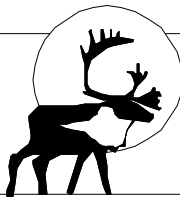


**Community Concerns and Knowledge
about Broad Whitefish (*Coregonus nasus*)
in the Gwich'in Settlement Area**

Gwich'in Renewable Resource Board Report 01-08

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Summary

The Department of Fisheries and Oceans is preparing an integrated management plan for broad whitefish in the lower Mackenzie River. This plan must incorporate community knowledge and concerns about broad whitefish. The Gwich'in Renewable Resource Board surveyed 15 Gwich'in fishers from Inuvik, Aklavik, Tsiigehtchic, and Fort McPherson in the summer of 2000 to provide information for the plan. Survey participants provided information about broad whitefish harvesting, spawning, health, and identified management concerns, threats to broad whitefish, environmental changes, and general concerns. Participation in the survey was relatively low. This is probably because of a drop in the number of people who fish throughout the fishing season and interview burnout.

Acknowledgements

We would like to thank the Gwich'in harvesters interviewed who provided the knowledge summarized in this report. We would also like to thank the Aklavik, Tsiigehtchic, Inuvik, and Fort McPherson Renewable Resource Councils for helping us to identify broad whitefish harvesters and arrange interviews and questionnaires.

Table of Contents

INTRODUCTION	1
METHODS	2
RESULTS	2
BROAD WHITEFISH HARVEST	2
SPAWNING	4
HABITAT PROTECTION.....	5
CHANGES IN BROAD WHITEFISH.....	6
ENVIRONMENTAL CHANGES.....	6
HEALTH OF BROAD WHITEFISH	6
THREATS TO BROAD WHITEFISH.....	7
BROAD WHITEFISH MANAGEMENT.....	7
GENERAL CONCERNS.....	9
CONCLUSIONS	10

List of Appendices

APPENDIX A: COPY OF QUESTIONNAIRE	A1
APPENDIX B: SUMMARY OF RESPONSES TO QUESTIONNAIRE	A10

List of Tables

Table 1 – Timing of broad whitefish harvest in the Gwich'in Settlement Area based on survey respondents who reported fishing for broad whitefish during the year.....	2
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List of Figures

Figure 1 – Average yearly harvest of broad whitefish reported by survey respondents	2
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Introduction

The Department of Fisheries and Oceans (DFO) is developing an Integrated Fisheries Management Plan for Broad Whitefish (*Coregonus nasus*) in the lower Mackenzie River. The plan will be a result of an agreement for conservation and wise use of whitefish within the Inuvialuit, Gwich'in and Sahtu Settlement Areas. The goals of the Integrated Fisheries Management Plan are to:

- protect fish and fishing opportunities
- protect important habitats
- involve the users in management and management studies
- incorporate traditional knowledge and scientific information
- develop a five-year work plan
- promote co-operation between government and land claim groups.

The Integrated Management Plan will involve the use of both scientific and traditional knowledge about broad whitefish. Collecting community concerns and knowledge is very important in the development of an effective management plan. As part of the management planning process, the Gwich'in Renewable Resource Board (GRRB) initiated this project to collect and summarize community concerns and knowledge about broad whitefish within the Gwich'in Settlement Area.



Gary Koe and Leslie Snowshoe checking net in the fall.

Methods

The Gwich'in Renewable Resource Board has interviewed Gwich'in elders about renewable resources and collected traditional knowledge about various wildlife and fish species in a database since 1994 for the Gwich'in Environmental Knowledge Project. Knowledge contained in this database was summarized and included in this report.

In order to supplement information from the database and gather more specific information and current concerns about broad whitefish, a questionnaire was developed and circulated to elders and harvesters in each community during June and July 2001 (see Appendix A for a copy of the questionnaire). Residents who participated in the survey were paid \$50.00. GRRB staff interviewed community members who wanted to provide information but did not want to fill out the written questionnaires. A total of 15 people from all four communities in the Gwich'in Settlement Area provided information included in the report (Fort McPherson 7, Aklavik 4, Tsiigehtchic 2, Inuvik 2).

Results

Whitefish users in the communities have provided all the information for the report. The information and knowledge they have shared is based on their own experiences. Much of the knowledge shared comes from years of teachings that have been passed down through generations. Responses to questions from the surveys are summarized in Appendix B.

Broad Whitefish Harvest

Whitefish is the most important subsistence fish in the Gwich'in Settlement Area and is harvested from rivers, creeks, and lakes throughout the region. Traditionally, local people would catch whitefish with nets out of willow bark, fish traps, fish wheels, and spears made from caribou and moose bones. Currently whitefish are fished with twine or monofilament gillnets with mesh sizes ranging from 4 to 5.5 inches. Creeks are generally fished in the spring when the broad whitefish are moving out of the lakes or when the water is high. Rivers are fished in the summer and fall when the water is low. Lakes can be fished throughout the year. Most people surveyed reported fishing in rivers, followed by lakes, and then creeks. People reported that they harvest whitefish primarily from June to November (Table 1).

Table 1: Timing of broad whitefish harvest in the Gwich'in Settlement Area based on people surveyed (n=13) who reported fishing for broad whitefish during the year.

	Jan	Feb	Mar	Apr	May	Jun
Number of people fishing each month	0	0	0	0	0	3
Total number of broad whitefish harvested	0	0	0	0	0	100

	Jul	Aug	Sept	Oct	Nov	Dec
Number of people fishing each month	8	11	8	11	6	0
Total number of broad whitefish harvested	950	1760	820	1465	1925	0

Most fishers surveyed for this report stated that fish are easier to catch now because of the introduction of gillnets but that broad whitefish harvest levels have decreased because of a fewer number of people fishing now than in the past. A few respondents also indicated that recent late freeze-ups might have lowered harvest levels because some of the fish run while the ice is forming and harvesters cannot set nets.

Most fishers believe that harvest levels today are much lower than in the past because of changes in lifestyle and fewer dogs to feed.

Not too many people fishing now because more people are in the workforce.

People who fish just get enough to eat. Not much dogs anymore either.

In the past people use dog team for transportation and therefore need lots of dog food. Today is just for eating.

Almost all fishermen report that about 75% to 95% of their whitefish harvest will go to making dry fish. The remaining 25 % percent or so is the fish cooked just for eating. Rarely, whitefish is used for dog feed. Usually the broad whitefish fed to dogs are fish that drowned in the nets and are unsuitable for human consumption.



Rebecca Francis demonstrating how to cut whitefish.

Spawning

Broad whitefish spawn in the rivers in late fall/early winter (October-November). This is the time when whitefish hold a lot of eggs making them very fat. Fish at this time of year is locally referred to as “egg fish”. At this time of year Gwich’in will often leave the whitefish to freeze and later enjoy eating the frozen eggs when they are cut open from the fish.

Spawning is believed to occur in late October or early November. Survey participants report that fish caught during this time are really full of eggs, so full that it they run out of the fish when the fish is handled. There were no exact spawning areas reported in the questionnaires and beliefs about broad whitefish spawning are varied.

I say they move around, up to Arctic Red and have their eggs around these different areas.

Mainly up Peel River, no once place, they seem to go anywhere.

By the river on Peel and Mackenzie. Husky River down towards the ocean. Also lake fish spawn in the lake.

I think down towards the coast.

I think maybe in the eddies but I am not sure.



Eggs in a mature female whitefish.

Habitat Protection

People identified areas throughout the Gwich'in Settlement Area that were important to the broad whitefish. Although specific areas were mentioned, all people stated that the entire water system is connected so if just one area were to be polluted or damaged in any way, the other areas would eventually be affected as well. Fish migrate so all rivers and lakes should be protected and kept healthy. The priority areas that should be protected include the Peel River, Mackenzie River, Arctic Red River, Aklavik River, Mouth of Caribou River, Mouth of Bear Creek, and Travaillant Lake Area. These areas are said to be the main habitat for broad whitefish and other fish species. There is a big eddy in the mouth of Bear Creek and its always full of whitefish.

All areas are important as the fish travel all over even down to ocean so all areas should be protected and keep it healthy for the fish.

Not specific areas, all areas are important because fish move around.

Changes in Broad Whitefish

People who participated in the questionnaire were asked if they have noticed any changes in broad whitefish over their lifetime. People responded that whitefish numbers are the same or higher than in the past, that the fish are the same size or larger now, and that the taste of the meat and eggs has not changed.

Environmental Changes

People interviewed for this study have observed a number of changes in the environment. They report that temperatures have become warmer. This has resulted in changes to freeze up and break up conditions. Late freeze up affects the fish harvest because the main run has passed before the ice is thick enough to set net under. The ground has also changed, becoming softer and less signs of permafrost. There are lakes that have broken through into the rivers. It is observed that there is more water now, especially in the springtime. Those people who travel at this time of year have reported lots of water, which makes it difficult and sometimes impossible to travel some of the trails.

Late freeze ups seem to have resulted in less fish being harvested because by the time the ice is thick enough to set a net the fish have passed.

I notice that freeze up has made a change as the Delta does not harvest as much whitefish with eggs as in the past.

There are lakes that have broken into the rivers now so that causes changes but I'm not sure if it really affected the harvest.

Health of Broad Whitefish

The general health of the whitefish is reported to be very good. Whitefish are reported to be fat and healthy almost all the time. There were a couple of reports of abnormal whitefish. Such fish were turned over to Fisheries to undergo testing. The fishermen say it is very rare that they catch abnormal whitefish.

The most common abnormality found on whitefish is scars and other marks. It is believed that most of these scars and marks are from jack fish bites and motor props in the water.

The odd fish usually has scar marks, probably from jackfish. Rarely catch abnormal fish.

Never hear of anything unusual. Usually marks are just from other fish like jackfish.

One respondent from Inuvik noticed some colour variation. He has caught fish with varying amounts of red on their fins and bodies.

There are fish that are red in colour sometime. Just a little maybe just the fins other times it's the fin and a little on the body. But some fish are completely red. We had a meeting but nobody seems to know about it.

Parasites were not reported by any of the participants in the questionnaire for fish caught in rivers however one respondent reporting catching whitefish with worms from lakes in the spring.

Threats to Broad Whitefish

Several potential threats to broad whitefish were identified by the survey. There were some concerns about the construction of a dam in the Mackenzie River around Tulita. Respondents believe this development will lower water levels in this region and that lakes and creeks will dry out. A number of respondents believe that oil and gas pipeline construction and operation may impact the fish, as well as damming of creeks through seismic activities.

Broad Whitefish Management

Because whitefish numbers remain stable and fishermen report healthy harvests, respondents believe there is no need to set limits on whitefish harvesting. However, studies like the Gwich'in Harvest Study are important to monitor harvest levels.

Not now, but if people were taking too much then yes, set a limit.

Set limits when you notice too much fishing. Set limits to control things if you notice things are going bad or out of control.

Good the way it is. No reason to set limits but if people start overharvesting maybe then limits could be set.

Several people interviewed had concerns about poor fishing practices. They noted that it is very important for a fisherman to check his net regularly to avoid spoiled fish and reported seeing nets that were full of spoiled fish because the owner wasn't caring for the net properly. Elders say this is very disrespectful to the fish and is not the traditional way of the Gwich'in.

People who fish should check their nets at all times. No need for spoiled fish. I've seen nets left, not checked. This is not right.



Fred Koe checking a fish net.

The majority of people interviewed for this report felt that a commercial fishery should be established for broad whitefish to provide economic opportunities. However people noted that such an enterprise must be studied to ensure that it would be profitable and sustainable and that any commercial fishery must be monitored closely.

When asked about establishing a sport fishery for broad whitefish, most people responded that a sport fishery should not be established. The most common reason given was that a sport fishery would be inappropriate because whitefish have small rounded mouths and they do not normally bite hooks. Another reason given was that whitefish are too important to the people. However there may be opportunities to develop tours that incorporate traditional use of fish.

Should be a camp tourist fishery set so the tourist can see how we take care of the fish and make dryfish and put all the fish to good use in different ways and people can make money at that.

Many people surveyed were unaware of the traditional knowledge that has been collected and documented. All people agree that collecting and documenting traditional knowledge in all areas including whitefish is very important. There were also a large number of respondents who reported that government and aboriginal organizations do not utilize traditional knowledge in their working plans and overall operations. It is agreed that these organizations spend a lot of time talking about the importance of traditional knowledge and very little time actually using it. Although the efforts are improving, it was suggested that perhaps the organizations do not know how to use the knowledge to the extent it should be because they may not understand it.

General Concerns

The concerns identified by respondents about broad whitefish are very similar to the concerns collected for other fish species and wildlife in general. There are concerns about contaminants, pollution, water quality, and habitat protection. Community residents interviewed want to see that broad whitefish remain healthy and are in favor of programs that will monitor the fish to ensure their health is maintained.

Many people stated concerns about contaminated sites, specifically Caribou River. There are fears that present and future development may result in similar destruction. Community residents would like the Gwich'in Renewable Resource Board, Gwich'in Land and Water Board, Department of Fisheries and Oceans and other Management groups to be very careful about what occurs on Gwich'in Settlement Land and waters. One example given was past seismic work in the One Man's camp area and how it had blocked off important creeks resulting in impacts on the fish run in one mans camp area. Another elder was concerned about the calcium salts on the highways because when it rains, it is washed off the roads and it may affect the berries, trees and water, leading to the fish.

Questionnaire participants stressed the need for more young people to learn about the traditional harvest and use of broad whitefish. The older people think the young people do not know enough about whitefish. If the young people do not learn how to care for the fish there is a great chance they will face management problems in the future. Suggestions were made to teach traditional harvesting and use for whitefish in the community schools. It was also suggested that such teachings take place during Gwich'in gatherings, annual assemblies and science camps when

many knowledgeable people have gathered together. Participants agreed that parents and grandparents must take on the responsibility of teaching their children as they grow up. It becomes more difficult for the children to learn traditional ways if it is not taught to them from a young age.

Conclusions

People who participated in the survey shared a lot of information about broad whitefish that will be useful in the management planning process for broad whitefish.

A higher level of participation would have improved the survey. Relatively few community residents responded to the survey despite the widespread distribution of the broad whitefish questionnaire throughout the settlement area and the offer of monetary compensation for those who participated. This is likely due to the small number of people that regularly harvest broad whitefish in the settlement area. People known to fish in the communities were approached directly to complete the survey but many were not willing to participate because they did not spend much time fishing and did not feel they had much information to share. Another factor is the high number of studies that involve questionnaires or interviews in the settlement area. Some residents stated that they did not want to participate because they were tired of being interviewed for different projects.

Appendix A: Copy of Questionnaire

White Fish – Luk Zheii – Luk Dagaii Traditional Local Knowledge Questionnaire

Objectives:

- To inform user communities about the whitefish management plan
- To collect and document community concerns about whitefish
- To identify areas where more information is needed on whitefish.
- To provide various Departments such as Fisheries and Oceans with local traditional knowledge about white fish.
- To collect and document traditional knowledge on white fish for future use.

Method:

A survey questionnaire will be distributed to collect information on whitefish. The survey will be developed using the Coney questionnaire (1997) as a guide. The survey will be conducted in Aklavik, Fort McPherson, Inuvik and Tsiigehtchic. A minimum of 20 people will participate in the questionnaire. A report will be written based on the results of the survey, and including traditional knowledge already documented.

Time Frame:

- The questionnaire will be developed in the first part of June 2001.
- The questionnaire will be distributed in the later part of June through July 2001.
- A final report of the results will be prepared in August 2001 and made available through the Gwich'in Renewable Resource Board.

Contact:

Bobbie Jo Greenland will be the Gwich'in Renewable Resource Boards contact for the whitefish questionnaire. She will develop the questionnaire and conduct them in the communities. She can be contacted by telephone @ (867) 777-3429, fax @ (867) 777-4260 or email @ bobbiejo.greenland@grrb.nt.ca

Questions:

- 1) Do you have any concerns about whitefish?
a) Yes b) No

Explain:

2) Do you harvest whitefish?

- a) Yes b) No

3) Which months in a year and how many days in a month do you harvest whitefish?

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec

4) How many whitefish do you harvest on average each month?

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec

Total harvest over a period of 1 year: _____ -on average.

5) What do you use the whitefish for?

- a) human food
- b) making dryfish
- c) dog food
- d) other

6) Provide a breakdown in percent that shows where you most use the whitefish you harvest in a year? (i.e. 75% of my harvest is used for making dryfish)

Human Food

- a) 25% b) 50% c) 75% d) other: _____

Dog Food

- a) 25% b) 50% c) 75% d) other: _____

Make dryfish

- a) 25% b) 50% c) 75% d) other: _____

Other

- a) 25% b) 50% c) 75% d) other: _____

7) Is there many whitefish in your community region?

- a) Yes b) No c) sometimes d) Not Sure

Explain: (When are they present and when are they absent in your region?)

8) What areas do you fish for whitefish?

- a) rivers
- b) lakes
- c) creeks

Explain:

9) Are whitefish numbers the same as they were in the past years?

- a) More b) Less c) Same d) Not Sure

Explain:

10) Are whitefish today the same size as they were in the past?

- a) Smaller
- b) Larger
- c) Lighter
- d) Heavier
- e) About the same
- f) Not sure

g) Other

11) What fishing methods do you use to catch whitefish today?

- a) Nets size of nets used _____
 - b) Rods
 - c) Fish Traps
 - d) Fish Wheels
 - e) Other
-

12) What are some of the traditional methods used to catch whitefish in the past?

13) Are whitefish easier to catch today than in the past years?

- a) Easier b) More Difficult c) Same d) Not Sure

Explain:

14) Do whitefish taste the same for you today as they did in the past?

Meat? a) Yes b) No c) Not Sure

Eggs? a) Yes b) No c) Not Sure

Explain:

15) Are the whitefish you catch in good health?

- a) Yes b) No c) Most of the time

Explain:

16) Are there any parasites in or on the body of the whitefish you catch?

- a) Yes b) No c) Not Sure

Explain: (blisters, lumps, scars, worms, discolor)

17) Do whitefish in some areas have more parasites or diseases than in other areas?

- a) Yes b) No c) Not Sure

Explain: (List areas and kinds of parasites found)

Do you think there is more whitefish being harvested today than in the past?

- a) More b) Less c) Same d) Not Sure

Explain:

18) How would you rate the current harvest level for whitefish?

- a) High b) Low c) Normal d) Not Sure

Explain:

19) Do you think it is necessary to set a limit for whitefish being caught today?

- a) Yes b) No c) Not Sure

Explain: (At what point would you consider a need to set limits?)

20) Do you think there is enough traditional/local knowledge collected and documented about whitefish?

- a) Yes b) No c) Not Sure

Explain:

21) Do you think the Government Departments and Aboriginal Organizations are really recognizing and using traditional/local knowledge in their working plans?

- a) Yes b) No c) Not Sure

Explain:

22) Do you think the young people know enough about whitefish? Is the traditional knowledge being passed on from generation to generation?

- a) Yes b) No c) Some what d) Not Sure

Explain

23) Do you know where whitefish spawn?
a) Yes b) No c) Not Sure

Explain: (List Areas)

24) Do you know when whitefish spawn?

25) Do you know of spawning areas or other important areas that should be protected for the whitefish?
a) Yes b) No c) Not Sure

Explain: (List Areas)

26) Are there any developments (mining, forestry, oil and gas, roads) that may be a threat to whitefish? (spawning areas, fishing areas, fish run, health)
a) Yes b) No c) Not Sure

Explain:

27) Have there been any environmental changes in recent years that may have affected the whitefish harvest?

- a) Yes b) No c) Not Sure

Explain: (changes in freeze-up, break-up, river flow, water quality, temperatures)

28) Do you think more research is needed on whitefish?

- a) Yes b) No c) Not Sure

Explain: (research in what areas?)

29) Would you like to have a commercial fishery for whitefish?

- a) Yes b) No c) Not Sure

Explain:

30) Would you like to have a sport (tourist) fishery for whitefish?

- a) Yes b) No c) Not Sure

Explain:

Appendix B: Summary of Responses to Questionnaire

1. Do you have any concerns about whitefish?

Yes - 4

No – 10

No answer - 1

Explanations Given:

Yes	there are a few around that has red flesh marks
	my big concern is I don't want to see any pollution or bad effects happen to fish, especially whitefish
	wonder about the effect tagging whitefish may have on the fish. Seems to have infected the fish. The area that was tagged appears abnormal looking. Have noticed cuts or what appears to be cuts on the fish itself. These fish are not eaten. Wonder what these cut marks are from. Have never seen these kind of marks before in my experience fishing.
	Worried about effects from proposed oil and gas pipeline
No	because whitefish is in good shape and healthy

2. Do you harvest whitefish?

Yes - 13

No – 1

No answer - 1

3. Results provided in table 1 of report.

4. Results provided in table 1 and figure 1 of report.

5. What do you use the whitefish for?

human food - 15

making dryfish -14

dog food - 6

trap bait - 2

sell fish - 1

6. Provide a breakdown in percent that shows where you most use the whitefish you harvest in a year? (i.e. 75% of my harvest is used for making dryfish)

	Number of respondents indicating 25%	Number of respondents indicating 50%	Number of respondents indicating 75%
Human Food	7	1	3
Dog Food	1		
Make dryfish	2	1	7
Trap Bait			

Note: In four surveys, the indicated percentages added up to more than 100. These were not included in the table.

7. Is there many whitefish in your community region?
 Yes - 14
 No - 0
 sometimes - 1
 Not Sure – 0

Explanations Given:

Yes	Mostly around in July and August
	Whitefish run lots in the fall, after freeze-up
	Pretty rare to see in July, lots around other months especially in fall before freeze-up
	They are present pretty well all year.
	Pretty much here all year
	Lots whitefish in Yukon where I fish and also around Fort McPherson. Here all August, September.
	The whitefish are present year round as far as I know. People don't set nets in the winter because the ice is too thick
	They slow down in September
	Mostly all summer, I get whitefish in the winter too but not as many
	When water is low you get fish, when water is high you don't get fish
	Most plentiful area for whitefish
	Whitefish run starts about end of July to Oct
Sometimes	Pretty well present all the time but their health and shape varies

8. What areas do you fish for whitefish?
 rivers - 14
 lakes - 9
 creeks - 5

Explanations Given:

Harvest fish at 8 mile camp above Fort McPherson on Peel River and down Peel River about 25-30 miles at spring camp
When water is low you get fish in rivers. When river freezes you get fish on the lakes. when water is high you get fish in the creeks.
Mostly rivers. sometimes in lakes we get what we call lakefish that are sort of black in colour
Mouth of Arctic Red
Rivers in the summer until November. Lakes in the winter and sometimes in summer. Creeks in the spring time (June and July)
Road River, 8 mile in river mostly. Mouth of creek in the spring. Lakes I fish sometimes but not for a long time.
Fish in lakes in the spring and fall. Net in creeks in the spring when fish move from lakes. Nets in lakes at freeze up. Nets in river August.
I fish lakes sometimes. Whitefish in the lakes are very nice and big fat fish. This is good fish but I don't fish lakes too much past few years.
Aklavik River
East Branch of the Mackenzie River is where I fish
Trail River
Peel River and Aklavik River

9. Are whitefish numbers the same as they were in the past years?

- More - 5
- Less - 0
- Same - 10
- Not Sure - 0

Explanations Given:

More	Seems to me that there is more today and its probably because not many people are fishing today.
	There is more whitefish now than there used to be because there is less people fishing.
Same	Seems to be pretty steady in numbers over the years
	I believe it's the same, maybe a bit more just because less people fish
	There's lots for sometime and then it slows down
	Seems still the same, lots of whitefish. Good fishing in the Aklavik area.
	Seems to be the same amount. We only run one net though. From that it seems to be same each year.
	Seems to be the same
	Because of lots low water

10. Are whitefish today the same size as they were in the past?

- Smaller - 1
- Larger - 1
- Lighter - 0
- Heavier - 0
- About the same - 14
- Not sure - 0
- Other - 0

Explanations Given:

Smaller	They are smaller in Campbell Creek. I think it's because it is fished every year and all the big ones are taken.
About the Same	About the same size
	Size seems the same, only gets so big and stays that big
	Pretty big sometimes. Usually big size all the time but a few small ones.
	Its as common to catch a small whitefish as it is to catch a big whitefish. There are some small, some big, but that's always the way it is.
	Lake fish are usually always bigger than river fish.
	Looks the same, good health. You may see the odd skinny one but most are same good size.
	They are always a good fair big size.
	On rivers they are the same.

10. What fishing methods do you use to catch whitefish today?

- Nets - 15
- Rods - 0
- Fish Traps - 0
- Fish Wheels - 0
- Other - 0

Number of Respondents that Reported Using Nets of the Following Mesh Size			
4 inch	4.5 inch	5 inch	5.5 inch
2	5	9	4

11. What are some of the traditional methods used to catch whitefish in the past?

- Fish wheels - 9
- Fish traps - 7
- Spears - 1
- Willow nets - 5

12. Are whitefish easier to catch today than in the past years?

- Easier - 7
- More Difficult - 0
- Same - 8
- Not Sure - 0

Explanations Given:

Easier	Because they use nets now to catch fish
	It's easier now because of ready made nets and nets are not too hard to get
	Easier after new nets. Cotton nets in the past before nylon in the 1950's
	Easier because of nets. Long ago people were healthier with a better life.
	It's easier to catch whitefish today because less people are fishing.
	Nylon nets now, long ago or in the past was cotton.
Same	Easy as long as you set nets in the right place. You have to set net in an eddy
	Seems that it was easy in the past with traditional methods, fishing in certain spots getting lots of fish for year supply. It's easy today with nets in the sense you can move your nets around.

13. Do whitefish taste the same for you today as they did in the past?

- | | |
|---|---|
| <p>Meat</p> <ul style="list-style-type: none"> Yes – 13 No Not Sure - 1 No answer – 1 | <p>Eggs</p> <ul style="list-style-type: none"> Yes - 13 No Not Sure – 1 No answer - 1 |
|---|---|

Explanations Given:

There is a difference between lake fish and river fish.
Well it's good to eat traditional foods sometimes. We eat less fish because there is more other food available.
I think it is different. Whitefish seems softer and still tastes good but not as good as long ago.

14. Are the whitefish you catch in good health?

Yes - 11

No

Most of the time - 4

Yes	Nice and fat most of the time
	Because the fish seem to be bigger and fatter
	Always appears in good health, shape
	They are hardly marked and they are rich
Yes	The whitefish are in pretty good health, no big concerns
Most of the time	They are in good health most of the time.

Are there any parasites in or on the body of the whitefish you catch?

Yes - 13

No - 2

Not Sure - 0

Explanations Given:

Yes	Sometimes, not often. Usually just cuts made from jackfish
	Scars, most likely from other fish, bears, and eagles
	Discolor on flesh, lots of jackfish bites. Outboard motor prop hit whitefish
	Discolor, cut marks
	Caught one last October was deformed. small, back was deformed. lumps on its back and big head. Only time seen funny fish
	Sometimes see whitefish with cut marks on them. Not marks from jackfish bites but just cuts like maybe from boats traveling.
	The odd fish usually has scar marks, probably from jackfish. Rarely catch abnormal fish.
	Scars, probably from outboard motors. Sometimes there are worms in lakes. I get some reddish fish in rivers sometimes.
	They are partly scarred
	Lump on the back of whitefish heard from someone. Cuts on the fish
	Some have scars. See worms on lake fish in the spring time. A few small worms on the neck. Same for coney.
	Caught one with big lump on its tail. Had DFO test it and test said the lump was from another fish bite when it was young and it just grew that way.
	Marks, probably from jackfish

Do whitefish in some areas have more parasites or diseases than in other areas?

Yes - 2

No - 8

Not Sure - 5

Yes	Fish in lakes sometimes have worms. Scars on fish in rivers and sometimes reddish fish.
	Heard people say they wouldn't drink water or get fish out of the Peel.
Not sure	Never see disease or parasites on whitefish. The odd scar, but most likely from other fish
	Never hear of anything unusual. Usually marks are just from other fish like jackfish
	Nothing in Aklavik area, not sure about other areas
	No parasites on whitefish
	Don't know about other areas too much. Our area the whitefish is good.
	Never hear or see of anything
	Seems that each area has the same experience as fishermen in other areas. Each catching the odd fish with similar abnormalities.
No	I haven't seen any parasites yet.
	I fish all around and there is no difference

15. Do you think there is more whitefish being harvested today than in the past?

More - 1

Less - 10

Same - 3

Not Sure - 1

Less	There are less people fishing today
	Not as many people out there as there used to be
	Maybe less because of less dog teams and less people fishing
	Less people fishing so less fish harvested
	Because in the past people use dog team for transportation and therefore need lots of dog food. Today is just for eating.
	Still the same, no big difference
	Less whitefish being harvesting. Everything is going down.
	Because less people fish compared to past years.
	Not too many people fishing now because more people are in the workforce
	Less people fish now days
	People who fish just get enough to eat. Not much dogs anymore either.
Same	Seems to be the same. For myself I don't fish as much anymore but other people do

16. How would you rate the current harvest level for whitefish?

- High - 1
- Low - 1
- Normal - 13
- Not Sure - 0

Explanations Given:

Normal	Same rate over the past few years. More in the 1950's, 60's and 70's
	Still normal I guess. Some areas less people fish, others maybe more.
Low	Because in the past people had dogs. Some people had 15-20 dogs now no one has dogs to feed.

Do you think it is necessary to set a limit for whitefish being caught today?

- Yes - 2
- No - 12
- Not Sure - 0
- No answer - 1

Explanations Given:

Yes	Set limits when you notice too much fishing. Set limits to control things if you notice things are going bad or out of control
	If commercial fishing starts the big fish will be taken. It happened in Bear Lake. Also at Campbell Creek – we get small whitefish there now.
No	People are okay with how it is. There is no market on whitefish.
	Because there is less people fishing. Good when they start commercial fishing big scale.
	Not now, but if people were taking too much then yes set a limit.
	Don't think it's a concern. People always harvest what they need. Don't overharvest and everything stays okay.
	Because you don't catch as much fish as in the past
	There's a lot of whitefish, no need to set limits
	Good the way it is. No reason to set limits but if people start overharvesting maybe then limits could be set.
	Keep track of harvest levels, statistics. Based on that you can tell if we need to set limits and where these limits must be really enforced.
	When the fish harvest is low and if the fish is not in good condition then set limits

17. Do you think there is enough traditional/local knowledge collected and documented about whitefish?

Yes - 3

No - 4

Not Sure - 8

Explanations Given:

Yes	There is a lot of info. Should be kept up.
	Seems to be enough.
	I see it being done since last year so it's getting there.
No	I think there needs to be more done, also more testing.
	There needs to be a field work collecting information as to what the people think should be done in the future about commercial fishing and overharvesting by locals.
	Because you should advertise more on fish habitat.
	I think it's important to collect info on whitefish. I am not sure about all what's been collected, but I can't remember much being collected on whitefish.
Not sure	I haven't seen any documentation
	Cannot answer because not sure of what work has been done already
	This kind of information is good to collect. I am not sure about what info was already collected. Collect as much as you could is good.
	Has no info on what's been happening with whitefish

19. Do you think the Government Departments and Aboriginal Organizations are really recognizing and using traditional/local knowledge in their working plans?

Yes - 2

No - 9

Not Sure - 4

Explanations Given:

Yes	They try, but it should be ongoing and improved.
	I think they are starting to do this and that's good.
No	I only see them talk about it. These organizations should be right out with the people in the camps.
	No because I haven't attended any workshops.
	I think the TK is always being collected and people talk about it but some organizations need to really use it not just talk about it. That's two different things.
	Not much because you can get more information from past elders about whitefish knowledge.

No	It's talked about a lot but never really used. There has been no studies around Arctic Red River for a long time.
	I don't think they are really using the traditional knowledge. Be good to see more involvement of the elders in the workplans like real involvement, not just use of interview.
	I think it's always talked about but never used.
	I think it's more talked about than actually used.
Not Sure	I'm not sure what's happening. I need to get more information.
	Needs more information before can answer this.
	I don't know. I know only what's on the land and water.

20. Do you think the young people know enough about whitefish? Is the traditional knowledge being passed on from generation to generation?

Yes - 0

No - 7

Somewhat - 6

Not Sure - 1

No answer - 1

Explanations Given:

No	A very small number of youth actually know. Suggest more immersion camps.
	They have much to learn. Should be taught through school curriculum.
	Need training or workshops
	Because not enough information is given out about fish habitat
	Many kids are not taught. Parents have to teach them. It's very important.
	No because they're not involved in fishing. When people set nets should take children out.
	Don't think so. My grandson knows because he's always with me and I teach him.
Somewhat	Not enough
	Very little.
	For myself I do not have kids but if young people come to me and ask me about things I tell them what I know. It gets passed on some ways I guess.
	Its being passed on a little bit. Some young people want to learn, others don't. It's up to them.
	They know a bit but still have lots to learn yet.
	It's up to each parent to teach their own.

21. Do you know where whitefish spawn?

Yes - 4

No - 8

Not Sure - 3

Explanations Given:

Yes	From Trail River up, maybe past Caribou River
	I say they move around, up to Arctic Red and have their eggs around these different areas
	Mainly up Peel River, no one place, they seem to go anywhere
	Around rocks
	By the river on Peel and Mackenzie. Husky River down towards the ocean. Also lake fish spawn in the lake.
Not sure	I think down towards the coast
	Down Mackenzie I think
	I think maybe in the eddies but I am not sure

Do you know when whitefish spawn?

Explanations Given:

In the fall time, late October-November
Late October, early November
Whitefish must spawn in the river because the fish still have eggs when we fish in November
November sometime, mid-November
November, maybe late October. By November 15 no more whitefish around.
In the fall time. They have eggs inside of them even in August when they are cut open and in October the eggs are still in them, ready to come out.
In the fall. Different times at different places.
They spawn end of October
In the fall like in October they are very full of eggs.
In the fall
October probably
Fish spawn as they do their run in the fall.
October-November they spawn
November is when they spawn. Fish caught in November have running eggs.

22. Do you know of spawning areas or other important areas that should be protected for the whitefish?

Yes - 7

No - 3

Not Sure – 5

Areas Identified:

Peel River, Arctic Red River
Mouth of Bear Creek, big eddy there; mouth of Caribou river. All eddies from Bear Creek to Caribou River should be protected because they are always full of whitefish.
All over should be protected I think. Fish move around. The Mackenzie for sure.
The whole Peel.
Cannot give out this information
The whole water system from Arctic Red to Good Hope
All areas are important as the fish travel all over even down to ocean so all areas should be protected and keep it healthy for the fish.
All rivers and creeks.
Travaillant lake area crucial area for lake fish.
Not specific areas, all areas are important because fish move around.

23. Are there any developments (mining, forestry, oil and gas, roads) that may be a threat to whitefish? (spawning areas, fishing areas, fish run, health)

- Yes - 6
- No - 3
- Not Sure - 6

Explanations Given:

Yes	See Caribou River
	Construction of pipeline depending where it is
	Heard from Old Lazarus Sittichinli in the pas that seismic work in his area blocked off a creek and had a negative effect on fish run
	Oil spills, damming creeks. Development has to be monitored.
	Calcium salts on highways. When it rains it is washed out the sides. See a lot of dead trees. Not good for fish either.
	Past developments. Look at Caribou River as example.
Not Sure	If people start killing too many fish then that might be a problem but I didn't see any other threats right now. All development could be a threat. We have to be careful. Look at Caribou River polluted sites. No good at all.
	Water quality must be kept good.

24. Have there been any environmental changes in recent years that may have affected the whitefish harvest?

- Yes - 5
- No - 6
- Not Sure - 4

Explanations Given:

Yes	Always changing. Breakup was very late this year.
	Yes at 8 mile crossing during freeze-up. When they pull the ferry out of the river it breaks up the ice.
	Late freeze ups seem to have resulted in less fish being harvested because by the time the ice is thick enough to set a net the fish have passed.
	I notice that freeze up has made a change as the Delta does not harvest as much whitefish with eggs as in the past.
	Ground erosion, banks falling in and now there's less fish in this certain area.
Not Sure	The ground has changed, warmer temps, less water. See no effect right now but will find out.
	There are lakes that have broken into the rivers now so that causes changes but I'm not sure if it really affected the harvest.
	I'm not sure if it affects the harvests but there is shorter seasons: late spring, early fall, warm water.
	I see some changes but not sure of the effects yet. We'll see later on I guess.

25. Do you think more research is needed on whitefish?

Yes - 8

No - 4

Not Sure - 3

Explanations Given:

Yes	More studies and tests in Road River, Trail River area.
	Check out the fish on a regular basis. They always seem healthy but it's good to check their health every so often.
	Need fieldwork collecting information as to what the people think should be done in the future about commercial fishing and overharvesting by locals.
	Research needed in the Peel River area
	Similar to the research on char could be good for future use
	Because no one seem to know where the fish spawn
	Probably Delta area. Research done around here but not much in the delta.
No	Good enough
Not Sure	Maybe on the health each year.
	I can't say because I don't know what's already been done.

26. Would you like to have a commercial fishery for whitefish?

Yes - 9

No - 3

Not Sure - 3

Explanations Given:

Yes	Would be nice. I myself have a commercial licence to sell fish
	It would be something to look into.
	Yes, but only if it is monitored closely
	A good idea because there is lots of whitefish
	I think it could be okay. But usually whitefish would be left alone. I see trout, char, salmon in commercial fishery—never whitefish.
	Would be good for income
	It would benefit fish harvesters and also others for the use of fish
	It may be a good idea to try it out
No	Because that would affect the fish harvest
Not Sure	Could be a good idea. Sometime to try and see how it goes.
	Every time someone wants to commercialize the fishery people say there is not enough fish for commercial fishing.
	Depends on the set up and price per pound, etc

Would you like to have a sport (tourist) fishery for whitefish?

Yes - 2

No - 12

Not Sure - 2

No answer - 1

Explanations Given:

Yes	If it was going to work yes but whitefish are not suitable for sport fishing
	Should be a camp tourist fishery set so the tourist can see how we take care of the fish and make dryfish and put all the fish to good use in different ways and people can make money at that.
No	I prefer to see a commercial fishery in operation
	Would not work for whitefish. Whitefish don't get caught by rods.
	Not with whitefish because our people really use this fish for food and dryfish and we use it so much. Don't think sport fish for whitefish is good.
	Don't bite rods
	Because they would affect whitefish health and quantities
	Because whitefish is already used lots by our people and it won't be good fish to sport fish
No	No sport fishing for whitefish. Only catch whitefish with nets.
	Whitefish are too important.
Not Sure	Because I haven't yet caught a whitefish with a hook

27. Do you have any other comments to make about whitefish? Any traditional beliefs or stories?

<p>People who fish should check their nets at all times. No need for spoiled fish. I've seen nets left, not checked. This is not right.</p>
<p>Whitefish is a good source of food for human consumption and more studies should be in place to keep the whitefish healthy and increase in numbers.</p>
<p>There are fish that are red in colour some time. Just a little maybe just the fins other times it's the fin and a little on the body. But some fish are completely red. We had a meeting nobody seems to know about it.</p>
<p>The whitefish has a history of its own. In the past and present time people have used the fish as one of their main dishes year round. This fish can be used as half smoked dryfish, dryfish, pounded dryfish with berries cooked in different ways. The dryfish back home is used for trapping bait and used as dog food. The fish guts is a delicacy the best. The whitefish is also caught under ice. Mmmn...fish eggs.</p>
<p>I wonder about the talk to build a dam around Bear River, Tulita Country. This will affect us down here right away. The fish will be affected so will the land and also our way of life. A lot of change would happen. I do not want to see things like this happen.</p>