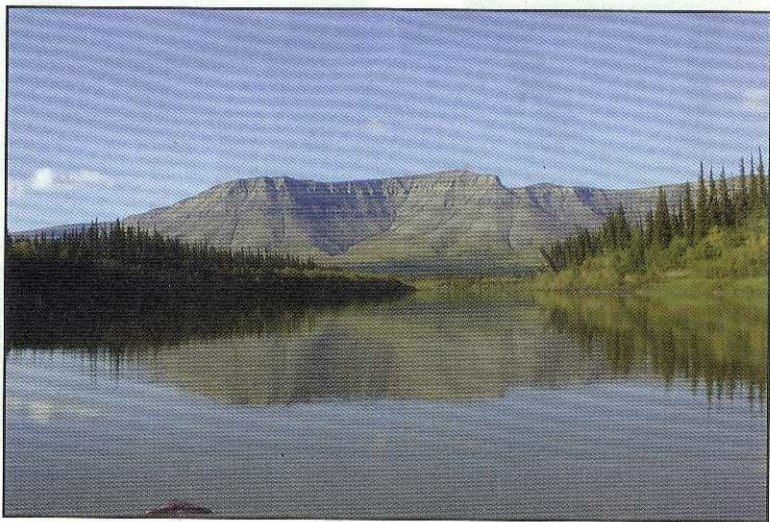


Rat River Char Fishing Plan



2004-2006

RAT RIVER FISHING 2004-2006

This plan was prepared by the Rat River Char Fishing Plan Working Group, on behalf of the Aklavik Renewable Resource Council (RRC), the Fort McPherson Renewable Resource Council (RRC), and the Aklavik Hunters and Trappers Committee (HTC). Support was provided by Fisheries and Oceans Canada (DFO), the Gwich'in Renewable Resource Board (GRRB) and the Fisheries Joint Management Committee (FJMC).



GOALS OF THIS FISHING PLAN:

1. To maintain a healthy stock of Dolly Varden char in the Rat River system.
2. To maintain and manage the Rat River Dolly Varden char fishery for the continued use and enjoyment by the residents of Aklavik and Fort McPherson.
3. To encourage co-operation among all users to ensure sound management of the Rat River char stock.

THE NEED

The need for this Plan was first identified at the first GRRB Rat River Char Workshop, held in Aklavik on January 25, 1995. In June 1995, January 1996, and March 1996, delegates from the Aklavik RRC, Aklavik HTC and Fort McPherson RRC met to prepare the first edition of the Fishing Plan. It was finished and signed in Aklavik, NT, on June 14, 1996.

The Plan is revisited and updated annually. The second edition of the Plan was signed on March 22, 1997. The third edition of the Fishing Plan was signed by the Working Group in Aklavik, NT, on March 14, 1998. The fourth edition of the Plan was signed in Fort McPherson, NT, on March 31, 1999. The fifth edition of the Plan was signed in Aklavik, NT on March 21, 2000. The sixth edition of the Plan was signed in Fort McPherson, NT on April 28, 2001. There was no meeting held in 2002, and only a small gathering in 2003 from which an information sheet was produced.

The present Plan represents the consensus of the Fishing Plan Working group following a full meeting in Fort McPherson on Feb 21, 2004 and follow up with the affected communities. The Plan will continue to be revised and updated as necessary and as new information is available on the stock and the fishery. The Plan represents consensus of all signatories to the Plan, and belongs to the communities and the users of the Rat River char resource.

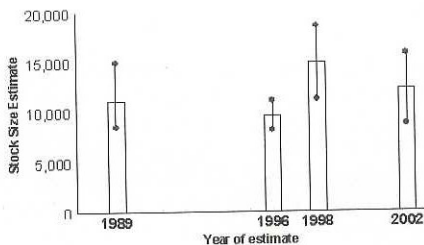
ABOUT THE RAT RIVER

The Rat River flows from the Richardson Mountains, following a 130 km (80 miles) course before entering the Husky Channel of the Mackenzie River 35 km (22 miles) to the north-west of Fort McPherson, NT. One tributary, Fish Creek, has many deep pools and is fed by one or more year-round springs. Water temperatures at the spring source area are in the 4-5°C range, and this maintains some open water areas used by Dolly Varden char (*Salvelinus malma*) for over wintering.

The Gwich'in and Inuvialuit have long depended on the Rat River Dolly Varden for winter sustenance. These fish, called *Dhik'ii* by the Gwich'in (GRRB 1997) and *qalukpik* by the Inuvialuit (Lowe 1984), continue to be an important element of diet, tradition and culture to the present day. There are presently an estimated 190 head-of-household Gwich'in harvesters in Aklavik and Fort McPherson combined, and of these, an average of 18 (9.4%) report regular annual harvests of Rat River Dolly Varden char.

HOW MANY CHAR ARE THERE?

The size of the Rat River char stock, estimated through mark-recapture during the 1989 upstream migration, was 11,191 (95% CI 8,532 - 15,020). A second (Petersen) estimate, done at the Fish Hole in that same year, yielded a similar estimate (10,920, 95% CI 7,690 - 16,200).



Estimated size of the Rat River char stock, 1989 (Stephenson and Lemieux 1990), 1996, 1998 and 2002 (Harwood, unpubl. data), with upper and lower 95% confidence intervals (\pm)

The size of the stock was also estimated through tagging in 1995, 1997 and 2001, and recapture of those tags in 1996, 1998 and 2002.

The three estimates from this work are within each other's confidence regions, and therefore no major changes in the size of the stock were detected using this method for the period between 1989 and 2002.

STOCK TREND:

Stock size estimates from 1989, 1996, 1998 and 2002, although few in number, indicate no major change in the size of the stock in recent years. Further mark-recapture studies are warranted to monitor for future trend.

Harvesters have observed a decrease in the abundance of fish in recent years, and felt this was consistent with biological data (below) which show a probable downturn in the stock.

The CPUE (catch-per-unit-effort) in the 2000-2003 period shows a downward trend that was apparent at all four monitoring stations. Average age and average length of char caught in the subsistence fishery also show a downtrend in the same period. The proportion of males in the catch is also decreasing.

All else being equal (e.g., fishing pressure and methods), these are taken to be signals in terms of the trend and status of the stock. While continued monitoring is necessary to see if these trends continue, the results from the 2000-2003 suggest the present level of fishing is not sustainable and harvests should be curtailed.

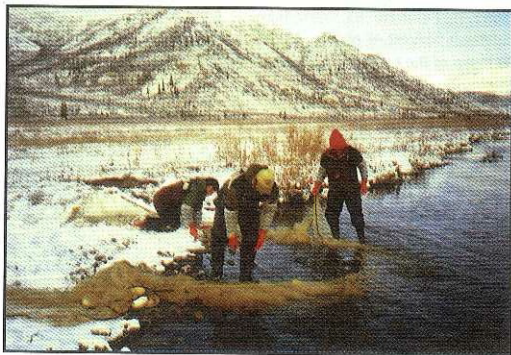
Work in recent years has included a biological assessment project at the Fish Holes on Fish Creek, a tributary of the Rat River where these char over winter, spawn and rear. This work consists mainly of non-destructive sampling on the spawning grounds (to determine actual spawning sites and timing of spawning, fecundity, sex ratios, maturity, age) and tagging (to estimate annual growth, exploitation rate and stock size). In 1995, 1997 and 2001, floy tags were applied to char at the over-wintering site, and biological monitoring was completed in 1996, 1998 and 2002 as follow-up to the tagging (growth, distribution, exploitation rate, stock size).

Highlights of the 2001 survey at Fish Hole were:

- abundance of adult char in main pools was lower in 2001 than in 1995 or 1997
- abundance of sea run males was lower in 2001 than in 1995 and 1997
- proportion of silvers was up and proportion of spawners was down in 2001
- adult burbot were caught in the pools at the Fish Hole (first time by this crew)
- grayling abundance was higher than in 1995 and 1997
- high proportion of lamprey scars (33%)
- mean length of char was greater in 2001 than in 1995 and 1997
- there was a high abundance of YOY, (Young of the Year) char in channels and margins

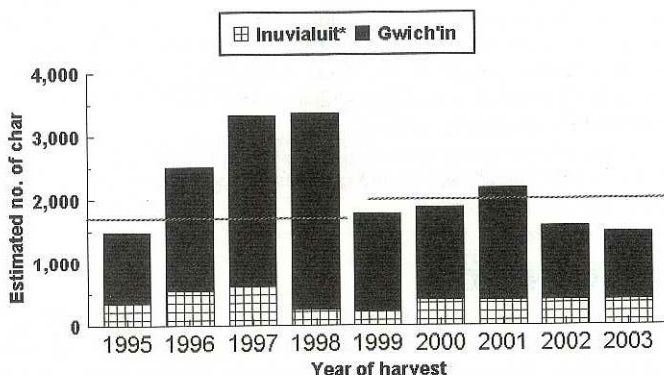
WHERE DO THEY GO?

Rat River char that were tagged in 1989 and in 1995 were captured only at the following locations: Shingle Point, Aklavik, Big Eddy, Husky Channel, mouth of Rat River and Destruction City. No Rat River tagged fish have been caught at other locations, suggesting that the Rat River char don't go up other streams or mix with other char stocks, except in the ocean (e.g., Shingle Point).



HOW MANY ARE CAUGHT IN THE FISHERY?

In each year between 1973 and 1993, the harvest of Rat River char was estimated to fall within the range from 1600 – 2600 char per year. This includes some catches from the Fish Hole in the early 1970's. A small (e.g., <900 kg) commercial quota was in place up until 1985, under which a small amount of char were sold for commercial purposes. These fish were taken as part of the subsistence fishery, not from a dedicated commercial fishery per se. The estimated harvests of Rat River char from 1995 to the present are shown in the graph below.



Estimated harvest of Rat River char, 1995-2003 (Inuvialuit Harvest Study; Rat River Char Monitors, DFO 1999 Fish Harvest Study, Gwich'in Harvest Study and preliminary data from the 2003 Rat River monitoring study and GHS).

*data for Inuvialuit harvest of char at Aklavik for 2000-2003 estimated at 409 per year, which is the mean of the harvest for the previous five years.

1. RECOMMENDED SAFE HARVEST LEVEL

The "safe harvest level" that DFO uses for slower-growing Arctic char (*Salvelinus alpinus*) in the central Arctic is 5%.

The harvest guideline in earlier versions of this Plan was 1700 char (1997) and 2000 char (1999 and beyond), which was approximately 15% of the stock size. This was set by the Working Group during the Planning Process to meet subsistence needs and conserve the stock.

That harvest guideline was exceeded in 1996, 1997 and 1998, by 25-67%, and since that time, the harvest has been at or below the 2000 char guideline because the fishermen were not able to catch more than that.

The combination of a high removal rate, exceeding that rate, and possibly other factors such as habitat changes, predation or others, appear to have had a negative effect on the stock.

It is recommended that the present level of harvest be reduced to 5% of the most recent estimate of stock size, or 600 fish. The changes in stock parameters during the period from 2001-2003 provide strong evidence that the stock is not able to withstand removals at 15%.

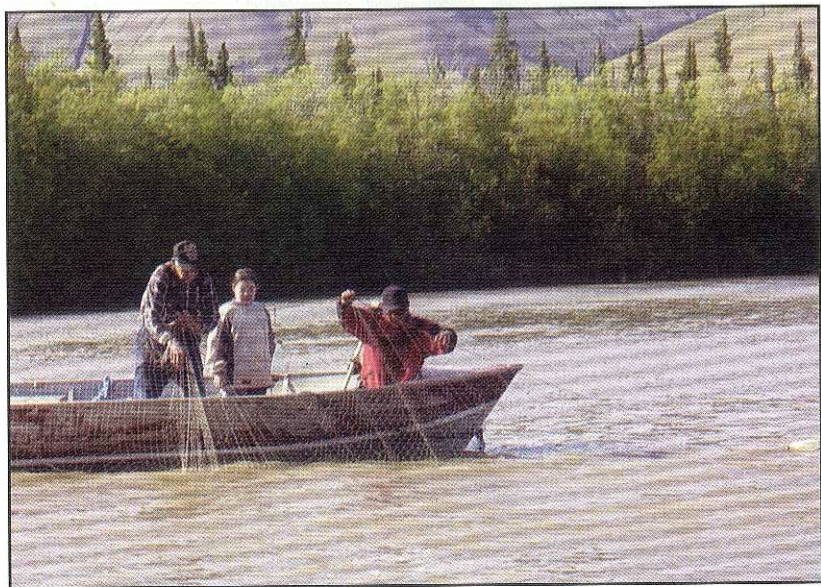
- a) Given the most recent (2002) estimate of stock size (12,285), the recommended harvest level for the Rat River char stock is set at 5% or 600 char per year.
- b) Until more information or indicators are available that suggest that the stock is increasing in size, the signatories of this Plan agree to a harvest guideline of 600 char per year for this fishery.

To achieve this level of harvest, the signatories of this Plan recommend that all persons fishing for Rat River char follow this recommendation. People should take only what they need for their own subsistence purposes.

2. RECOMMENDED FISHING GEAR AND METHODS

Appendix I lists specific regulations that apply to all subsistence, domestic and commercial fishing in the Northwest Territories and therefore apply to the Rat River fishery. RRC's and HTC's are encouraged to set stricter guidelines (by-laws) outlining the following:

- a) Use 4" or 4.5" mesh nets.
- b) Nets set specifically for char should be no more than 30 meshes deep.
- c) There should be no more than three (3) nets set per household.
- d) Maximum net length should be no more than 25 yards (75 feet). (DFO regulations regarding the setting of nets are shown in the Appendix (1).
- e) Net check intervals should be twice per day during the entire fishing season (weather permitting) to prevent fish wastage.
- f) Fishermen remaining at the fishery throughout the season should be given priority in the selection of fishing sites.



3. ALLOCATION OF HARVEST

- a) In the event that harvest restrictions are necessary, it is the responsibility of the GRRB, FJMC and DFO, in consultation with and using input from the HTC's and RRC's, to make recommendations as to what the total allowable harvest level would be.
- b) Signatories to this Plan are responsible for reaching an agreement as to how this total allowable harvest would be divided among the claim areas and the communities.
- c) Finally, it would be the responsibility of the respective RRC's and HTC to divide their own allocation among their own membership.



4. TYPES OF FISHERIES

- a) Subsistence use: Consistent with the Inuvialuit Final Agreement and Gwich'in Comprehensive Land Claim Agreement, and subject to conservation, the first priority for all fishing under this Plan will be subsistence use.
- b) Other uses: Other fisheries may be considered in the future by the communities, so long as these uses do not compromise the stock and all subsistence needs are met first.
- c) Commercial sale of Rat River char to non-aboriginal persons is currently illegal.



5. STORAGE & PROCESSING

- a) Nets must be checked every 30 hours in the summer months (DFO Regulation; see Appendix 1).
- b) All catches must be stored and processed so as to eliminate wastage (DFO Regulation; see Appendix 1).

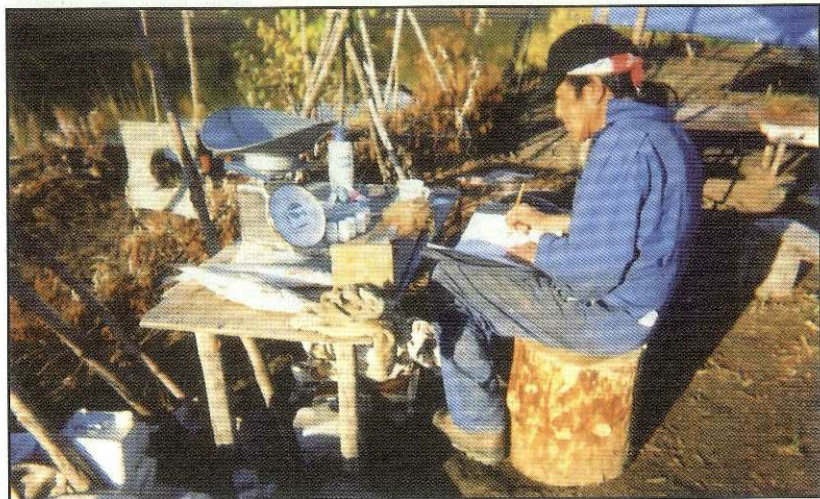
6. PROTECTION OF FISH HOLE

- a) The Fish Hole at Fish Creek will be protected from disturbance or degradation by the Gwich'in Co-management Boards in place for this purpose (e.g., RRCs, GRRB, Gwich'in Land and Water Board).
- b) The Rat River Char Fishing Plan Working Group (WG) meets at least once per year. The WG should be consulted and involved in the decision process prior to any developments being approved for the Rat River watershed.
- c) Any fishing above Destruction City requires prior permission of the RRCs.



7. RESEARCH & MONITORING

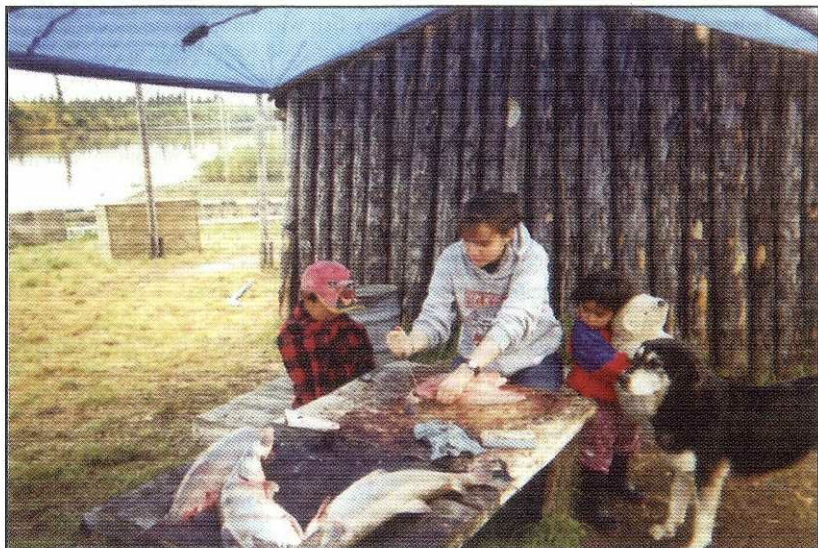
- a) DFO, FJMC and the GRRB will provide information on the studies that are being conducted to the communities, prior to, during and after any and all projects are completed. The RRCs and HTC will review and approve project proposals before the projects proceed. Local information and expertise will be used in the design, delivery and interpretation of all projects concerning Rat River char.
- b) Persons fishing for Rat River char will provide the char monitors, and the Gwich'in Harvest Study field worker with accurate information about their catches. When requested and practical, persons fishing for Rat River char will make their catches available for measuring and sampling by the char monitors.
- c) Fishermen will return any and all tags recovered from char and also provide DFO or the char monitor with accurate information about when and where any such tagged fish were caught. DFO and the char monitors will ensure that accurate records are kept about all returned tags, and that rewards are distributed promptly.
- d) Local knowledge about Rat River char and their habitats should be obtained through a community knowledge study, and thus be available for present management studies and activities and for future generations.



LIFE OF THIS PLAN

This seventh version of the Plan will be in effect for three years, 2004-2006, after which time it will be reviewed again prior to the fishing season.

The Working Group will continue to meet annually to review progress and discuss issues/required changes to the Plan.



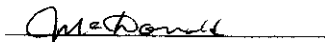
Appendix 1: Fisheries and Oceans Canada Northwest Territories Fishery Regulations that apply to subsistence fisheries for Rat River char.

- 1) Nets must be checked every 30 hours in the summer (May 16 to October 31) and every 72 hours in the winter (November 1 to May 15).
- 2) At least one third of a stream must be left open to allow fish to pass.
- 3) Indian, Inuk or persons of mixed blood may fish without a license by angling or gillnets, set lines, spears, snares or dip nets, for food for himself or for dogs.
- 4) No person shall fish by snagging.
- 5) No person shall dispose of dead fish or any remains or offal of fish by leaving it in the water or on the ice over the water.
- 6) Fish that is suitable for food shall not be wasted.
- 7) All nets must have the name of the net owner clearly marked.
- 8) Fishery Officers may determine or prescribe the distance between each and every fishery and shall forthwith remove any fishing apparatus or material that the owner neglects or refuses to remove.

We the undersigned members met in Ft. McPherson on February, 21st, 2004 and we have agreed to the recommendations contained herein should remain in place until December 31st 2006, at which time they will again be reviewed. Dated this date in Fort McPherson, NT, February, 21st, 2004.



**Aklavik RRC President
Fanny Greenland**



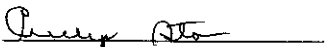
**Aklavik RRC Councillor
James McDonald**



**Ft. McPherson RRC President
Wilbert Firth**



**Ft. McPherson RRC Coordinator
Georgina Firth**

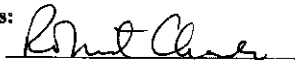


**Aklavik HTC President
Evelyn Storr**



**Aklavik HTC Vice President
Jerry Arey**

Witnesses:



**Robert Charlie
Gwich'in Renewable Resource Board
Chairperson**



**Erin Hiebert
Fisheries & Oceans
Canada**