in the lake today. McDonald reports bull trout are not commonly caught, but that they are still present in the lake. It has been reported that Blue Lake was stocked prior to 1992, but this information was not verified with the McDonald family. The majority of the pressure experienced by Blue Lake occurs in the winter months. Groups on snowmobiles commonly travel into the lake to ice-fish (McDonald, *pers. comm.*).

4.6.4 Yedhe Lakes

The Yedhe Lakes, pronounced yed-a-hee, are a set of high elevation lakes located at the headwaters of Yedhe Creek. Yedhe Creek is a tributary to the Toad River and joins the river at the north end of Moose Lake. The information collected with regards to the description of the geography of Yedhe Lakes was conflicting. McDonald described the lakes to be very deep and cold; however, Sorenson describes the lakes as shallow. Yedhe Creek is a very wide creek and the valley in which it runs through is also very wide, and thus it is suspected that Yedhe Lakes are shallow (Sorenson, *pers. comm.*). With regards to fish species present in Yedhe Lakes, both Sorenson and McDonald believe the lakes are barren of fish.

4.6.5 Racing River

The Racing River runs from the southwest end of Wokkash Recreation Area north until its confluence with the Toad River. Reports from last year indicate the river contains bull trout and mountain whitefish (Woods, 2001). However, speculation occurs with the lack of Arctic grayling. Arctic grayling are found in almost all the streams of northern British Columbia, and have even been called one of the most widely distributed fish in northern British Columbia. Being located on a glacial flat, the river contains a large amount of silt and often leads to milky water conditions. However, fish are still known to survive under these water conditions.



Plate 3. The south bay of Moose Lake. Picture taken from Angus McDonald's cabin. (Picture Source: Alicia Woods)



Plate 4. View of Moose Lake from Angus McDonald's cabin, July 2001. (Picture Source: Alicia Woods)

Sorenson describes the Racing River as a poor fishing stream due to milky waters from the glacial influx. A fishing hole was located where the old Alaska Highway road crossed the river (Sorenson, *pers. comm.*). Sorenson describes the river narrows at this point and one could catch some good size fish from the hole. Bedell described fishing the Racing River approximately fifteen years ago, and believes the fish that were angled were rainbow trout. There have been no other reports of rainbow trout present in the Racing River previous to this one. The rainbow trout were caught at the headwaters of the river, above the confluence with Churchill Creek. It is not known the source of the rainbow trout or whether the species is still present in the stream.

4.6.6 Toad River

The Toad River is one of the major rivers in the northeast of the Muskwa-Kechika Management Area. It is most well known for its excellent bull trout fishing and has been called the best river for bull trout in the north (Andrews, *pers. comm.*). The river is fairly accessible along portions of the Alaska Highway and through Moose Lake. Fish species present in the river include Arctic grayling, bull trout, burbot, lake trout and mountain whitefish.

Both Arctic grayling and bull trout caught from the Toad River are, on average, approximately twelve inches in length; however, the river is known to contain large bull trout (Parker, *pers. comm.*).

Chester L. Russell, a catskinner working in the Toad River area during 1942, describes an excellent fishing experience had on the Toad River (Russell, 1999). In Plate 6, the author proudly holds his catch of Arctic grayling, taken from the Toad River.

“At the end of July we were working in the area between the Racing and Toad Rivers, which flow in a northeasterly direction to the Liard River and the Grand Canyon of the Liard. One day, along the Toad, while Gabe was driving the Cat and looking for a place for our unit to move its equipment across safely, I decided to get out my line and fishhooks to see if I could catch us some fresh fish for supper. Well, in about thirty minutes, which was about the same time that it took Gabe to locate a fording spot, I had caught a whole mess of fish. As fast as I threw the hook in the water, I was hauling in another Arctic grayling. To say the least, we had good eating that night.” (Russell, 1999, p.39-40).

The Toad River is currently under pressure from the heavy use of riverboats. The use of riverboats is having detrimental effects on the river and there is growing concern for the state of the river. The wakes created by the riverboats are large and this type of wave action negatively impacts the rivers. The large wakes are causing increased erosion, increased bank instability and eventually causing an increase in brush and obstacles being added to the river. The river habitat is changing and there is increasing traffic and activity to the more remote areas because of the riverboat use on the Toad River. Recommendations made from locals of the area include stricter regulations on the use of riverboats on the Toad River as well as increased enforcement to ensure the regulations are obeyed. Many believe the river is not able to support this type of activity and action must be taken to change the current circumstances.



Plate 5. The Toad River as it outlets from Moose Lake, July 2001. (Picture Source: Alicia Woods).

The West Toad River, tributary to the Toad River, is of importance because of the changes in habitat that were observed on this river and these are a reflection of the habitat changes experienced by other rivers and streams associated with the West Toad River. Sorenson, a former guide outfitter whose ranch was located on the West Toad River, described that the river experienced two major floods in two different years, which caused a large number of changes to the habitat as well as to the fish populations. Sorenson believes the floods killed many fish in the rivers because the waters became very muddy with the run-off due to the heavy rains. The second flood occurred two years after the first one, and it affected the rivers as well as the smaller lakes in the area. Sorenson discussed the increasing waters changed the course of the river as well as caused a noticeable decrease in the fish populations; however, fish populations were restored within a few years.



Plate 6. Chester L. Russell proudly displays his catch of Arctic grayling from the Toad River, July 1942. (Picture Source: Russell, 1999).

4.6.7 MacDonald Creek

MacDonald Creek originates in Stone Mountain Park, runs along the Alaska Highway until its confluence with the Toad River. MacDonald Creek contains a variety of fish species including Arctic grayling, bull trout and mountain whitefish, with bull trout and Arctic grayling being the most common species caught (Andrews, *pers. comm.*). However, Bedell reports angling what was believed to be “a headwaters rainbow trout”. The fish were described as a “vividly splotched fish, with dark, red splotches on the side of the fish” (Bedell, *pers. comm.*). However, Bedell commented the fish did not look like rainbow trout. The creek does not contain many large fish, but it is a good stream for Arctic grayling (Andrews, *pers. comm.*). Parker described the Arctic grayling in MacDonald Creek average approximately twelve inches in length.

4.7 LIARD RIVER WATERSHED

4.7.1 Sorenson's Pond

Sorenson's Pond was named after Red Sorenson, who had a lodge located next to the small lake. The lake is located off the West Toad River, and is described to be approximately eighty feet deep (Sorenson, *pers. comm.*). Charlie McDonald informed Sorenson the lake had fish in it naturally, but that the otter population cleaned out the fish in the small lake. Red Sorenson's wife stocked Sorenson's Pond approximately twenty years ago (Sorenson, *pers. comm.*). He described the Arctic grayling and bull trout were angled from the West Toad River and transported to the lake in plastic bags. Sorenson reports the total number of fish introduced into the lake was approximately twenty-five to thirty, over a number of years.

Sorenson guided in the Muncho Lake area from 1968 to 1992, and reports Sorenson's Pond produced a number of large bull trout, measuring up to three feet in length, during this time. It is believed that the fish introduced into the lake never reproduced. Sorenson described there is a small, gravel outlet creek that runs into another small pool, which he believes would have provided good spawning habitat for the fish. However, spawning activity was never observed in this stream or in other locations surrounding the lake.

It is not known whether Sorenson's Pond still contains Arctic grayling and bull trout. Sorenson sold his guide territory in 1992, and there were rumours that a commercial fishing guide in the area fished out the introduced bull trout and Arctic grayling from the small lake.

4.7.2 Long Mountain Lake

Long Mountain Lake is located on Long Mountain Creek, a tributary to the Vents River. Fish species present in the lake include Arctic grayling, bull trout, lake trout, northern pike and mountain whitefish (Southwick, *pers. comm.*). Churchill reported that Long Mountain Lake was, in the past, an excellent fishing lake. "You would have one fish on the line and two others chasing the one hooked".

The fishing quality was very good, and Churchill described catching a fish on every cast. Today, however, the fishing quality is not as it used to be. According to Churchill, fish are still caught from the lake, but they are not as abundant as they were. Churchill expressed Long Mountain Lake is currently being depleted by commercial fishing ventures in the area. Increasing numbers of fishing parties are coming into the lake, and with this increase in people, more fish are being taken than what was normally experienced prior to the commercial fishing venture (Churchill, *pers. comm.*).

4.7.3 Fishing Lakes

The Fishing Lakes, as called by local guide outfitters in the area, are located at the headwaters of a tributary to Netson Creek. This pair of lakes is not to be confused with Fishing Lake located on the Vents River. The First Nations people also know the Fishing Lakes as Redfish Lake. The

lake was named this because the fish caught from the lake had a red stripe present of the side of the fish's body (Sorenson, *pers. comm.*).

Sorenson described the fish present in Fishing Lakes were naturally in the lake and were never planted or introduced. Years ago, an American biologist described the fish found in Fishing Lakes as an Arctic char; however, another biologist described the fish as either bull trout or lake trout (Sorenson, *pers. comm.*). The fish are described to have the same "hooked mouth" as a salmon, and show sexual dimorphism: the males of the species are described as a salmon colour and the females are much whiter in colour (Sorenson, *pers. comm.*).

Sorenson described the fishing quality of the lakes to be excellent, producing large, abundant fish that were "very good eating". In 1975, Sorenson reports fish would be caught from the lake that reached sizes of three feet in length. Approximately ten years later, the largest fish that could be caught from the lakes measured twelve to eighteen inches in length. It is believed that the fish were so numerous that the size of the fish decreased due to limiting food sources (Sorenson, *pers. comm.*). The lake is also known to provide good ice fishing opportunities.

The largest fish recorded being caught from Fishing Lakes weighed 30.4 lbs. A hunter in the area caught this large fish on a willow pole (Sorenson, *pers. comm.*). Sorenson discussed one could not fail to catch a fish from the lakes. The fish reportedly would take any form of bait, and Sorenson reports often using a piece of macaroni on the line, and being able to catch numerous fish. First Nations people would fish the lake using a safety pin on a string. It is reported that they would catch just as many and as large as fish as the hunters using proper fishing gear (Sorenson, *pers. comm.*).

Sorenson described in the 1800s a First Nations tribe migrated across the province from the Panhandle of Alaska. The tribe arrived at the lake in the early winter and were drastically low on food and at risk of starvation. They reached Redfish Lake (Fishing Lakes) and were able to stay alive, surviving off the fish caught from Redfish Lake. For this reason, the lake holds sacred value to certain First Nations of the area.

4.7.4 Windfall Lake

Windfall Lake is a very small lake located on Prochniak Creek, a tributary to the Trout River. Parker described the lake as too small for planes to land on, and is only accessible through hiking or horseback. This small lake is known to contain lake trout.

4.7.5 Forcier Lake

Forcier Lake is located at the headwaters of Hoole Creek, a direct tributary to the Liard River. There have been different reports surrounding the presence of fish in Forcier Lake. Southwick, current guide outfitter in the area, discussed that lake trout used to be present, however, there are no fish present in the lake today. Southwick described seeing many signs of fishing activity around the lake, including hooks and other fishing gear, but believes that the fish that were present are no longer in the lake.

Churchill, a former guide outfitter in the area for approximately twenty years, discussed that Forcier Lake was known as Lingren Lake, before formal names were assigned to the many lakes in the area. Churchill described the “old-timers” of the area always claimed the lake was barren of fish. Prior to 1961, the lake was very small and surrounded by muskeg. In 1961, a fire went through the area and changed the habitat surrounding the lake, and the lake grew to the size it is today, in response to the drying up of the surrounding muskeg (Churchill, *pers. comm.*).

There are reports that two men caught a few small fish from Hoole Creek, the outlet to the lake, placed them in a plastic bag and brought them up to Forcier Lake (Churchill, *pers. comm.*). The fish were small, approximately six inches in length, but it is not known what type of fish were introduced to the lake. Churchill says he is unsure of whether the introduced fish survived in the lake. However, after this introduction, Churchill was at Forcier Lake and observed five fish in the lake, believed to be bull trout or lake trout from their appearance. He discussed this was surprising to him because it was always known that the lake was barren of fish. He believes the fish he saw were probably those that were introduced several years earlier. Churchill described a time when he caught fish from Forcier Lake. During the 1960s, while travelling through the area during the winter, he described surviving off the fish that he caught from Forcier Lake. Today, however, Churchill is unsure of whether fish still exist in the lake.

Hoole Creek, the outlet to the lake, is described to be abundant with bull trout and lake trout. Churchill says the creek was known to contain numerous, large-sized bull trout, but that very few people knew of this. Being a direct tributary to the Liard River, it is assumed that the creek would contain a variety of fish, at least during certain times of the year, because of the diversity of fish present in the Liard River. One possible reason for the apparent lack of fish in Forcier Lake is the outlet to the lake runs underground until its confluence with Hoole Creek (Churchill, *pers. comm.*). This could explain why the fish have not moved up Hoole Creek, from the Liard River, into Forcier Lake.

4.7.6 Skeezer Lake

Skeezer Lake is a shallow lake, located on Berg Creek, a tributary to Fishing River. Churchill described years ago when the lakes in northern British Columbia were being formally named, he was asked if he wanted this particular lake named after him. He declined the opportunity, but later found out that the lake was named Skeezer Lake after an old packhorse, named Skeezer, who fell into the lake.

Churchill says Skeezer Lake is barren of fish. Similar to Forcier Lake, the outlet creek of Skeezer Lake travels underground and therefore possibly prevents the movement of fish upstream into the lake (Southwick, *pers. comm.*). The lake is described to be very shallow and because of this small bubbles of air are often seen coming up to the surface. Churchill described a group of hunters who observed these bubbles and thought they were coming from the fish in the lake. Churchill described:

“The hunters kept themselves quite entertained with the fishing, that I never did bother to tell them that the bubbles were not from the fish, but rather oxygen bubbles coming from the shallow lake bottom”.

4.7.7 Rabbit River

The Rabbit River is a fairly major river in the north-central portion of the Muskwa-Kechika Management Area. Little information is known of the fish species present in the river, or of the distribution of the fish. Sorenson described there is a set of rapid falls, located near the headwaters of the river, which are not an impassable barrier to fish movement. At these falls, Sorenson discussed upstream fish have never been caught from the river. However, at the base of the falls, fish were caught frequently. The majority of fish angled from the Rabbit River were Arctic grayling, and few bull trout. In approximately 1995, bull trout started to be angled from the westerly fork of the Rabbit River, upstream of the rapid falls. Prior to this time, fish were never angled from upstream of the falls. Sorenson says he has not fished below the falls and is not sure what the fish distribution is in this particular part of the river.

4.7.8 Liard River

The Liard River is the most intriguing of all the major rivers in northern British Columbia because of the diversity of fish species present in it. The Liard River contains Arctic grayling, bull trout, mountain whitefish, northern pike, Arctic cisco, burbot, Chinook salmon, goldeye, inconnu, lake whitefish, round whitefish and walleye (Woods, 2001). There are reports that rainbow trout exist in the Liard River. Churchill thinks the rainbow trout present in the Liard River are not natural to the system, but may have moved down from other watersheds or were planted in the past.

The Chinook salmon present in the river have created a challenge to fishermen to catch one of these fish. Churchill used to fish at the base of Brule Rapids, and explained they would constantly have fish breaking their lines and taking their tackle. They believed the bull trout were breaking their lines, but were later informed by a biologist that it was more likely the Chinook salmon that were on the lines (Churchill, *pers. comm.*). It is believed the salmon travel down the Mackenzie River and up the Liard River to spawn every year. The salmon present in the river have, reportedly, been present in the river for a long time. Sorenson says the First Nations and the locals who have caught the fish for years, commonly called the fish “Dog Salmon”.

The Liard River was usually fished when the ice first retreated. Westergaard described the First Nations from Lower Post would catch bull trout, rainbow trout and Arctic grayling most abundantly when the ice was just coming off. Sorenson reported catching good-sized bull trout and Arctic grayling from the south side of the Liard Bridge.

Historical accounts of fishing the Liard River date back to the construction of the Alaska Highway through northern British Columbia. In his book, Russell (1999) describes his fishing experiences while working in the Liard River area.

“Returning to my story of 1942, it wasn’t too long after we moved on past Muncho Lake before we reached the Liard River. The fishing was still good and everything seemed to be going pretty smoothly.” (Russell, 1999, p.49).

A great deal of the food that the “catskinners” survived on was supplied through fish angled from the various streams and rivers crossed while building the highway (Russell, 1999).

4.7.9 Smith River

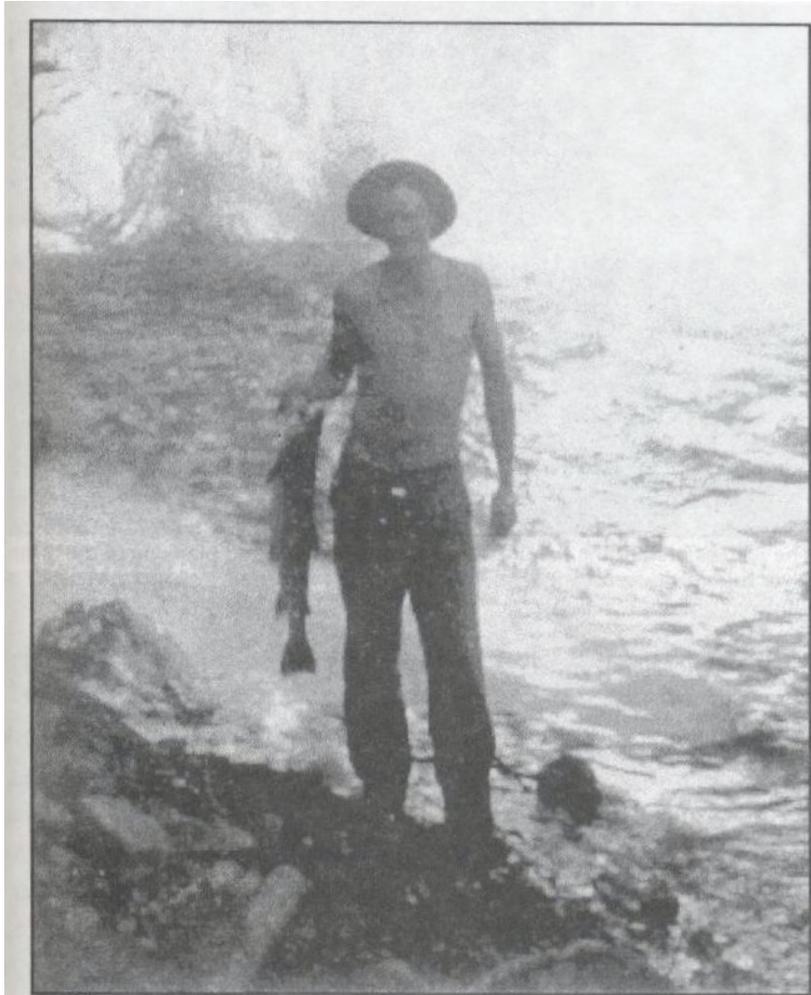
The Smith River is located outside of the Muskwa-Kechika Management Area boundaries, but has been included in the report because of the historical information discovered that pertains to this watershed. The Smith River is a major tributary to the Liard River, which converges with the river approximately fifty kilometres upstream from the Liard Hot Springs.

Chester L. Russell tells of his experiences of fishing on the Smith River during 1942. Refer to Plate 7 through 9 for pictures taken of the Smith River from 1942.

“One day the guys were standing around talking about some waterfalls about a mile up [Smith] river. Krump, Roberts and I decided to hike up there and take some pictures. I also took my fishing line and flies with me. When we got there, the falls were like stair steps – they were really pretty. At the bottom of the falls, the water was swirling and that’s where I threw one of my flies into the pool, tied off the line, and then climbed further up to take pictures. We messed around quite a while, just taking pictures and enjoying ourselves, but eventually we went back to get my fishing line. I started to pull it in and told Krump and Roberts that my line was hung up on a snag or something. It made me mad to think I was going to lose my fly. Roberts told me it served me right for throwing in my line at that spot. Finally the line came loose and I started pulling on it as fast as I could. They were watching me when I told them I had a fish on the line, but when I pulled it up into the shallow water, it came off the hook. I yelled at Krump to jump on it; he didn’t hesitate. He jumped into that very cold water – fed from the melting winter snow – right astraddle of that fish. Here was a fish story where we had proof, a Dolly Varden trout [bull trout] thirty-one inches long.” (Russell, 1999, p.55-56).

More recently, Russell was able to return to northern British Columbia and had the opportunity to discuss his past fishing experiences from the area and also learn of fishing experiences had by others.

“Years later, on our visit along the Alcan in 1996, I stopped at a gas station by the Liard River Hot Springs. I asked the young fellow selling gas if he had ever caught any big ones in the [Smith] river, and he told me the biggest fish he had caught was a thirty-two inch Dolly Varden [bull trout]. So I showed him some of the pictures we had taken back in 1942.” (Russell, 1999, p.58).



Posing with his much-prized 31-inch Dolly Varden trout, the author (then a young man of twenty-two years who had lost considerable weight because of his bout with yellow jaundice) stands at his "favorite" fishing spot, the foot of the Smith River waterfalls (1942, author's photograph)

Plate 7. The prized bull trout caught from the base of the Smith River Falls in 1942. (Picture Source: Russell, 1999).

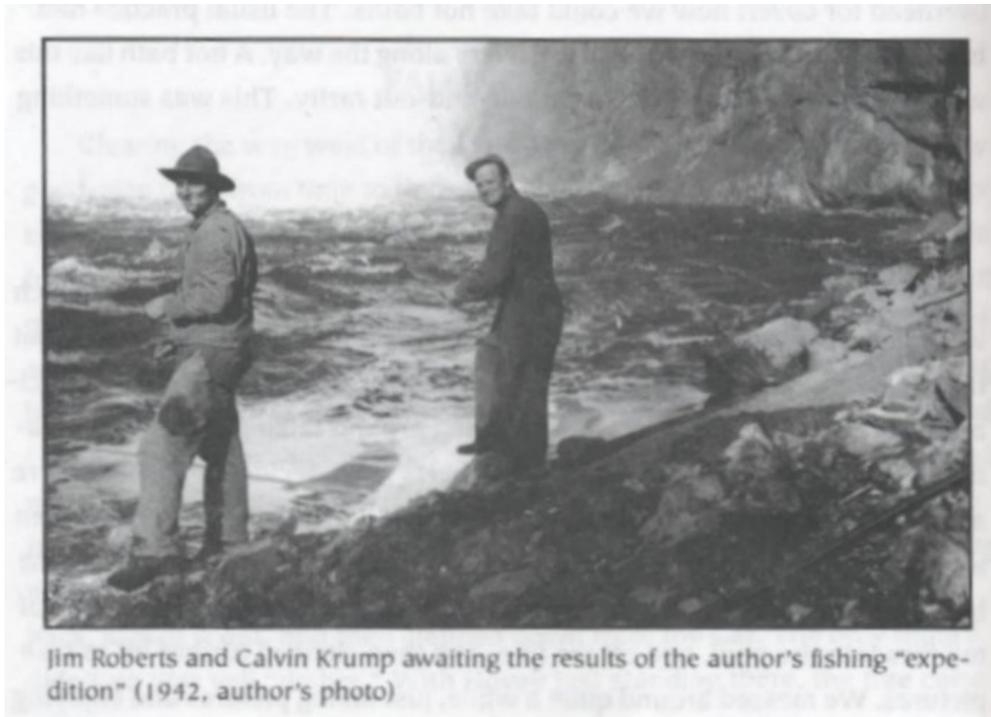


Plate 8. Fishing on the Smith River in 1942. (Picture Source: Russell, 1999).

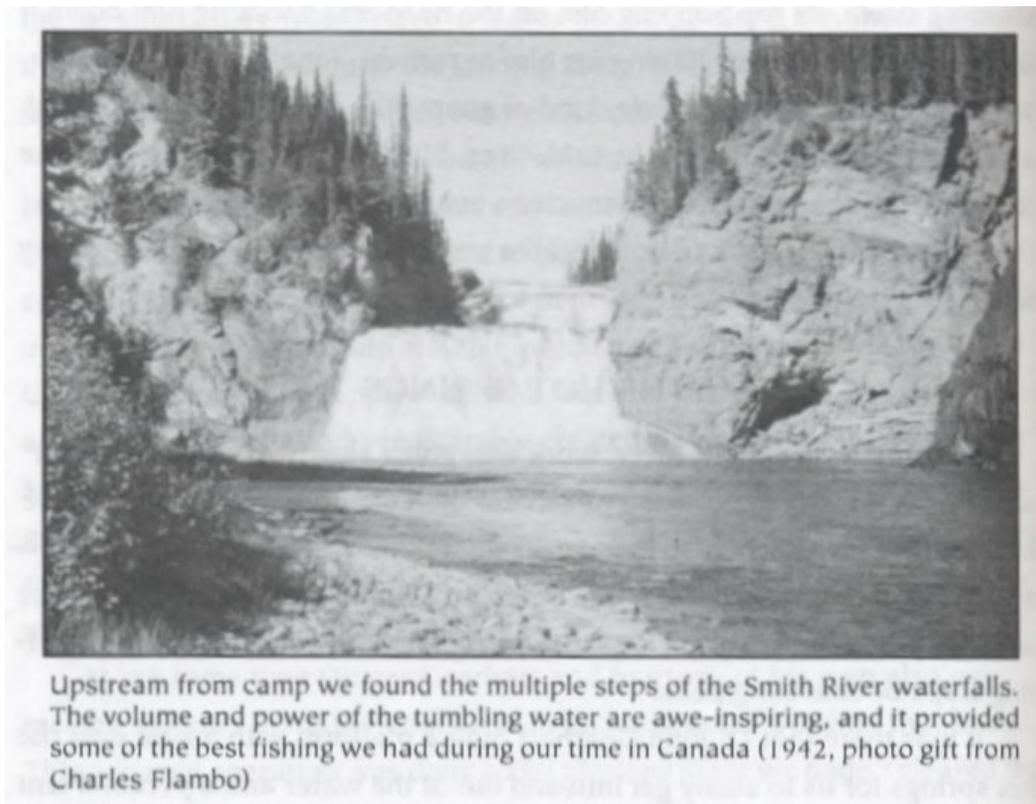


Plate 9. The Smith River Falls as seen in 1942. (Picture Source: Russell, 1999).

4.8 UPPER KECHIKA RIVER WATERSHED

4.8.1 Denetiah Lake

Denetiah Lake, located in the northwest area of the Muskwa-Kechika Management Area, is becoming well known for the rainbow trout fishery it offers. The only fish species present in Denetiah Lake is rainbow trout, which are not natural to the lake. It was discovered last year that the lake was stocked with rainbow trout by former guide outfitter George Daleziel (Woods, 2001). Moore (*pers. comm.*) discussed the lake was stocked between forty-five to fifty years ago.

The lake is one of the most popular fishing areas in this part of the management area. Moore described a group of Americans, in conjunction with an oil company in Fort St. John, built a cabin on Denetiah Lake. The group would fly groups from Texas into Denetiah Lake to fish for the abundant rainbow trout. Denetiah Lake is known by many people as one of the best fishing lakes in the north (Sorenson, *pers. comm.*).

4.9 TURNAGAIN RIVER WATERSHED

4.9.1 Blue Sheep Lake

Blue Sheep Lake is a small lake located on Blue Sheep Creek, a tributary to the Hart River. Last year it was discovered that Blue Sheep Lake was stocked with rainbow trout from a number of suspected sources (Woods, 2001). The fish were believed to be angled from Tucho Lake, Gnat Lake or Chukachida Lake, of the Stikine River system (Bradford, *pers. comm.*). The fish could have come from all three of the possible sources and it is not known for certain whether there was more than one source for the introduced rainbow trout.

4.10 MACKENZIE ADDITION

4.10.1 South Gataga Lakes

The South Gataga Lakes are a string of lakes located at the headwaters of the South Gataga River north of Weissener Lake. Species distribution is varied between the lakes. The northern lake contains a type of fish described as “speckled trout”, by former guide outfitter Gary Moore, while the larger, southern lake contains populations of lake trout and northern pike (Moore, *pers. comm.*). Andrews reported the lakes are also known to be excellent for Arctic grayling fishing.

4.10.2 Pike Lakes and Bevin Lake

Pike Lakes are a set of two small lakes associated with the Gataga River system, located on a tributary north of the Gataga River and west of Ram Lakes (Moore, *pers. comm.*). It is unknown what species are found in the lakes, but Moore described the lakes are commonly fished for the northern pike populations known to exist in the lakes.

Bevin Lake, located west of Pike Lakes and east of Ram Lakes, is also located at the headwaters of a tributary to the Gataga River. Similar to Ram Lakes, Bevin Lake is a high elevation lake containing bull trout. Moore reported the majority of high elevation lakes in this area contain bull trout populations that are natural to the lakes, and have not been unnaturally stocked or introduced. Ram Lakes, known to contain bull trout, and Bevin Lake, are both high elevation lakes, but are associated with completely different watersheds. Ram Lakes are found on the headwaters of the Toad River, while Bevin Lake is found in the Gataga River system.

4.10.3 Spinel Lake and Ridgeway Lake

Located in the Finlay River system, these two lakes can be found at the headwaters of Spinel Creek, a tributary to the Finlay River found west of the Fox River. These two lakes contain populations of rainbow trout and Arctic grayling (Moore, *pers. comm.*). It is not known whether the rainbow trout populations are natural to these lakes.

4.10.4 Weissener Lake

Widely used by the First Nations people of Fort Ware and surrounding communities, Weissener Lake is located off of the McCook River. A fairly large lake, Weissener Lake contains Arctic grayling, lake trout and bull trout. However, more recently there have been reports of a type of salmon, which has been observed spawning in the outlet creek of Weissener Lake (Moore, *pers. comm.*). Moore has never observed this abnormal activity, but has been told of the annual movement of large schools of fish up from the Finlay River drainage into Weissener Creek. The First Nations of the area believe the fish are a type of salmon, however, Moore is sceptical of this and believes that they are most likely a form of trout. Boya described the fish as a Coho salmon that have never been observed in the area until the past two to three years. The fish travel through the Fox River and move as far north as Weissener Lake (Boya, *pers. comm.*). It is not known, by either source, where the fish have moved up from, or what has caused the change in annual movements of this species.

5.0 DISCUSSION

In conducting interviews with many different people all from many different fields, a number of main points, ideas and concepts were discovered with regards to the management of the lakes, rivers and fish populations in the Muskwa-Kechika Management Area. The following will present and discuss some of the important issues gathered from this historical fisheries project.

In the previous year's report, emphasis was placed on gathering information on stocking activities and the transplanting of fish from one water body to another. In the past, many guide outfitters, residents and industrial companies have introduced sport fish into many of the lakes in the Muskwa-Kechika Management Area. This action is illegal; fortunately, in more recent years, the practice of stocking lakes has been largely reduced.

The purpose of gathering and reporting this information was to obtain data on the source of the transplanted fish and from what stock or genetic stream the introduced fish originated. By knowing this information biologists can determine important factors such as the start or spread of disease, as well as determine what species were natural to a system and which were not. Table 4 gives a brief overview of the stocking activities reported this year and from the previous year of study. In this table, the term "angled" is used to describe that the size of fish introduced were highly variable because the selection of fish was generally random by angling. Stocking data collected over the past two years has been developed into a map illustrating the transplanting and stocking activities that have occurred in the Muskwa-Kechika Management Area (Figure 4).

To some, the introduction of foreign animals or fish to a system may seem like a generally positive action because it creates diversity to systems that were otherwise barren. However, there are many problems associated with the introduction of a foreign species to a natural system. Primarily, introductions alter a system, making it no longer natural. Introduced fish often carry diseases and with hybridization occurring between natural and exotic species, disease resistance often decreases due to a lack of genetic variation. Competition for often limited food sources can also be a problem.

Many of the fish introduced did not remain in the intended lakes or streams. A large number of the lakes in the Muskwa-Kechika Management Area are closely linked with their river systems and fish easily move out of the lake system and into the river systems. An example of this is seen in the Sikanni Chief River, where the lakes at the headwaters of the river were stocked, the fish moved out of the lakes, into the river and the river became populated with species not natural to the system. The fish also populated the many tributaries and lakes associated with the Sikanni Chief River.

In more recent years, the Ministry of Environment, Lands and Parks began stocking the more accessible and popular lakes with rainbow trout; this was done to provide enhanced fishing opportunities to the general public. This action has largely decreased due to the growing concern over native fish populations, spread of disease, and conservation of the natural state of the lakes and rivers in the Muskwa-Kechika Management Area.

Table 4. Stocking and Transplanting Activities Within the Muskwa-Kechika Management Area.

WATERBODY	DATE	SPECIES	NUMBER OF FISH	SIZE OF FISH	SOURCE	PERSONS INVOLVED
Lady Laurier Lake	1972	Rainbow Trout	3000	Fingerling	Abbotsford Hatchery	Short Tompkins & Elmer Olsen
Lady Laurier Lake	1975	Arctic grayling	9-11	Angled	Trimble Lake	Brinex Mining
Beattie Lake	1978	Rainbow Trout	5000	Fingerling	Abbotsford Hatchery	Don Beattie
Marion Lake	1970s	Arctic Grayling	Unknown	Angled	Trimble Lake	Don Beattie
Trimble Lake	1959	Arctic Grayling	36	Angled	Pelly Lake	Standard Oil
Trimble Lake	1959	Mountain Whitefish	Unknown	Angled	Pelly Lake	Standard Oil
Trimble Lake	1984	Rainbow Trout	5000	Fingerling	Loon Creek Hatchery	Ministry of Environment
Sikanni Chief Lake	1980s	Arctic Grayling	30	Unknown	Trimble Lake	Don Beattie
Bluebell Lake	1985	Rainbow Trout	30	Angled	Beattie Lake	Don Beattie
McCusker Lake	1985	Rainbow Trout	30	Angled	Beattie Lake	Don Beattie
Fairy Lake	1978	Rainbow Trout	Unknown	Unknown	Alberta Hatchery	Dwayne Palmer
Fairy Lake	1984	Rainbow Trout	10,000	Fingerling	Loon Creek Hatchery	Ministry of Environment
Fairy Lake	1978	Arctic Grayling	50	Angled	Trimble Lake	Dwayne Palmer
Redfern Lake	1984	Rainbow Trout	10,000	Fingerling	Loon Creek Hatchery	Ministry of Environment
10 Mile Lake	1978	Rainbow Trout	Unknown	Unknown	Alberta Hatchery	Dwayne Palmer
Grizzly Lake	1960	Bull Trout	2	Angled	Crehan Creek	Garry Vince
Grizzly Lake	1960	Arctic Grayling	3	Angled	Crehan Creek	Garry Vince
Grizzly Lake	1964	Rainbow Trout	5000	Fingerling	Loon Creek Hatchery	Garry Vince
Grizzly Lake	1972	Rainbow Trout	5000	Fingerling	Abbotsford Hatchery	Garry Vince
Fern Lake	1966-68	Rainbow Trout	30	Adult	Unnamed Lake at headwaters of Weissener Creek	Don Peck
Fern Lake	1978	Rainbow Trout	7500	1.1 g	Loon Creek Hatchery	Ministry of Environment
Fern Lake	1979	Rainbow Trout	10,000	2.0 g	Loon Creek Hatchery	Ministry of Environment
Fern Lake	1980	Rainbow Trout	10,000	1.9 g	Loon Creek Hatchery	Ministry of Environment
Fern Lake	1981	Rainbow Trout	10,000	1.5 g	Loon Creek Hatchery	Ministry of Environment
Fern Lake	1982	Rainbow Trout	5000	1.3 g	Loon Creek Hatchery	Ministry of Environment

Fern Lake	1983	Rainbow Trout	5000	1.9 g	Loon Creek Hatchery	Ministry of Environment
Fern Lake	1984	Rainbow Trout	5000	0.8 g	Loon Creek Hatchery	Ministry of Environment
Tuchodi Lake (East)	1959-62	Rainbow Trout	10,000	Fingerling	Kamloops Hatchery	Don Peck
Summit Lake	1984	Rainbow Trout	10,000	Unknown	Loon Creek Hatchery	Ministry of Environment
Summit Lake	1985	Rainbow Trout	20,000	Unknown	Loon Creek Hatchery	Ministry of Environment
Blue Lake	1992	Bull Trout	Unknown	Angled	Toad River	George McDonald
Blue Lake	1995	Bull Trout	Unknown	Angled	Toad River	George McDonald
Sorenson's Pond	~1980	Bull Trout & Arctic Grayling	25-30	Angled	West Toad River	Sorenson
Forcier Lake	1960s	Bull Trout or Lake Trout	Unknown	Angled	Hoole Creek	Unknown
Ram Lakes	Unknown	Bull Trout	Unknown	Unknown	Unknown	Unknown
Muncho Lake	1989	Rainbow Trout	10,000	Fry	Abbotsford Hatchery	Ministry of Environment
Muncho Lake	1989	Rainbow Trout	10,000	Yearling	Abbotsford Hatchery	Ministry of Environment
Grizzly Lake #2	1970	Arctic Grayling	Unknown	Angled	West Toad River	Unknown
Grizzly Lake #2	1970	Bull Trout	Unknown	Angled	West Toad River	Unknown
Denetiah Lake	1958	Rainbow Trout	25	Angled	Tucho Lake & Gnat Lake	George Daleziel
Blue Sheep Lake	1963-65	Rainbow Trout	25	Angled	Tucho Lake & Gnat Lake	George Daleziel
Beale Lake	1963-70	Rainbow Trout	25	Angled	Tucho Lake & Gnat Lake	George Daleziel
Meek Lake	1963-70	Rainbow Trout	25	Angled	Tucho Lake & Gnat Lake	George Daleziel

One of the positive aspects of the Muskwa-Kechika Management Area is the majority of the lakes and rivers are fairly inaccessible because of their locality. This works in favour of the fish populations, as they do not receive a heavy amount of fishing pressure. In the past, very little people came into the area to fish. The cost of accessing the lakes and rivers, and unpredictable weather discouraged many travellers from coming into an area which is not very well known for its fishing resource. However, the problem lies in the increasing use of helicopters and floatplanes to access the remote lakes and rivers of the area.

The increasing use of aircraft by commercial fishing ventures is adding an increased pressure on the northern lakes that are not suited to the fishing pressure. Fortunately, the Muskwa-Kechika Management Area is situated in a low-density population area, where there are not large numbers of people actively fishing and using the land. However, with increasing interest in the sport and recreation of fishing, commercial fishing ventures are providing access to remote lakes and more people are visiting the area. This is creating an added pressure, and many believe this will

eventually impact the native fish populations in many of the lakes, especially in north central British Columbia.

Many of the lakes in the Muskwa-Kechika Management Area contain lake trout, which are a slow maturing fish. Numerous people interviewed expressed that some of the northern, high elevation lakes containing lake trout cannot support the increased fishing pressure due to the commercial fishing business. It has been suggested that these lakes can only support the removal of a maximum of five lake trout from the lakes on a yearly basis. If the extraction of more fish occurs, the populations of lake trout will quickly decrease and no longer provide a fishery. In addition to lake trout being a slow growing fish, many of the lakes provide an extremely short growing season due to late ice break-up and early winters. In combination with a slow growing fish and an extremely short growing season, the lakes in the area cannot readily produce enough fish to support consistent fish extraction from fly-in fishing operations.

Concern is growing over the fish populations in the streams and lakes of the Muskwa-Kechika Management Area. One of the most important changes that have been suggested for management is stricter enforcement and monitoring of the water bodies. It is impossible to have enforcement on many of the lakes and streams in the MKMA simply because of the locality and inaccessibility. However, increased enforcement should be concentrated in areas that are known to receive excessive fishing pressure or are located along routes that are more easily accessible. By increasing enforcement, regulations should be sufficient to control and manage fish populations at a level that is sustainable.

While conducting interviews with many people associated with the Muskwa-Kechika Management Area, it was discovered that some water bodies are of more concern. The Halfway River is a river that great concern has risen over because of its current state and the continual decline of its fish populations. Many people who have lived in the area for the past twenty to forty years believe the health of the fish populations, the fishing quality and the habitat of the river have been drastically reduced. There are many suggestions for why these changes have occurred, including increasing industrial activity, poor industrial practices, increased poaching and illegal fishing, and a general increase in the use of the river. It is recommended that a closer look be taken at the state and condition of the fish populations and habitat of the Halfway River.

One of the major management issues in the Toad River area is the use of riverboats on some of the larger rivers, streams and on Moose Lake. Changes need to be made to the regulations to deal with the increasing use and activity of riverboats. The river has experienced drastic habitat changes due to the large wakes of the boats, and Moose Lake is experiencing decreases in the fishing quality due to the increased activity brought about by the riverboats. It is suggested that riverboat use be prohibited on the Toad River system to prevent further damage from being done to the system.

Figure 3. Map Illustrating Fish Introductions and Transplants Within The Muskwa-Kechika Management Area.

6.0 RECOMMENDATIONS

This report is the final part of a two-year historical fisheries study in the Muskwa-Kechika Management Area. Many of the logistic problems with data collection encountered in the previous year were acknowledged and prevented as best as possible this year. Guide outfitters were contacted prior to the summer and most people that were unable to be contacted from last year were interviewed this year.

Recommendations for future studies of this type include a larger budget to enable for travel to meet in person with people from various towns and cities. By meeting in person, people are generally more open about the information they have to share, and are more willing to make further contact if necessary.

In order to make the study as comprehensive as possible, it is recommended that the researcher spend a large amount of time in all the cities, towns and villages associated with the MKMA and those that are potential information sources. By spending time in a place, one is able to make contacts with the people that have lived and worked around the area for many years. Local museums, heritage sites and other historical events and items could be obtained by being familiar with the community and its people.

With proper time and funding, more extensive research could be completed on the historical Aboriginal uses of fisheries. For the most part, First Nations people will not easily share information with someone who is not trusted, and this trust can only be built if much time is spent living and sharing with the First Nations people and their community. For future projects involving the First Nations people of British Columbia, it is suggested that a larger time frame and more resources be put into the project, in order to build and gain trust with the Aboriginal community.

With the information obtained from this project, many other research directions can be followed to gather additional information. With the proper resources a study could be conducted on the genetics of the bull trout and rainbow trout found throughout the Muskwa-Kechika Management Area. With all the stocking activities that have occurred in the management area, it would be of great interest to biologists as well as for management purposes, to know of the many genetic stocks that have now become “naturalized” in northern British Columbia.

In addition to this two-year study, it is suggested that the information be taken from this report, and specific issues be separately researched to provide a more complete historical fisheries database.

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Wolkley, Jasper. July 23, 2001. Halfway River First Nations. Halfway River, BC.

APPENDICES

Appendix I. Standard Set of Questions Used During Interviews.

1. Are you aware of any fish stocking that has occurred to any lakes and rivers within your area as well as other areas?
2. What species were present in the lake before it was stocked?
3. Did you notice any changes in other fish populations upon the introduction of the new species?
4. What were the more popular lakes/rivers fished in your area?
5. Was there a great interest in the fishing within your area?
6. When did you notice fishing to become of more interest to people coming in to the area?
7. Did you ever notice spawning areas within the water bodies?
8. Did you notice changes in habitat that could have affected the fish?
9. Where have you fished?
10. What species are present?
11. How was the fishing quality?
12. What species are the most common?
13. What things affected the fishing?
14. What was the best time of year to catch fish?
15. Have you noticed changes in the fishing or the habitat?
16. What about the streams and rivers in the area?
17. How long have you fished in the area?
18. Do you have any concerns or suggestions relating to the management and use of fisheries resources in the MK?
19. Do you know of anyone else who might have additional information regarding the fisheries within the MK?
20. Is there anything else you can think of that may be of importance to this report?

Appendix II. Set of Questions Used During First Nations Interviews.

1. How were fish viewed by the First Nations people?
2. Did the fish have any religious importance?
3. Was the fishery important to your people? How and why was it important?
4. What importance did it have?
5. Are there any traditional stories or tales that have been told with regards to the fish?
6. How did the First Nations people view the resource of fish?
7. Was it strictly a food source or did it have other symbolic importance?
8. How long has the fisheries resource been used by the First Nations?
9. Can you describe the methods of catching and preparing fish that were used?
10. How did you catch fish?
11. When and where did you fish?
12. How often did the people fish?
13. Why did people fish? For pleasure or for providing food?
14. What species were most often caught? Which species were of most importance?
15. Where did the people fish most often? Why?
16. Did you ever notice or take note of changes in fisheries habitat, changes in populations or fish distributions, or changes in the health of the fish?
17. Do you know of any accurate books, newspaper articles, letters or any literature that has been produced with regards to First Nations uses of fish?
18. Do you know of anyone else who would be a good person to talk to with regards to First Nation's uses of the fishery resource within the Muskwa-Kechika Management Area?

Appendix III. People Unable To Be Contacted For Interviews.

NAME	TITLE	AREA
Katherine Richie	Resident	Halfway River
Herb Leake	Resident	Prophet River
Tom Fulton	Resident	Toad River
Barry Tompkins	Guide Outfitter	Kluachesi Lake
Lynn Ross	Former Guide Outfitter	Halfway River
Emil McCook	First Nations Resident	Fort Ware
Craig McCook	First Nations Resident	Fort Ware

Appendix V. Interview Summaries.

2.1 Gary Moore

May 30, 2001.

Moore Residence, Dawson Creek, BC

Gary Moore guided in the area west of the Trench, but is familiar with the entire area within the Muskwa-Kechika that lies west of the Rocky Mountains.

Stocking:

The only stocking that Gary is aware of is the stocking of Denetiah Lake by George Daleziel approximately 45 to 50 years ago. The lake was stocked with rainbow trout, but Gary does not know where the fish originally came from. He also mentioned that George Daleziel stocked a number of lakes west of the MK. On a map, Gary indicated the area of Beale and Meek Lake. He did not know the specifics of these stockings though. Gary discussed that the only fish in Denetiah Lake are rainbow trout. He is unsure of whether the lake was barren prior to the introductions.

The most popular fishing area has always been Denetiah Lake. Gary mentioned that a group of Americans (through an oil company in Fort St. John) built a cabin on Denetiah Lake. They flew people up from Texas to fish the lake. Dall Lake is also a popular fishing location. The species fished for in the lake included Arctic grayling and lake trout. Netson Lake was also popular, and it also contains Arctic grayling and lake trout. People would usually access Netson Lake by flying in from Muncho Lake.

Gary stated that there has never been any commercial fishing done up in the area. In more recent years, Liard Air has brought in clientele to fish some of the more isolated lakes. Gary believes that fishing is definitely becoming more popular. From Muncho Lake, fishing parties are being flown into South Gataga Lakes, Netson Lake and Rainbow Lake (lies outside the MK).

Within South Gataga, Gary described the northern lake (east lake) contains “speckled trout” and the big lake contains lake trout and northern pike. A set of two small lakes is commonly called Pike Lakes. They are located on the north side of the Gataga River, west of Ram Lakes. Pike Lakes are usually fished for their northern pike populations. The high elevation, mountain lakes usually contain bull trout. Two lakes mentioned include Bevin Lake and Ram Lakes, both of which contain bull trout. I asked Gary about whether he knew of any stocking of bull trout into Ram Lakes. He believes the population of bull trout that reside in Ram Lakes are completely natural.

Gary mentioned that the Turnagain River and the Frog River are fished often, but not excessively. He commented that there is some riverboat traffic on these two rivers, but not harmful amounts.

Fish species in Weissener Lake include Arctic grayling, lake trout and bull trout. Gary mentioned Spinel Lake and Ridgeway Lake contain both rainbow trout and Arctic grayling. Contact Charlie Boya (native out of Fort Ware) about these lakes.

Spawning:

Gary was told by some of the natives out of Fort Ware that there is a run of some type of salmon up the outlet creek of Weissener Lake. He said that he himself has never seen this, but these fish are known to travel up in large schools up into the outlet creek of Weissener Lake. The natives describe that they see them every year travel up from the Finlay River drainage. Gary is sceptical about whether the fish are a type of salmon. He believes they might be a type of trout instead.

Other areas discussed include north of the Turnagain River. Gary mentioned Aeroplane Lake and many of the other lakes in the area contain lake trout and that he has known some of the smaller lakes to contain lake trout up to 30 lbs. in size. He does mention, however, that these lakes do not have a lot of lake trout. Gary believes that taking 2 to 3 lake trout out of these lakes a year would be a sustainable amount. He discussed how lake trout take a long time to grow and mature because the ice does not leave some of the lakes until June 1st and then are frozen over again in October. They have an extremely short growing season.

Gary believes that the regulations already in place are sufficient for the area. When Gary and his guides take people out they keep 1 or 2 fish, and after that the remainder is catch and release. He stated there is not the population of people within the area for there to be large amounts of fishing.

Other Contacts:

Jack George - worked for Gary for a number of years (Lower Post Band)

John Porter - worked for Gary for a number of years (Lower Post Band)

Charlie Boya - native out of Fort Ware

- 471-2203

2.2 John Bedell
June 5, 2001.
Ministry of Forests, Fort St. John, BC

John has fished a lot in the Muskwa-Kechika and Peace River areas for the past 30 years.

Sikanni Chief River:

In 1979, John caught Arctic grayling measuring 18-19" in length from the Sikanni River. He described these fish to be the largest Arctic grayling he has ever caught or seen. There are many areas along the river where sulphur springs come into the river and you won't find fish for 2-3 miles after the spring, even if there is open waters or good habitat. Sometimes there would be good fishing in these strips when the fish can get by these sulphur spring areas during certain times of the year where the sulphur springs do not affect the water quality.

Trimble Creek:

22 years ago, there were no fish in Trimble Creek, but there were fish up to the Indian Maiden Falls on the Sikanni Chief River. The largest rainbow trout caught below the falls was a 6 lbs. rainbow trout angled in the upper parts of the canyon. John describes the falls as too steep for the fish to jump them. There is a first slab of rock, which he believes the fish are able to move up during the right water levels. But beyond the first slab, there is not enough of a run for the fish to make the second part of the falls. John has observed Arctic grayling spawning in Trimble Creek from the trail along the river all the way up to Trimble Lake.

John observed many of the spawning pools to be often full of fish along Trimble Creek.

Cranswick Creek:

John has walked along Cranswick Creek from Cranswick Lake down to Trimble and states that there is easy access for the fish to move from Trimble Lake into Cranswick Lake. There must be some factor preventing fish from moving up the stream into Cranswick Lake. John mentioned that a sulphur spring may be flowing into the creek, which the fish will not travel through. There are no major falls along the creek or other impassable barriers.

Graham River:

John believes someone must have stocked the lakes just upstream of Christina Falls on opposite side of river from the ranch. In discussion with Rob Woods after interviewing John Bedell, it was revealed that the lakes John was discussing here are known as Mary's Lakes and possibly Rod Lake, which are on the opposite side of the river from Crying Girl. These are two pothole lakes, which are almost tied together. They provide good fishing for what is believed to be rainbow trout. Because these lakes are so closely linked with the Graham River system, high waters could have flooded over the banks and into the pothole lakes introducing rainbow trout to these lakes naturally. However, it is not known what has happened

In the mid 1980s, firefighters fighting a fire up by Horn Creek caught rainbow trout from the Graham River. This is significant because of the timing of the angling record here and the stocking of Lady Laurier Lake, which is upstream of Horn Creek on the Graham River. Rainbow trout were not known to exist in the Graham River above Christina Falls. John has

caught rainbow trout downstream from Crying Girl, but never upstream of Christina Falls. John has also described some type of sculpin in the upper parts of the Graham River, which he would not have suspected to be in the upper part of the river.

In 2000, John almost drove over an 8-9" rainbow trout in the Graham River while crossing with his snowmobile in the winter. This rainbow trout was spotted on the Graham River near "My Camp" which is located above the falls. This is a recent account of rainbow trout, which reside in the upper parts of the Graham River (believed to originated from the stocked Lady Laurier Lake in the late 1970s or early 1980s).

During the winter, the Graham River has many open water areas. John believes the rainbow trout stay in these open water areas during the winter. He also stated that there is definitely rainbow trout below Christina Falls.

In the early 1980s, firefighters caught rainbow trout in the Graham River when they were in the area of "My Camp" fighting fires.

Halfway River:

Upstream from the Federal Ranch, there is a big, deep fishing hole that is known as the Glory Hole. John remembers catching a few rainbow trout at this hole once. Talk to Bob & Ethel Beattie of Hudson's Hope, or Dennis & Debbie Beattie of Fort St. John about the Glory Hole.

Needham Creek:

Within one half an hour of fishing using a willow pole, John caught one each of rainbow trout, bull trout, Arctic grayling and mountain whitefish all over 16" in length at the mouth of Needham Creek. More recently, John fished Needham Creek for a much longer time and never caught fish of that size from the creek. The fishing quality has definitely decreased in Needham Creek. John believes this could be due to a seismic trail that was put up through the area, which caused a lot of destruction.

Trimble Lake:

The lake used to be called Deadman Lake. John always thought this implied that there were no fish in the lake, but it was actually called this because two trappers got in a pistol fight during the winter and someone found both of them dead in the spring.

Horseshoe Creek:

There is rainbow trout in the creek today. However, the rainbow trout disappeared for a while when there was a seismic line put in the Horseshoe Creek area. This seismic line diverted the creek down the seismic line for a while. The stream has a lot of over hanging branches and deep holes. John has never caught Arctic grayling from Horseshoe Creek. Carl Wagner used to fish the creek and would catch 15-16" rainbow trout. The rainbow trout that Carl caught were much bigger than the fish that John is catching now. For some reason, the rainbow trout stock that is in the creek now is different than what was in there before the seismic line disturbance. John can consistently catch rainbow trout around 12" in length, but never up to 15". John believes the populations may be recovering from the seismic line. Part of the creek still runs down the seismic line today.

Chowade River:

John believes that the Chowade River has been the greatest changed river in the last 30 years. In 1977, bull trout above 6 lbs. were caught consistently. The largest bull trout John ever caught was a 13 lbs. and 33" long fish. He said that his kids would consistently catch 5-6 lbs. bull trout on a regular basis. Today, the only thing you can catch today is mountain whitefish and some rainbow trout. There are barely any bull trout left in the river – this is a terrific change from the way it used to be.

John remembers observing the bull trout heading back upstream (migrating). He stated they were "like a caravan, like a bunch of RVs on patrol". "They would line up along the shore for 30 yards, for a period where there would be shoulder to shoulder fish". The bull trout would rest along the bank. The fish came out of the river in late September.

Grizzly Flat is located just past the Muskwa-Kechika sign (3/4 of a mile) on the Chowade River. A seasonal creek flows into the Chowade River from the north. The creek travels underground for a while and then flows into the Chowade River. There was a fire in 1991, which was called the Cypress Fire. Firefighters would travel up the creek using cats. The creek was dry downstream for at least 3 miles at this time, so John assumed the creek had no fish in it. However, upon throwing a stone into a small pool, John observed 3 fish (unknown species) in a pool underneath an overhanging branch.

The Chowade River runs underground near the headwaters of the river. The river flows above the surface at the top end, goes underground for 4-8 miles and then comes up again and there will be fish in the upper and lower parts of the river. Somehow these fish survive the areas where the river flows underground.

John believes the reasons for the decreasing bull trout populations include anglers keeping large, old fish. The number one problem he believes is the reason for decreasing fish populations is the lack of policing or enforcement on the Chowade River. He believes that this reason alone is responsible for the large decline in bull trout populations.

He remembers an instance when a group from Alberta went up the river on ATV's, filled a Coleman cooler with bull trout. John described that the group took in excess of the limit of their group numbers. The Chowade River is very popular with Albertan fisherman.

John describes that there is a few places on the Chowade River that should still have big bull trout in it (places like deep pools that are fairly inaccessible by fisherman). In the past couple of years, John has returned to this specific pool that is surrounded with sheer cliff walls. He has studied the water and has never observed or flushed up any bull trout out of these pools that provide great habitat. The last time he was at this pool, he found 30-30 casings on the steep cliffs above the pools. He believes people are shooting down at the big fish.

The Chowade River is a nice river, but there are a lot of scrappy camps on it.

Halfway River:

Bull trout populations in the Halfway River are also not as good or prolific as before. On the Halfway River there is a fishing hole that is known as Billy's Fishing Hole. Matt Westergaard will be able to discuss what was in the pool for fish. Recently John was in the Halfway River area and met a couple that had been fishing on the Halfway River. They were holding their catch, which included one small Arctic grayling no larger than 8" in length. The fish still had a treble hook in its mouth, which has been illegal for years. John believes that this is an example of what the fishing in the area has been reduced to: an 8" Arctic grayling caught on a treble hook.

Cypress Creek:

Cypress Creek is known for its "scrappy" rainbow trout (fighters when on the line) in the lower parts of the creek. John described trying to catch rainbow trout on upper parts of Cypress Creek near Pat Brady's cabin, but has never had much luck with catching rainbow trout. He is unsure why rainbow trout are not so easy catch in the upper parts of the river.

In the lower parts of the creek, by the Rec Site and where the woodlot is, the creek is known to have good fish there. The rainbow trout are not big, ranging in size from 10-12", but extremely scrappy.

Robb Lake:

Approximately 5-10 years ago, John caught bull trout from Robb Lake ranging in size from 16-20" in length. They were caught where the creek came into the lake, on a simple spinner, in early June (June 5). John mentioned that someone had a picnic table and aluminium boat on the banks of the lake. John is unsure if the lake is fished a lot. He was surprised to see the picnic table and boat there.

Parsnip River:

Dolly Varden caught from the Parsnip River used to be big fish.

Redfern Lake:

There used to be good lake trout in Redfern Lake; there may still be good lake trout in the lake. John used to fish the lake during the winter months, where he would travel in on snowmobiles, cut holes in the ice and "would catch fish pretty reliably". The walls of the snowmobile cabins on Redfern Lake are decorated with catches made from the lake. John mentioned such recording as lake trout caught 12 lbs. and 28" lake trout caught. Walter Melanowich of Walt's Automotive used to fish Redfern Lake quite a bit.

When asked whether he noticed any changes in other fish populations after the rainbow trout were introduced, John replied that he did not notice changes in fish populations. However, prior to the rainbow trout introductions, fish were never caught at the base of the falls coming out of Fairy Lake. After the introductions, rainbow trout were routinely caught from the pool.

Nevis Creek:

John said that he used to fish the little pools on Nevis Creek. He mentioned that Nevis Creek is a good creek to fish for Arctic grayling.

Pocketknife Creek:

Pocketknife Creek used to have a really good population of Arctic grayling, ranging in size from 10-12". Arctic grayling was the top species in the creek. There was also bull trout (12-14" in length) and mountain whitefish (8-10" in length). They used to fish the creek with willow poles. There are lots of logjams on the creek. John said that Pocketknife Creek is probably still a good creek to fish.

MacDonald Creek:

This creek used to have good fish in it. John caught what he believed to be a headwaters rainbow trout. They were a vividly splotched fish, with dark splotches and red splotches on the side of the fish. However, the fish did not look like lake rainbow trout.

Racing River:

Approximately 15 years ago, John caught some fish that he believes were rainbow trout. They were caught in the headwaters of the Racing River, above the confluence with Churchill Creek. The river runs over a glacial flat that contains a lot of fish, which survive in the silty waters

Pack River:

The Pack River is out of the MK – it flows into Tudyah Lake. John remembers fishing with Bill Fellers and catching a Dolly Varden (not bull trout) that weighed 18 lbs. and measured over 3 feet in length. In Tudyah Lake, John believes there are rainbow trout in the lake but are unsure whether the fish were stocked or are natural.

Rubyred Creek:

Out of the MK. A tributary to the Williston Reservoir, Rubyred Creek used to meander for 3-4 miles before its confluence with the Finlay River (1971-72). Since the reservoir was built, the fish in the tributary creeks have become more jammed up into the creeks in a short period. Spawning occurred where the creek turned into the lake. John remembers seeing fisherman putting a riverboat crosswise in the creek. The boat would be tied to a limb on the shore and the motor end would be anchored to the bottom. 4 to 6 fisherman would be lined up in the boat, hanging their lines off the side of the boat of the downstream side of the boat. They would bait their hooks with other fish parts. Usually there would be one person designated to cutting the heads and tails off of the caught fish and packing the fish caught into coolers. The groups of fisherman would leave the creek with coolers full of fish. This same type of situation would occur in a lot of the creeks where the fish would be jammed up into the creeks because of the reservoir. All the fish that ever hatched in that particular creek would return there.

Carbon River:

John recalls hearing there were large Dolly Varden at the mouth of the Carbon River. People still use treble hooks to fish for them.

Mayfield Lakes:

A couple of lakes located off to one side of the Gataga River. Wayne Sawchuk has a cabin on the lakes.

Management Suggestions:

“People who are getting hurt by the current way of doing things are the people who would like to obey the rules”.

2.3 Al Parker
June 6, 2001.
Lobo Taxidermy, Fort Nelson, BC

Al Parker first came to the Fort Nelson area in 1953. He owns a trapline on Kledo Creek and has hunted and fished in the area since he has been in the north.

The streams and rivers along the Alaska Highway receive the greatest fishing pressure and are usually the most popular areas because of their easy access from the highway.

The Tetsa River is a good stream for Arctic grayling, but receives fishing pressure along stretches where the river runs along the highway.

The only stocking that Al is aware of is the stocking of Beaver Lake and the Borrow Pits alongside the highway.

The Fort Nelson area does not provide many good places to fish, but many people are drawn to the area to fish. By using jet boats, fishing quality becomes better because it allows access to more areas not just the popular spots located along the highway.

Good places to fish in the area include the mouths of the Tetsa and Chisca Rivers, where the fish congregate. Along the Chisca River there are pools, which have been created, by logs falling in the stream from logging in the area, which provide good fishing.

At the mouth of the Snake River, Al states that one could catch northern pike, walleye, goldeye, burbot and inconnu.

Windfall Lake is a small lake located at Mile 479 of the Alaska Highway, up Prochniak Creek? The lake is too small for a plane to land on it and Al believes that it is only accessible by hiking in as there are no ATV trails up to the lake. The lake is known to have lake trout in it.

The best time to fish Muncho Lake is early June when the ice has just come off the lake. The best time to fish the rivers is when the waters are low. In this area, September usually has the streams at their lowest water level.

Kledo Creek contains walleye, bull trout, Arctic grayling, northern pike and burbot. Al did not fish the creek much in the winter because it was frozen over.

Al stated that the good fishing holes in the area are usually fished out within a couple of days, but if left for a couple of days, there will be fish in there again. Al described fishing one September with George Belfour on Chlotapecta Creek. They caught 12 Arctic grayling and Al angled a 6 lbs. bull trout.

The Toad River, MacDonald Creek and the Tetsa River all contain Arctic grayling. The average size of Arctic grayling caught was approximately 12". These rivers are known to contain large

bull trout (10 lbs.). The largest bull trout caught by Al was 10 lbs. The Toad River also contains many bull trout and mountain whitefish, which average 12” in length.

Management suggestions include relaxing the fishing regulations on the streams in the northern area.

2.4 Paul Gillis

June 19, 2001.

Phone Conversation

The only stocking activity that Paul is aware of is the Ministry stocking of Fairy Lake. Paul described the rainbow trout in the Besa River as “river trout”. The rainbow trout that are found within the Besa River are a result of the stocking of Fairy Lake, however, Paul states that the fish differ from the lake rainbow trout in shape, size, colour and form. The rainbow trout that are caught in the river are not the same as the 16 lbs. rainbow trout that are caught in Fairy Lake. These “river trout” are seen in the Besa River, Nevis Creek and other tributary creeks.

Paul also mentioned the stocking of the potholes alongside the Alaska Highway. Rainbow trout were stocked into the Borrow Pits.

Paul was not at Redfern or Fairy Lake prior to the stocking and therefore was not able to comment on the fishing or habitat quality before the stocking occurred.

Fairy Lake:

Paul described that a study was done last year on Fairy Lake. Electrofishing was completed, and the biologists were amazed at the number of fish in the lake. Fairy Lake is described to have much different habitat than Redfern Lake. It doesn't experience the siltiness from the glacial influx to the degree that Redfern Lake does. As described by Wes Brown last year, a small pothole lake upstream of Fairy Lake usually collects much of the silt from the incoming glacial stream.

Paul described a situation where a man went into Fairy Lake with a “beeping” fish finder. The man was absolutely blown away by the number and size of fish in Fairy Lake. The fish were not only numerous, but also very large in size. When asked about why people are not catching a lot of extremely large fish from Fairy Lake, Paul stated that the people who go in to the fish Fairy Lake for the big rainbow do not know the proper depths at which to fish. After the lake turns over, the fish go to a certain depth. Fishermen in the area have not been able to determine where the fish sit. Paul also described that another factor is people in the area do not have the proper equipment, such as a boat, to be able to fish the proper depth. Paul is thankful for this, as he feels the fish populations would be hit a lot harder if there were access to the proper equipment.

Popular Lakes and Rivers:

“The Fishing Hole” is located on the Besa River where the bridge is; where the river narrows to approximately 5 feet across. This fishing hole experiences grave over-fishing. People have been reported to have caught 20 bull trout, 50 Arctic grayling and 10 rainbow trout per day. These fish are not released, but rather kept by the people fishing in the area. Paul strongly believes that this fishing hole is being drastically over-fished. He stated that enforcement must be able to control this type of fishing activity because if it continues, it will drastically hurt the fish populations. Paul described that people come out of the area bragging about what they caught from the Fishing Hole: both large fish (bull trout especially) and large amounts of fish. This type of fishing activity goes on all summer: 6 to 7 people at a time, line up and fish out the hole.

Besa River:

The Besa River is a popular river to fish. The river contains mountain whitefish, Arctic grayling and bull trout. The lower Besa River, where the river confluences with the Prophet River, is an extremely important fishing hole.

Nevis Creek:

Paul stated that Nevis Creek has A LOT of fish in it. On the falls, all the way up to Nevis Canyon, one is able to catch rainbow trout, bull trout and Arctic grayling. Paul described that there are numerous bull trout and in some areas extremely large bull trout. A fishing hole on Nevis Creek is being fished a lot. The problem in this is that people are catching large fish and keeping them. Many kids fish there and also keep the large fish they catch.

Keily Creek:

Paul states that there are fish in Keily Creek, but not as much as in the Besa River or in Nevis Creek. He believes the smaller fish populations are due to the much siltier and murky waters due to the glacial influx.

Buckinghorse River:

The Buckinghorse River completely freezes during winter months. Paul describes that the entire river is frozen solid to the ground and there are no pools anywhere on the river during the winter season. The river has plentiful Arctic grayling in it. Paul states that during the winter, thousands of fish move out of the river and into the Sikanni River. He believes there must be a large pool somewhere upstream on the Sikanni River where the Arctic grayling go to over-winter. Fishing on the Buckinghorse River would yield up to 30 fish a day. There were so many active fish that they would be jumping out of the water to get your hook before the hook even hit the water surface. Fish move up the small tributaries to the Buckinghorse River for spawning. These tributaries usually have less than 1 inch of water in them. One creek that Paul mentioned was important to spawning activity in the Buckinghorse system was Polka Dot Creek. There would be places along the creek where there are pools that were full of fish. Paul stated that one could always catch large Arctic grayling on the Buckinghorse River. There are plenty of fish in this river.

Paul discussed important research directions for all major rivers in the area (specifically mentioned the Buckinghorse):

- it is important to find out where, when and how fish are moving and staying during the winter months

Impa Lake:

Impa Lake has fish in it, and the inlet stream is usually good for fishing and is used for spawning.

Minnaker River:

Paul stated that the Minnaker River is a good stream for Arctic grayling and bull trout. An important fishing spot is at the confluence of the Minnaker River and the Prophet River.

Pocketknife Creek:

Paul stated that this creek is excellent fishing and is one of the only good fishing creeks that remains a secret from the general public. This stream is FULL of Arctic grayling. Paul described the Pocketknife as “a wonderful stream for fishing”. The creek is easily accessed with ATV, but is not easy to hike to because of the marshy, muskeg habitat surrounding the creek. Arctic grayling in these creeks were the most commonly caught species. They ranged in size from large Arctic grayling (up around 18”), but on average, the fish caught were between 12-18” in length. The Arctic grayling caught in the streams and rivers do not reach the size of Arctic grayling caught in Trimble Lake. It is known that Arctic grayling in Trimble Lake are fairly large in size. Paul described that on average the Arctic grayling angled from the streams were usually pan sized. Once in awhile one would be able to catch a good sized Arctic grayling. The best thing about the Pocketknife is that no one really knows of its good fishing.

Trimble Lake:

- has good sized Arctic grayling in it
- described the grayling to be in the 1-2 lbs. range

Mason Creek:

- has a few fish
- coming out of the Sikanni River

On the East Side of The Alaska Highway:

- all the small creeks on the east side of the highway have fish
- mainly Arctic grayling, chum and other small fish
- where Trutch Creek comes close to joining with the Sikanni River; is a good place to fish

Klua Lake:

Wayne Fell and Paul Gillis fish Klua Lake commercially for mountain whitefish during the winter months. Nets are used to catch the fish. Fish present in Klua Lakes include jackfish, mountain whitefish, burbot, and pickerel. Paul described Klua Lake as a diverse lake. Klua Lake is getting more and more popular to public fishers. The lake is being fished more in the wintertime, when ice fishing occurs steadily. The First Nations also fish both Klua Lake and West Klua Lake commercially. Paul believes that West Klua Lake should not be fished commercially. This is because West Klua Lake is mainly sport fish (pickerel, burbot, jackfish), while Klua Lake is primarily jumbo whitefish. A beaver dam separates the two lakes, keeping the fish populations fairly separate.

The forests surrounding Klua Lake were logged, and for 3 years after the disturbance, the dirt molecules would not separate from the water molecules. When a pail of water was left, the dirt would not settle out on the bottom, but would remain suspended. This affected the fish, as the water was so murky that they could not see and were forced to use smell. Paul described that it took 5 years before the Klua Lake waters cleared up.

General:

Many people go into Redfern and Fairy Lake because there have been some large fish taken from the two lakes, which draws people to come in and fish. There are records of 40 lbs. rainbow trout caught from both of these lakes.

Paul does not advertise fishing within the area. He believes that the fishing in the area is fragile and he hopes that others do not push fishing as a sale item. Whenever people are in the area, everyone usually has a rod. So even though people are not necessarily in the area to fish, they still do.

Spawning:

“Grayling hit spawning streams and you could pick them up in a gunny sac”

- In the Buckinghorse, spawning Arctic grayling are observed every year
- Polka Dot Creek – used by spawning Arctic grayling
 - o The water in Polka Dot Creek is a mere trickle and is usually very warm

Possible factors affecting fish:

1. over-fishing – kills the populations more seriously than does any other problem
2. oil and gas activity – Paul has noticed changes around the Buckinghorse due to drilling activities occurring in the area
3. weather – Paul is unsure how the extreme weather affects the fish or the habitat.
 - possible flash floods and log jams could be possible problems
 - however, these things are natural and therefore not as serious

*Nevis Creek and the Besa River are definite areas that should have careful consideration due to the amount of over-fishing that is occurring on the water bodies.

Management:

1. The main concern is ensuring more and stricter enforcement.
2. Decrease the amount of industry occurring in the area.
3. Education:
 - impose catch and release regulations instead of keeping fish
 - by doing this the large old fish are not selectively removed from the system
 - try to educate people that if they want future fishery in the area they have to practice catch and release fishing
 - people who fish the area are not well enough educated to know what the fishing is like and where the populations sit at
 - Paul proposes that information signs should be posted at popular fishing locations describing where the fish come, how long it takes them to grow and mature, and a basic outline of their life cycle

2.5 Matt Westergaard
June 21, 2001.
Westergaard Residence, Fort St. John, BC

Matt Westergaard grew up in the area around Mile 95. His father had a trapline at Pink Mountain, which was eventually passed down to him and is currently registered with his daughter, Sharon Lamereux. Matt describes that when his father owned the trapline, one could go fishing and literally pick the fish out of the streams close to the trapline.

Halfway River:

The Halfway River contains all kinds of fish and used to be plentiful with fish. The three main fish caught included bull trout, Arctic grayling and rainbow trout. There has always been mountain whitefish in the streams as well. Suckers come up the Halfway River, but do not extend their range past Mile 95.

Before 1960, there used to be fantastic fishing on the Halfway River. In January of 1960, the Hudson Bay Oil Company put a rig in the area. A mechanic with the company used to bring up both a fly rod and a regular rod. He would ride his cat up to the fishing hole. After the rig went in, the fish populations and fishing quality started to decline. The rig was located approximately 8 miles past Two Bit Creek. The rig changed fish populations both upstream and downstream of the disturbance. The rig turned out to be a dry hole, but “it sure made a dint in the fish population”.

Matt stated that in the past 5 years, the Arctic grayling populations have almost completely disappeared. He commented that he used to be able to catch plentiful Arctic grayling up in the headwaters. Matt’s cabin is located 6.5 miles past Ross Ranch. He stated that now he seldom sees Arctic grayling in the waters around his cabin. Matt also said that the rainbow trout in the river are becoming fewer and fewer. Matt believes that the regulations are not helping the problem. By protecting the bull trout, they are not being caught, which alters the population dynamics of the fish in the river system because the bull trout are a predatory fish. The bull trout in the Halfway River are more numerous, not because no one is catching them, but rather they are catching everything else (rainbow trout and Arctic grayling).

There have always been lots of mountain whitefish. Years ago when the other species’ populations started to decrease, Matt noticed more mountain whitefish. Presently one can only catch them with certain types of flies. Even the mountain whitefish are starting to disappear now.

Reasons for why the fish populations in the Halfway River are decreasing are not for certain. Matt suspects that the river otters may have some affect on the fish. There are many river otters in the area and they are hard for trappers to trap. Matt believes they may be part of the reason why fish populations are decreasing.

At Mile 95 on the Halfway River, Matt has not caught Arctic grayling in a number of years. Access to the Halfway River is fairly easy. Matt stated that the river can be accessed by Mile 143 and Mile 132.

The Halfway River contains jackfish, but not upstream of Mile 95. Jackfish do not like the fast water. Matt stated that there are quite a few at the mouth of the Cameron River. When the fish started to get scarce, once in a while you would see a jackfish come up and chase all the bull trout out of a pool. The jackfish are moving into areas where they have never been before. This is causing problems with other species, like lake trout, in some of the northern streams.

The largest bull trout Matt has ever caught from the Halfway River was 12 lbs. The largest rainbow trout angled from the river was approximately 2 lbs.

In the past, the best time to fish the Halfway River is when the ice would come off and before the river got really muddy. Presently there are barely any fish in the river anymore. There are still some bull trout, but not many rainbow trout, Arctic grayling or mountain whitefish. At Mile 147, there are very few rainbow; mainly bull trout left. With the right type of fly, one can catch mountain whitefish from the river still. However, even the mountain whitefish are getting scarce up there. Matt is unsure of what is causing the decrease in mountain whitefish populations.

Two Bit Creek:

Two Bit Creek is a fairly big creek. A lot of fish go up into the creek. Matt stated that a third bridge was put across the creek. The natives in the area go up and fish the creek fairly heavy. Local packers are an additional fishing pressure. They catch and keep a lot of fish from the creek. Approximately 25-30 miles up the creek, Arctic grayling used to be very abundant. There is a set of falls 30 miles upstream of his trapline. Matt described that there used to be a lot of Arctic grayling upstream by the falls. Presently the Arctic grayling are nowhere near as abundant as they were previously. The primary fishing pressures in the area today is the local packers.

Cypress Creek:

Matt said that there was always good fishing in Cypress Creek. The main fish caught in Cypress are rainbow trout, Arctic grayling and bull trout.

Blue Grave Creek and Horseshoe Creek:

Blue Grave Creek used to be good fishing for rainbow trout, Arctic grayling and bull trout. Both creeks used to have a lot of fish in them. Matt is unsure what the fishing is like now in the creeks.

Graham River:

In the 1950s Matt used to catch a lot of fish up by the Federal Ranch. There are many big logjams on the Graham River, which would contain very large bull trout. One could put their line in directly along the logjam and catch a fairly large bull trout. A couple of years ago, Stan Westergaard caught a 15 lbs. bull trout from the Graham River.

Robb Lake:

Matt said he has only fished Robb Lake in the winter months going up on the skidoos. They did not catch anything though. He believes that there are fish up there because the lake is located at the headwaters of the Halfway River. He has heard that the fish in Robb Lake are hard to catch. There is a set of falls approximately 30 miles from Two Bit Creek. The entire Halfway River is

squeezed into a steep sided gorge. There are fish both above and below the falls and there always have been fish on both sides of the falls. All three species (rainbow trout, Arctic grayling, and bull trout) are present.

Billy's Fishing Hole:

An old native named Billy used to live up by this fishing hole. As he got older, his teeth started to fall out and he was no longer able to eat meat, and all he could chew was fish. So he remained up by this fishing hole.

Redfern Lake:

Matt has heard that there are pretty good lake trout, but they are hard to catch.

Sikanni Chief River:

Matt said that the fish being caught from the Sikanni River are getting smaller. At Mile 158, Matt has caught Arctic grayling, but all the fish they caught were very small and young. He believes that over-fishing is removing the larger and older fish at a rate that the fish populations cannot sustain.

Beattie Lake:

Don Beattie added rainbow trout to this lake. Matt heard that the fishing used to be fantastic, mainly because the fish cannot move out of the lake and into the river systems.

Liard River:

People usually start to fish the Liard River as soon as the ice comes off. The natives up at Lower Post catch bull trout, rainbow trout and Arctic grayling when the ice is just coming off. Matt has never fished the Liard River because it has usually been too muddy at the time.

Trout River:

A couple of years ago, Matt caught a 10-12" rainbow trout from the Trout River. He believes the rainbow trout may have moved down from fish planted in Muncho Lake.

Other Contacts:

Stan Westergaard

- live on the Mile 95 road; 20 miles in on right hand side; there is a sign

2.6 Blaine Southwick
June 22, 2001.
Phone Conversation

No knowledge of stocking or transplants in the area.

Rivers that are fished within his area:

- Liard River
- Smith River
- Coal River
- Vince River – runs into the Liard
- Odd little streams that people go up to fish

Species of target within these rivers and streams include Arctic grayling and bull trout.

Lakes Targeted:

- Fishing Lake – northern pike and lake trout
- Long Mountain Lake – northern pike, lake trout, Arctic grayling, and the odd bull trout, mountain whitefish
- Triangle Lake – located along the Yukon border north of Smith River

- Blaine does not bring many fishermen in to the area
- hunters that are in the area will fish if it is the right time of year

Best time of year to fish the streams in the area is usually late June

- has not noticed any habitat changes except for muddy or high waters that occur seasonally

Skeezer Lake – he believes there never were any fish in Skeezer Lake

- believes it would be a good lake to plant fish into
- currently no fish in Skeezer Lake

Forcier Lake – believes there used to be lake trout in Forcier Lake

- has seen sign of people fishing – fish hooks and gear around the lake
- no fish present in the lake today
- believes it would also be a good lake to plant fish into

*fish have no way of getting into either of these two lakes because both are fed by underground streams.

2.7 Dennis and Debbie Beattie
June 28, 2001.
Beattie Residence, Charlie Lake, BC

Dennis and Debbie Beattie have lived on the Halfway River since 1964. When asked about fish populations within the Graham and Halfway Rivers, Dennis commented that the populations are about 5% of what they used to be in 1964. Both the amount of fish being caught, as well as the quality of fish being caught has decreased. The two main reasons discussed by Dennis for this decline in fishing quality are:

- colonies – people from within the colonies over-fishing the Halfway River and are keeping 4-6” fish
- logging – extensive clear-cut logging around the Halfway and Graham Rivers is impacting the smaller streams. Due to the lack of trees and forest cover, run-off has increased greatly and has greatly changed the dynamics of the small tributary streams and in turn have altered the river

Glory Hole:

The Glory Hole was located just upstream from the Beattie Ranch. The hole is no longer heavily fished as the river has changed and flooded out the fishing hole. The Glory Hole was located on a big bend in the river. The Halfway River has changed dramatically and has completely flooded out the fishing hole; joining it with the river. Dennis believes that instead of the river experiencing slow rise waters, the river now experiences flash floods. He believes this is due to logging on the upstream banks of the river. More runoff and less water infiltration has altered the side tributaries and contributes to flash floods rather than the natural slow water rise. This has occurred on both the Halfway and Graham Rivers.

1964	1996
Used to catch enough fish for dinner in 10 minutes	Requires the entire day to catch enough fish for dinner
18-20” Arctic grayling angled frequently	Now can only catch one big Arctic grayling per year
24-28” Bull trout used to be caught all the time	A 24” bull trout is only caught once in awhile
Most common fish caught was Arctic grayling ranging from 14-16”	Most common fish caught is 8-10” Arctic grayling
Rainbow trout caught averaged from 12-16”	Average size rainbow trout caught is 8”

Management Recommendations:

Selective logging should replace clear-cut logging to avoid and prevent tributary stream damage and destruction.

Other Contacts:

Jim and David Simpson

Mile 95 Road – top of the hill after the Halfway Reserve School, last place

2.8 Charlie Boya July 4, 2001. Phone Conversation

How did the First Nations people within the Fort Ware area view the fish? Were the fish just there to eat or was there some traditional or religious aspect involved?

- Mainly the fish were there to eat and we also go at certain times to catch a large amount of fish
- We know when and where there are large amounts of fish
- We go to certain areas because we know that there are going to be a lot of fish there at that time

Did the fish have any religious importance at all?

- To some of the people, the fish have a religious importance
- Some [people] do have spiritual ways of communicating with the fish
- Also have spiritual ways of communicating with most other animals that are used by the First Nations people
- Me, I look on to the fish and do not kill it, that is my traditional way of life, and that explains why his life is good so far [because he has respect for and does not kill the fish]

How were the fish/fishery important to your people and yourself?

- In the times during the year when we use the fish they are important
- In the winter we go ice fishing

Do you know of any traditional tales or stories that are told with regards to the fish?

- In the village there are lots of stories of fish tales
- Where there are fish and places which are usually fished are most often accompanied by fishing stories
- Some fish stories are bigger than the first one
- “You caught a fish that was 39 and then someone else says they caught a fish that was 42” ”
- We do catch fish out of the ice about 40 miles north of us, and also catch fish there in the summer too – about 22-23 lbs. fish are caught – lake char are the fish being caught at this size
- Caught one that was well over 3 feet in length – north of us on the right of the continental divide (presumably lake char again)

Can you describe the methods of catching and preparing fish that were traditionally used by your people?

- The fish were smoked
- Caught them with homemade hooks, used bait and dried the fish; de-boned the fish that were caught

- We either save some of them, like when it is the time of year when the fish are spawning and we don't usually eat the fish that spawn, but we dry them and smoke them and keep them for the dogs in the winter
- Now we have to, in order to keep going like that, we have had to slow down in catching fish like that in the past
- But certain times of the year the fish are more important and there are more useful times of the year for the fish

Which season is most important to your people for fishing?

- The summer season, July, is the most important season for fishing because the waters start to clear up; middle of August as well
- Start to ice fish from the end January to the middle of March

Do the people within your community rely on the fish as the primary food source, or is it just a back-up food source when, for example, there are not enough moose around?

- About one quarter of the people in the community rely on fish; it is not a habit thing and we don't depend on it mostly, but we do rely on it once in awhile when the people crave for the fish (like other people crave for certain foods)
- some people, if they had the chance, would life off of fish everyday

Where did your people fish?

- On the rivers and on the small lakes in the area

How often did people fish? Daily, weekly?

- Weekly, and in the summer season they probably fished everyday
- They would go out in the boat

Were the boats used a lot for fishing or was it primarily off-the-shore fishing?

- Use the boats just to get where we want to go and then we fish by hand off of the shore
- Use the boat to go up the river and then we walk into the lakes where there are fish

Did people ever fish for pleasure or for enjoyment, or was the purpose primarily to just provide food?

- As long as I have lived in Fort Ware, I have never seen anyone fish for fun
- In a remote area like this, we fish mostly to survive

What species were most often caught or sought out for?

- Rainbow trout, lake char and Dolly Varden and Arctic grayling
- As long as there were some sort of fish left over, it didn't matter what species it was

Did you ever notice any changes in fish habitat or fish populations?

- Rainbow trout – they decreased in the past 4 years the fish numbers have become very, very low

- The rainbow trout populations are as low as he has ever seen them in the past couple of years
- He believes that the fish are going into the large river and moving down to the Williston Reservoir and never try to come back up the river (remain in the reservoir)
- When he first came here in 1970, you could catch a rainbow almost anywhere in the lakes; could catch one right after another one
- In the past couple of years, has noticed that the rainbow trout are not as abundant as they were before

Do you think there is a specific reason for why the rainbow trout populations are so low compared to what they used to be?

- He believes that the fish moved up the river and into the small outlet streams of the nearby lakes that are fished
- He thinks that a beaver dammed up the outlet streams and the fish remained in the lakes and multiplied
- But, when the beaver dam eventually washed away and the barrier was never rebuilt, he believes the fished moved out of the lake and never returned
- In the years he has been in Fort Ware he has never before seen Coho salmon; in the lakes up north of Fort Ware, he now sees Coho salmon
- Since 1970, has never seen anything like these Coho salmon, except for in the past 2 years these fish have started to show up in the rivers and in the big lakes
- Has seen these fish as far north as Weissener Lake
- He knows they are salmon because they spawn way up north
- These fish are not too long, but are stout and really wide and are really red; they have a flat nose
- See them up the Fox River and going into Weissener Lake
- He is interested in knowing the fish movements and is interested in why the fish have come so far north which they never have before

Have you ever noticed any changes in the health of the fish being caught?

- A lot of the fish they have caught, a few miles north of Wolsey Lake, have a lot of black meat in them; believes the black meat is due to a presence of mercury in the fish
- Some of the fish are very soft; the Dolly Varden caught from below are very soft, even when they were first caught; the big fish especially are noticeably softer than they used to be

How long has the fisheries resource been used by the people in your community?

- As long as he has known; as long as time can tell; they have always used the fish

Other contacts:

Craig McCook – 471-2802

2.9 Martin and Sharon Lamereux
July 18, 2001.
Blueberry River First Nations Office, Fort St. John, BC

July 5, 2001.

Sharon mentioned that the Arctic grayling are completely disappearing. She has grown up in the area, and states that now it is ironic to catch an Arctic grayling. However, the bull trout have started to come and become more numerous.

Robb Lake:

- the lake is not that good for fishing
- not many people go up there to fish; few go up in the winter, mainly on snowmobiles, but not for the purpose of fishing
- those that do fish the lake do not catch much
- there is no obstacles which restrict the movement of fish from the Halfway River into the lake

Halfway River:

- 10 years ago there were plentiful Arctic grayling, rainbow trout and bull trout in the river
- in 1973, Sharon remembers catching large bull trout, approximately 3 feet in length and 6-8 inches deep, from the Halfway River
- it was very common to catch really large bull trout from the river frequently
- large bull trout were always caught; it was uncommon not to catch numerous large bull trout
- mountain whitefish are very numerous now, and there are still quite a few rainbow trout left in the river
- there are more mountain whitefish in the river now than there were before
- used to be plentiful Arctic grayling, but now Sharon describes the Arctic grayling to be almost completely gone
- the rainbow trout appear to be more numerous now than 20 years ago
- best time of year to fish the river is usually the later part of July, and October
- winter fishing on the river is fairly uncommon: Martin and Sharon, Matt and family are about the only people they know of who fish the river during the winter
- logjams usually provide good fishing

Billy's Fishing Hole:

- now, seldom catch big bull trout from the fishing hold
- the hole used to be really good fishing
- located about 4 miles up from Martin and Sharon's cabin
- in the winter months, you could look down the ice fishing hole and see lots of bull trout and rainbow trout swimming around in the hole
- the fishing hole is a deep hole on the corner of the river

Habitat:

- with heavy rains, the river dynamics have changed incredibly

- all Matt Westergaard's old secret fishing holes are no longer there due to the heavy rains and increasing amount of water in the river
- logjams are being swept down stream and new ones are being created in new places, building more pools

Arctic grayling:

- many people that come to fish the river (guided hunters especially) seek out the Arctic grayling as the main sport fish
- it is the challenge of trying to catch an Arctic grayling on the fly
- fly fishing is the most common used for catching Arctic grayling

Reasons for the decline of fish in the Halfway River:

- Russian village:
 - o Over 300 people live in the village
 - o People of the village fish and hunt the area to feed and support the village
 - o A lot of fish are being caught from this area to sustain the Russian village
- lower parts of the river experience heavy fishing
- where the riverboats can come up experiences the most fishing pressure
- not many people travel up to the headwaters to fish
 - o very few people come past Martin and Sharon's cabin asking permission to trespass in order to fish – maybe 1-3 people a year
 - o most people coming up to the area are there to hunt, but very few come up strictly to fish
 - o guided hunters are more into the fishing in the area; very few residents come up to the area to fish (maybe because the Halfway River is not known for its fishing)

Spawning:

- bull trout are known to spawn on Fiddes Creek
- Turnoff Creek is another potential spawning stream
- Have not observed a lot of spawning activity

Halfway River:

- someone had caught a fish that had exterior lumps on its body
- the fish was brought into the ministry for analysis – never did find out what was wrong with the fish

Contacts:

1. Chris Cushway – used to work for Lynn Ross
2. Gary Dowd – used to work for Lynn Ross
3. Jasper Wolkley – lives on the Halfway River First Nations Reserve
4. Pat Brady – live at 143
 - o used to work for Lynn Ross
 - o get a hold of him on message hour or letter through Pink Mountain Post Office

2.10 Ron Mearow
9 Mile Camp, Moose Lake, BC
July 14, 2001.

Ron has lived on Moose Lake for 11 years at the 9 Mile Camp. In the past 2 years he has not fished at all. He has not fished largely because of large groups of people coming in and fishing at the lake as well as fishing derbies that have been occurring at the lake. These parties that are coming into the lake are catching and keeping a lot of bull trout from the lake. They are keeping the big fish and not releasing them. The people that are going in there to fish are competing for who can catch the largest and the most fish caught. Ron described one guy bragging about catching 29 fish in one day; just barely beating his buddy who was fishing with him.

Arctic grayling used to be caught all the time, but now one is lucky to catch an Arctic grayling once in awhile.

Catching and Preparing:

About 12 to 14 years ago, Walter McDonald tried fishing with a net in Moose Lake. When he pulled the net out of the water it was full of only black-finned suckers. When the natives used to fish, they would only use a pole and line.

The McDonald family have been in the Moose Lake area since the late 1800's or early 1900's. There are currently 7 people residing at Moose Lake, all of whom were born in the bush somewhere near Moose Lake. (Elsie, Walter, Rosie, George, Angus)

Fishing by the McDonald family only occurred if they needed food. If they did not have enough food otherwise, they would fish to provide a meal.

Riverboats:

There are many people coming up along the Toad River in jet boats for hunting. The riverboats are destroying the river:

- the wakes from the large powerboats are large and the rivers in the area are not used to having waves crashing up against the shorelines and the banks
- this crashing of the water against the banks is causing excessive erosion, creating bank instability and eventually causing the banks to collapse
- more trees and brush is being added to the water and the river habitat is changing because of this added infrastructure due to the banks collapsing
- riverboats are also allowing for easier access for hunters and fishers to come into the lake

Management Concerns:

Moose Lake experiences the greatest fishing pressure during the winter when parties come in on skidoos. Ron believes they need to close down the hunting and fishing in the Moose Lake area, but keep it open for the McDonald family to continue to hunt and fish to suit their lifestyle.

2.11 George McDonald

July 14, 2001.
Moose Lake, BC

Moose Lake:

- in 1967, the Toad River changed its path and broke through the lake
- the lake went from being 50 feet deep out in front of George's camp, to what is it today, approximately 2 feet deep
- the deepest point of the lake now is approximately 30 feet in the north bay
- the lake experiences a lot of traffic from powerboats and seadoos in the spring, summer and fall, and in the winter from skidoos

Lake trout:

- between 1905-1920, George's father used to catch lake trout from Moose Lake
- George motioned that the lake trout caught were reaching sizes of 3 feet in length
- the fish disappeared from Moose Lake in 1962 due to being over-fished

Groups of people:

- large groups of people are coming in to fish
- they are keeping 5-10 fish per person, or a bucketful of fish
- when other people come in to fish, not looking to keep anything but one for dinner, you can barely catch one fish for dinner

Powerboats:

- because the lake is so shallow, the powerboat motors kill a lot of fish basically because the fish do not have deeper water to retreat to
- river banks are becoming more eroded because of the large wake created by the boats
- more and more trees are falling into the river
- the boats are creating easier access to the area
 - o brings in more people and thus more garbage, traffic and pollutants
- people do not realize or care that the lake is so shallow
 - o thus their boats are churning everything up because of the shallow waters

Blue Lake:

- aka Amber Lake or Beaver Lake
- the lake changes colours with different light
- located approximately 15 miles up the Toad River from 9 Mile Camp
- 1992 – George planted bull trout which were caught from the Toad River and put in the lake
 - o within one year they were fished out by people going up to the lake to ice fish
- 1995 – planted more bull trout in the lake and they are still there
 - o the bull trout are not caught all the time, but they are still in there
- the lake is always fished by people during the winter months coming in on skidoos

Yedhe (yed-a-hee) Lake:

- small lake at high elevation (approx. 5000 feet in elevation)
- George believes there are no fish in there that he knows about – believes the waters are too cold and probably very deep

Catching and Preparing:

- set up a v-shaped structure in the water to hold and contain the fish
- structure was built like a little log house with tree branches stacked on top of each other
- water was able to run through the structure, but the fish would be held back
- would take out only the large fish needed and release the others
- the trap would stick out of the water to prevent fish from going over
- could only use the trap during certain times of the year when water levels were right
- preparation of fish included smoking and drying the fish
- catching fish was primarily as an added food source

Moose Lake:

- mountain whitefish
- Arctic grayling
- Bull trout
- Suckers

2.12 Cliff Andrews
Tetsa River Services, Tetsa River, BC
July 15, 2001.

Ram Lakes:

- bull trout in the lakes
- unsure if they were planted
- the lake is landlocked, but there is a dried up streambed that outlets the lake
 - o so it is possible that when that streambed was not dried up, fish could have come into the lake that way
- Cliff said that there is no way that the fish could have moved up the river into the lake due to falls and obstructions on the river

Fishing Derby:

- held annually during July
- occurs on the Tetsa River behind Tetsa River Services

Bathtub Lake and other high elevation lakes surrounding Tetsa Lake:

- no fish in them
- all these little lakes have steep falls coming out of them which prevents any fish from moving upstream into them – high little valleys
- Cliff has never fished them, but has heard stories that people who have fished these high elevation lakes have never caught anything

Stocking and Planting:

- heard some stories but unsure of what actually happened
- some people tried to plant fish in Twin Lakes

Tetsa Lake:

- believes the ministry has been planting rainbow trout in the lake recently
- no one has ever planted the lake with fish that Cliff is aware of
- the lake is no threat to be over-fished
- helicopters have access
- Cliff takes a party in once in awhile to fish

Changes in Fish Populations:

- used to be able to catch fish at the pool by the “rock cut”
 - o now it is harder to catch fish like you used to
 - o this pool gets hit fairly hard by people travelling up and down the highway
- upstream further, and other pools upstream, have not changed that much with regards to fish numbers
- once the river moves away from the highway there is less fishing pressure

Habitat Changes:

- the only habitat changes described are those occurring naturally from fluctuations in the water levels
- heavy rains constantly changes the dynamics of the river and its pools and backeddies

Tetsa River:

- only a short distance of the river gets hit by heavy fishing pressure
- from about Mudhill (Mile 370) to Mile 380 experiences the heaviest fishing pressure
- there is only about 10 miles that fishermen can actually get to
- very few people actually walk down from Mudhill to Milk Creek (south part of the Tetsa)
- very little pressure at the headwaters
- best Arctic grayling river in the area
- there are some big Arctic grayling in the river
- the largest Arctic grayling Cliff has seen caught was one 4-5 lbs fish that was approximately 24" in length
 - o the fish was caught from a pool behind Tetsa River Services using a grub

Regulations:

- there have been very few studies done on the Tetsa River
 - o don't know how many fish are going up the river because very few studies have been done
 - o so how can they accurately develop regulations?
- regulations should be changed to catch and release during the spring
- the majority of people coming up practice catch and release and rarely even keep a fish
- catch and release on bull trout because they don't even spawn in the spring

Arctic Grayling:

- do not arrive at Tetsa River Services until middle of June
- fish overwinter in the large streams downstream

Cliff Andrews:

- has been taking people into Tetsa Lake, Wokkash Lake and MacDonald Creek since 1977

Wokkash Lake:

- mostly lake trout
- really good fishing for lake trout

MacDonald Creek:

- no real big fish in the creek
- mainly Arctic grayling, bull trout and mountain whitefish
- good stream for Arctic grayling

Tuchodi Lakes:

- caught lots of fish between the two lakes
- back in the 1950s

- big lake trout and bull trout in the stream between lakes
- caught a small fish and put in on the line as bait and you could see lots of 10-12 lbs. lake trout and bull trout coming after the bait

Minnaker and Prophet Junction:

- used to be a good spot back in 1945 for fishing
- believes the area receives a lot of fishing pressure

Toad River:

- probably the best river for bull trout

Management Concerns:

- monitoring and enforcement should be increased
- more surveys should be done, so they know what is there
- exclusive rights should not be given to anyone for fishing, hunting or guiding to lakes and rivers

Gataga Lakes:

- lots of Arctic grayling
- good grayling fishing

Mayfair Lakes:

- mostly Arctic grayling in the lakes
- in 1973-74 many of the fish were diseased
 - growths and external deformities were seen on the fish
 - this lake and a few others in the area

Contact:

Terry Tesier – Fort Nelson

- involved with the people who are stocking the fish in the borrow pits around Fort Nelson

Miner Berg – works for Westcoast

- fished a lot in the area

2.13 George Behn Behn Residence, Fort Nelson, BC July 16, 2001.

Fort Nelson River:

- was not fished much primarily because the water level was too high or the waters were too muddy

Snake River:

- in 1976 used to catch hundreds of chub from the river, but now one is lucky to catch only a few fish
- a village was situated on the river at the times during the spring and summer season when the fish were spawning
- this village was reliant on the fish runs during the certain times of the year, and would move from place to place depending on what was available

Fishing Methods:

- nightline fishing was and is still used by the Fort Nelson First Nations
- fishing traps were also set:
 - o water levels had to be just right in order for the traps to be used
 - o traps would be set in the spring during the fish runs
- the first nations people fished for food or to feed their dogs
- as people travelled along the rivers, fish was a sustenance for the people as they travelled during seasonal movements
- “if someone had to survive off fish in the Fort Nelson area, they would starve” George Behn
- chub and other non-sport fish were just as important to the natives as were the sport fish

Klua Lakes:

- important for the Fort Nelson First Nations because of the whitefish populations
- people were dependent on the whitefish for food as well as to feed the dogs

Rivers:

- used by the natives for transportation
- used to see lots of fish in the big pools; but now there is very few fish in these pools

Jet boats:

- kill the fish – especially during the summer and fall months when the water levels are low or when fish runs are occurring
- erodes banks and creates instability

Logging and Industry:

- increasing access to the area
- increases the siltyness of the water
- more pollution is being added to the rivers and land due to the activities of industry
- construction of the Alaska Highway also caused many problems for the watersheds

Moose Lake:

- an old mine site located upstream of Moose Lake is the source of pollutants that were added to the Toad River and thus Moose Lake. George described a spill at the mine site, which killed off a lot of fish in Moose Lake at one time.

Fish Traps Used By Fort Nelson First Nations:

Spruce trees and branches, approximately 2-3 inches in diameter, are placed as stakes in the river, forming a v-shaped funnel. Spruce boughs are woven crosswise and placed between the stakes. The stakes stick above the water about 4-6 inches to prevent fish from going over the trap. As the fish come down the river they are forced through the small opening at the point of the trap where they cannot go any farther. Two sides and a bottom are built, with a piece that can be inserted or taken out depending on whether fish are wanted or not. When fish were not needed, the front piece would be removed and fish would be free to swim through the trap.

2.14 Red Sorenson
Sorenson Residence, Taylor, BC
July 19, 2001.

Guided from 1968-92 in the area including Muncho Lake, Rabbit and Racing Rivers, Moose Lake and the West Toad River. Bought the guide area from Lash Callison.

Fishing Lakes:

- also known as Redfish Lake by the natives in the area
 - o natives called it Redfish Lake because of the red stripe on the side of the body of the fish
- fish are in the lake naturally
- a biologist from the states called them Arctic char, while another said they are bull trout or lake trout
 - o the fish have the same hooked mouth as a salmon
 - o two different colours: males were a salmon colour and the females were white in colour
- in 1975 they would catch fish from the lake that were up to 3 feet in length
- 10 years later, the largest fish they could catch were only 12-18" in length
- every time one would cast, no matter what the bait, you could catch a big char
- the fish were really good eating
- largest fish caught from the lake was a 30.4 lbs. fish caught by a hunter on a willow pole
- natives used to fish with a safety pin on a string and still catch just as many and as large of fish as the hunters who were using regular fishing poles
- used to be able to put a piece of macaroni on a line and the fish would take the bait (would go for anything put on a line)
- could not fail to get a fish
- Natives
 - o in the 1800s a native tribe migrated across from the Panhandle of Alaska
 - o the tribe arrived at the lake in the early winter and were starving to death
 - o they reached Redfish Lake and the fish from the lake kept them alive
 - o the lake has sacred value to the natives in the area for this reason
- another small lake is located directly east of the two lakes
- Fishing Lake is separated from this other lake by only a small hill
- no fish are present in the easterly lake or the outlet creek of the lake
- good ice fishing as well

Rabbit River:

- there is a set of rapid falls; they are not very tall and are not impassable to the fish
- however, upstream of these falls Red and company have never caught any fish
- but at the falls they always caught a lot of fish
- in 1995, started to see a few bull trout on the westerly fork of the Rabbit River above the falls
- mainly caught Arctic grayling, and some bull trout
- has not fished downstream of the rapids (out of his guide area)

West Toad River:

- good Arctic grayling hole right at the fork in the Upper West Toad River

Otelsas Creek, Tandzie Creek and Lue Creek – all had Arctic grayling and bull trout in them

- Arctic grayling caught would be up to 18-20” in length from these streams

Sorenson’s Pond:

- where Red’s lodge was located
- lake is approximately 80 feet deep and very small
- according to Charlie McDonald, there were fish in the lake prior to the introductions, but the fish were cleaned out by the otters in the area
- Red’s wife would go down to the West Toad, catch Arctic grayling and bull trout and put them in this little lake
- this occurred about 20 years ago
- there were some big bull trout caught out of the lake (approximately 3 feet in length)
- totally there were about 25-30 bull trout and Arctic grayling put into the lake
- Red believes the fish never did reproduce
- there is a little gravel creek that runs into another pool and Red thought it would provide good habitat for the fish to spawn, but they never did
- After he sold the territory in 1992, it is rumoured that an Austrian fishing guide fished out the small lake
- He is unsure if there are still fish in the lake (contact Art Thompson who guides the area now)
- Red said he wanted the ministry to transplant fish into the lake, but the ministry would only do it if he made the lake accessible to the general public (which he would not do)

Blue Lake:

- beautiful blue coloured lake
- glacier silt changed the water colour to this blue
- he believes the natives planted fish in the lake early that 9 years ago

Pike Lakes:

- unsure if the lakes have fish in them

- all little lakes at the headwaters of the creeks do not have fish in them

Interest in Fishing in the Area:

- no one came in to the area to fish
- it wasn’t feasible to sell fishing because of the cost of getting in there
 - o too far away
 - o weather too unpredictable
 - o people wouldn’t pay the cost
- people would come for hunting and then fish if they had time

Rivers:

- fishing quality is dependent on the run-off which occurs throughout June and early July

- the best time to fish was usually in August and September or in the early spring before the rivers started to come up

Changes in Habitat:

- 2 major floods occurred in the area
- they killed a lot of fish because the rivers became so muddy with the run-off and heavy rains
- which years the floods occurred are not known, but the second one happened 2 years after the first one did
- also affected the level of Sorenson's Pond – the water levels came up to their fence during the floods

Racing River:

- the waters are too milky, so fishing was not that good on the Racing River
- there was a good fishing hole where the old Alaska Highway road crossed the river; the river narrows at this point and Red described catching some good sized fish there

Changes in Fish Populations:

- no changes in populations or distributions were noticed during the time that Red and his family were in the area
- the 2 floods killed off a lot of fish, but within a few years the populations would restore themselves again

No spawning was noted.

MacDonald Creek:

- good fishing for Arctic grayling and bull trout
- Arctic grayling and bull trout are the two main species in the river

Toad River:

- 2 mines in the area
 - o one located on Yedhe Creek – Davis Keys Mine
 - o one located on Delano Creek – Churchill Mine

Yedhe Lakes:

- believes they are shallow lakes
- Yedhe Creek valley is a wide valley and a wide creek
- does not think that there are fish present in the lakes

Denetiah Lake – good fishing

Frog River – supposed to be good fishing

Halfway River – falls on the river are about 20-30 feet

Robb Lake:

- caught bull trout from the lake
- the fishing was ok; they only fished enough to provide for dinner

- they caught fish from the lake in the early 1960s
- during the 1960s there was not much traffic in the area

Liard River:

- calls the salmon found in the river Dog Salmon
- these salmon have been there for a long time – according to the natives and the locals in the area
- Red would fish a pool just on the south side of the Liard Bridge
 - o would catch good sized bull trout and Arctic grayling

2.15 Jasper Wolkley
Halfway River First Nations Reserve, Halfway River, BC
July 23, 2001.

The fishing quality in the Chowade River, Halfway River and Graham River has decreased immensely in the past 3 years. Today, one is lucky to even catch one fish in a day of fishing. Before they used to be able to catch enough for dinner within a few hours. The fish are also getting smaller in size. Jasper described catching 18-20 lbs. fish from the Halfway River, but now the largest fish being caught in 6 lbs. if you are lucky. Jasper believes the fish are becoming smaller because of industrial wastes and run-off flowing into the river. The health of the fish is also being jeopardized and changes in the health of the fish are being noticed. The skin of the fish in the Halfway River is becoming very soft. The skin is supposed to be solid, but now it is almost like water. The biologists from Ministry of Environment were supposed to come and look at the fish, but haven't done so.

Logging is believed to be a major cause of the decrease in fish numbers in the 3 rivers. Logging is being done right to the rivers edge, and therefore the silt content in the rivers is increasing, water temperatures are being affected because of the decreased canopy cover, and more water and sediment is being added to the river through run-off.

First Nations Fishing:

Elders have always had strict command over when and where to fish. Jasper describes the elders tell people when they can fish and they have to move to different places in order to maintain the fish in the rivers. They do not want to fish out the rivers and therefore, they must move around to different places. Fish was relied on as a food source for the Halfway River First Nations. If the elders decided they wanted a different food source for a meal, they would go fishing and fish would be supplied. Fishing was looked upon as very important and demanded much respect. This was instilled in the people through the elders. Fishing was not to be done during times when the fish were spawning in order to allow the little ones to grow and survive. People were not allowed to go fishing until the spawning was over. The natives had a limited time to fish. They did not just go down to the river and play around to see if they could catch some fish. If they were fishing, it was for a purpose: to provide food to the people of their families

Catching and Preparing:

All fish were caught using a pole and line. If true fishing rods were not available, a stick would be used with some line attached to a hook. When fish were caught, they were cut into small pieces, smoked, dried and kept for during the wintertime. If fresh fish were wanted during the winter months, some people would go out and ice-fish to provide a fresh meal.

Trimble Lake:

There is a story that is told of the size of the fish present in Trimble Lake. There are over 60 aboriginal graveyards present in the Trimble Lake area. Many years ago, the natives would tie their fishing lines to large stumps on the shores of the lake. The line would be hooked, placed in the water and left over night. The next morning when the men went to check their lines, the stumps with the attached lines were gone. It is believed that the fish are so large in Trimble Lake

that they pulled the stumps right out of the ground. Elders believe there to be fish that weigh over 100 lbs. present in Trimble Lake

Chowade River:

On the upper part of the Chowade River, there is a lot of good habitat on the bends of the river. This habitat is known to be used by spawning fish and is important in this stage of the fish's lifecycle. It is approximately 8 miles up the river. There is a proposal to put a road up in this area, along the banks and possible over the river, through this good spawning habitat.

First Nations Traditions:

In the past there would be large gatherings, meeting or powwows throughout the Muskwa-Kechika area. Two of the areas mentioned included a gathering on the Minnaker River and one on the Chowade (Stony) River. These areas are considered of great importance within the First Nations heritage because of their traditional significance.

Besa River:

A cross is located where the 3 rivers join (Keily Creek, Besa River and Petrie Creek). This cross signifies a sensitive area with regards to the ancestors of the Halfway River First Nations. The Halfway River First Nations believed this area to be significant to them in that there would be plentiful fishing for when they were at this area. There is a set of little falls on the Besa River where there never used to be fish. However, when the natives came through, there would always be fish in this area for when they needed food. They placed a cross at this location in order to show its spiritual significance. It is known that the Besa River contains some very large fish: up to 20 lbs. bull trout.

Richards Creek:

Caught 10 bull trout from a pool behind a beaver dam on the headwaters of Richards Creek. Bobby never thought there was fish in that creek until this time.

Spiritual Areas:

Ancestral elders put up crosses in areas where visions were had from their ancestors. There are 4 crosses within the Rocky Mountains in the Muskwa-Kechika Management Area: Beattie Peaks, headwaters of the Chowade River, Keily Creek and at Tuchodi Lakes. The ancestors have put these crosses to show that these particular areas were of importance to them.

First Nations Symbolism of the Fish:

The First Nations people have a great respect for both the fish and the wildlife that are used as a food source. The elders teach the people within the First Nations community that the animals and fish are only to be used as a strict food source. An example of this respect is seen when First Nations women are not allowed to eat fresh meat during their monthly cycle. This is practiced out of respect for the animals. If women did eat fresh meat while on their monthly cycle, the people of the First Nations community believe it hurts and shows a lack of respect for both the wildlife and the fish. Dried and frozen meat are allowed to be eaten, but nothing that has been recently killed.

Prophet River:

Ancestors have ice fished along the Prophet River where two mountains come together. They would travel up on dogsleds, catch many fish and then bring the catch back, slice up the meat and dry it. The fish that are caught are brought back to the community and equally distributed throughout the community. It does not matter who caught the fish; it is shared with everyone.

- All rivers in the area were extremely important for the First Nations
- The natives knew the rivers by different natives names. These were changed with more people coming into the area and the development of maps
 - Cameron River – was known as “kweesy”, as the river comes from a valley, not from the mountains
- People within the native communities are still dependent on fish today
- Blue Grave Creek – no fish anymore
 - Fish disappeared due to logging

2.16 Arnold Churchill
August 9, 2001.
Churchill Residence, Charlie Lake, BC

Arnold guided in the area for 20 years. He bought his guide territory in 1965. His area included Long Mountain Lake, Skeezer Lake, Lapie Lake, Fishing Lake and Netson Lake.

Liard River:

- there are no rainbow trout naturally occurring in the Liard Watershed
- may have been planted, but were never there before
- at the foot of Brule Rapids, they would have fish constantly breaking their lines and stealing their tackle
 - o a biologist told them that it wasn't the bull trout which they thought it was breaking their tackle, but that the fish were actually salmon
 - o these salmon come down the Mackenzie River and up the Liard River to spawn every year

Hoole Creek:

- this creek runs into the Liard by the bridge just before the hotsprings
- is full of fish (both lake trout and bull trout)
- when he heard that the bull trout were in decline and under pressure of over-fishing, Arnold never said anything about the very large bull trout present in the creek

Gundahoo River:

- the Gundahoo River runs into the Rabbit River and are loaded with very big bull trout
- access into the area is only by foot or horse, so the area remained fairly protected from people seeking big fish

Long Mountain Lake:

- the fishing used to be excellent at the lake: you would have one fish on the line and 2 others chasing the one hooked
- used to be able to catch a fish on every cast
- the fishing is still ok, but never the quality that it was

Netson and Mayfield Lake:

- motors should not be allowed on these lakes

Forcier Lake:

- called by Arnold and other locals as Lingren Lake
- all the old timers in the area always claimed there were never any fish in the lake
- prior to 1961, it was just a small "Little Blue Lake" surrounded by muskeg
- after 1961, a fire went through the area and dried up all the muskeg and the lake got much bigger, growing to the size it is today
- a couple of men went down to Hoole Creek and caught a few small fish (about 6" in length) and placed them in a plastic bag and brought them up to Forcier Lake

- Arnold never knew what happened to the fish; whether they survived and thrived in the lake or whether they just died
- after 1961, Arnold was in the area and noticed 5 fish (either bull trout or lake trout) in the lake
- this caught him by surprise because everyone he had known in the area always claimed the lake to be barren of fish
- he believes that the fish he saw were probably from the ones that were planted years before
- the outlet creek to Forcier Lake travels underground from the outlet of the lake until its confluence with Hoole Creek
- in the 1960s Arnold was travelling through the area
- Arnold and his dogs survived off the small fish he caught from Forcier Lake
- Arnold believes the fish were bull trout
- He is unsure of whether there are fish still in the lake

Skeezer Lake:

- years ago when many of the lakes in northern BC were being named and put onto maps, Arnold was asked if he wanted one named after him
- he said no, but the lake now known as Skeezer Lake was named after an old packhorse named Skeezer who fell into the lake
- the lake is barren of fish
- because the lake is so shallow, you can often see bubbles of air come up to the surface
- Arnold remembers one time he had some hunters in the area; they saw the bubbles and knew there were fish in the lake
- they kept themselves quite entertained with the fishing, that Arnold never told them that the bubbles were not from fish, but rather oxygen bubbles coming from the shallow lake bottom
- the outlet creek runs underground

Ekwan Lake:

- the water quality is bad; the natives will not even use the water for making tea
 - there is a story told that the lake contains northern pike that are as long as a canoe (approximately 12 feet)
 - people have caught northern pike that are upwards around 3 feet in length
 - the natives in the area would put nets in the lake to catch fish as well
- jackfish (Northern Pike) are found in every weedy portion of lakes and streams
 - some of the shallow lakes have no fish in them at all – he believes that maybe there is not enough oxygen?

Management Concerns:

- Long Mountain Lake, Lapie Lake and Fishing Lake are being depleted by commercial fishing ventures
- Because of the long hours of daylight, the commercial fishing operation is able to fly more than just one party of fisherman in per day
- And from every party, everyone catches their limit