

Paulatuk Charr Management Plan



1998-2002

PREFACE

This plan was prepared by the Paulatuk Charr Working Group, on behalf of the Paulatuk Hunters and Trappers Committee (HTC) and the Fisheries Joint Management Committee (FJMC). Financial support was provided by the FJMC and technical assistance by the Department of Fisheries and Oceans (DFO) Inuvik Office. This 5-year Plan was presented and discussed with the community fishermen on November 13, 1996, May 1, 1997 and June 17, 1998. A draft of this Plan was put in place for the 1997 fishing season, after which time it was further reviewed and ultimately signed off for five years beginning in 1998.

DEDICATION

Nelson Allen Green
1948-1999



From the very first day this plan was thought of, to three years later when it was signed-off by the HTC, Nelson was totally committed to it.

He willingly and effectively chaired the Paulatuk Charr Working Group from 1996 through to 1998. His vision was to have a Plan that ensured the charr resources were conserved, and that the people of Paulatuk had charr for subsistence use.

For his insight, patience, knowledge and direction in the preparation of this plan, we dedicate this Management Plan to our dear friend and colleague, Nelson Allen Green.

May God keep his soul, and help us to implement the Management Plan for conservation of the resource, to provide for the future, and in deep respect of his memory.

The Paulatuk Charr Working Group
March 1999

GOALS OF THIS PLAN

- 1) To ensure healthy stocks of charr in the Hornaday River and other charr fishing locations in the Paulatuk area,
- 2) To preserve and protect charr habitats in the Hornaday River and other charr fishing locations in the Paulatuk area, to ensure that the charr stocks continue to thrive;
- 3) To manage and conserve Hornaday River and other charr in the Paulatuk area, to ensure that subsistence needs of the residents of Paulatuk are met, for today and for the future.



Background

The need for this Plan was first identified at the Paulatuk Hunters and Trappers Committee Annual General Meeting in June 1996. At FJMC's request, the HTC struck the Paulatuk Charr Working Group, consisting of Nelson Green (Chair), Marcus Ruben, John Max Kudlak, Ruben Ruben, and Tony Green from the community, and, Don Dowler (FJMC) and Lois Harwood (DFO). The Working Group met four times (November 1996, December 1996, and April 30 -May 1, 1997 and June 16-17, 1998) to develop the present Plan.

About Paulatuk Area Charr

The Hornaday River originates approximately 100 km due north of Dease Arm on Great Bear Lake, NT, and flows northwest for 280 km through the Melville Hills before emptying into Darnley Bay. Approximately 45 km upstream from the mouth, there is a 20 m waterfall (La Ronciere Falls) which is thought to block upstream movements of all fish (Figure 1).

Anadromous (searun) Arctic charr spawn and overwinter in the Hornaday River. This stock provides an important source of charr for the residents of Paulatuk, and has been fished for subsistence purposes since the early 1940's. There was

a commercial fishery at the Hornaday beginning in 1968 and continuing through 1986. Declines in the commercial catches and a reduction in catch per unit effort led to a closure of the commercial fishery in 1987. The subsistence fishery has continued since, at a lower and more consistent level (2400-2700 charr), although the catches rose to 3500 in 1995. The 1996 harvest was lower, estimated at 2500 for the year. The 1997 harvest was reduced according to, and in compliance with, the draft Fishing Plan (total annual take was 1700).

There is limited charr fishing by the residents of Paulatuk in other locations farther from the community. Test fisheries and local observations suggest there may be stocks of charr other than at the Hornaday which could support some lower level of subsistence fishing. For example, the Horton River. In 1997, a tagging study determined that charr found at Pearce Point during the summer months are actually part of the Hornaday charr stock.



How many charr are there?

Hornaday: The best available estimate of stock size is 16,000, based on an extrapolated weir count done in 1986. This estimate included the searun migrants in 1986, post-smolts through current year resting fish. Virtually no spawners were caught in this weir, so the spawning cohort is not represented in this count.

Other locations: The size of charr stocks at the Horton River or other nearby locations are not known, but are thought to be much smaller than that the Hornaday River charr stock.

What do we know about the life cycle of these charr?

Hornaday River: Like other charr, Hornaday charr lay their eggs in freshwater in the fall. They prefer to lay their eggs in coarse gravel, but may find other suitable places so long as they are not scoured by ice during the winter.

The eggs hatch in the spring, and the young charr then spend the first 3-4 years of their lives in freshwater rearing areas (in the Hornaday River, the location of the rearing areas are not known). The charr migrate to the sea for the first time when they are 4 or 5 years old. Then they make annual trips to the ocean until they are old enough to spawn (they start to spawn at age 7 or 8).

The adult charr may spawn every 2-3 years, until either they are caught in the fishery or die of natural causes/old age. Few charr in the Hornaday are older than 10 years old, and the majority of the charr caught in the fishery in 1995 and 1996 were 5 or 6 years old. As recently as 1994, the majority of charr caught in the summer fishery were 7 or 8 years old.

In the August fishery, virtually all of the upstream migrants are silver (e.g. they are not current year spawners, but rather charr not yet old enough to spawn, or mature charr that are taking a 'resting' year). These charr are going up the river to overwinter. At least some of the mature charr that are destined to spawn in the next year may remain in the river for up to 20 months, spawning the following fall. Others may go to sea, for example in July 1998 a small number of current year spawners were caught as they migrated upstream well ahead of the "silver" or non-spawning cohort.

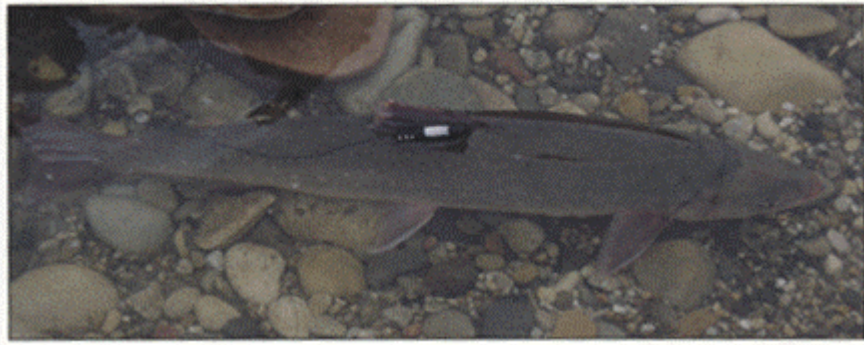
We know that Hornaday charr spawn somewhere in the Hornaday system, as post-spawners have been caught in the spring downstream migration at Fish Camp and at the Coalmine area during fall. Results from the 1995/96 radio tagging and tracking study suggest the most likely area where Hornaday charr spawn is in the mainstem holes between Coalmine and the mouth of Aklak Creek. Searun charr in spawning condition have also been observed and captured in the pools at the base of La Ronciere Falls, indicating this is likely a spawning area as well.

What is the annual take of charr by residents of Paulatuk?

The annual subsistence take of charr from the Hornaday River was in the range from 2400-2700 charr for the 1990-1994 period. The harvest rose to 3500 in 1995, dropped to 2500 in 1996, and dropped to 1700 in 1997.

At present, the subsistence take of searun charr from systems other than the Hornaday is sporadic and low (e.g. <100 per year).

Radio tagged charr



Mouth of Aklak Creek

Fishing and Safe Harvest Level

The average size and age of charr caught in the 1995, 1996 and 1997 fisheries, and the CPUE (catch-per-unit-effort) decreased each year of the monitoring study as well. There have also been local reports that there has been a change in the species composition of the catch in August, with whitefish becoming more and more prevalent in the catches. The fact that we are seeing all of these changes suggest that the harvest at the Hornaday may be more than what the stock can sustain.

Recommendations:

To ensure the goals of this Plan are met, we recommend that fishing pressure on

the Hornaday River be reduced for a period of not less than 5 years, and that all catches be monitored during this time. The target for the reduction is to limit the summer catch to 1400 charr, and to limit the spring and winter catches to a total of 300 charr. The overall guideline is thus 1700 charr per year.

To achieve the desired recovery, recognize that these measures will likely need to be in place for a period of 7 or more years.

1) A proportion of the regular Hornaday fishermen will be encouraged and supported to fish at alternate areas so that subsistence needs can be met AND less charr are caught at the mouth of the Hornaday during the August upstream migration.

Persons obtaining support to fish in alternate areas agree to not fish at the Hornaday at any time during the year in which they receive this support. To apply for this support, the fishermen should contact the alternate areas coordinator or the HTC to fill out an application.

Pearce Point was found to be an important feeding area for Hornaday charr during the summer during the 1997 tagging study, so is not an alternate site to Hornaday charr.

2) No charr fishing should take place in the Hornaday River mainstem during fall and winter at the Fish Holes between Coalmine and Aklak Creek throughout the life of this plan.

Fishermen are encouraged and will be supported to fish during the winter at alternate locations and/or for alternate species such as

(1) lakes west of Biname Lake for charr,

(2) Thrasher, Billy and Fallaize Lakes for humpbacks, and,

(3) Outpost Camp lakes such as Tsoko, Deleese, Tadenet for other fish (e.g. humpbacks) for subsistence use in the winter.

There is concern about the proposed establishment of an ATV trail between the community of Paulatuk and the mouth of the Hornaday River, as this will increase access and this in turn may lead to increased fishing pressure.



Recommended Fishing Gear and Methods

Recommended fishing gear and methods are as outlined in the Paulatuk HTC Charr Fishing By-laws #1 through #5, established August 4, 1992, as follows:

- 1) No 100 yards long nets to be set. Only 50 yard nets to be set and used for arctic charr fishing.
- 2) No smaller mesh size than 4 1/2 inches to be used.
- 3) All fishermen to stay with their nets. No nets to be left unattended. If a fisherman leaves his/her net the person it is left with becomes responsible for the net.
- 4) The area where the fishing can be done is at the sandbar at the entrance of the Hornaday River. No nets to be set where the camps are in the river.
- 5) If a fishermen sets a net for the day on a day trip, the net is to be pulled up before the fisherman heads back to town.
- 6) The HTC requires that all camps are kept clean and that all garbage is brought back to town.

ALLOCATION OF HARVEST

- a) In the future, if harvest restrictions are necessary, then it would be the responsibility of the FJMC to make recommendations as to what the total

allowable harvest level would be.

b) It would then be the responsibility of the HTC to divide this allocation up among the HTC membership/public.

TYPES OF FISHERIES

a) Subsistence use: Consistent with the Inuvialuit Final 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 Hornaday River charr to non-aboriginal persons is currently illegal.

d) Sport Fishing: Daily catch and possession limits for sport fishing are currently set at 1 & 1 under the NWT Fishing Regulations. This was established by a DFO Variation Order on March 31, 1994, and is one of the most stringent regulations for charr sport fishing in the NWT.

STORAGE & PROCESSING

a) Weather permitting, nets should be checked twice per day. Note that this is more stringent than the DFO Regulation (see Appendix) which specifies nets must be checked every 30 hours during the summer months.

b) All catches must be stored and processed as to minimize wastage (DFO NWT Fisheries Regulation; see Appendix). The amount of charr caught and stored should be intended for the needs and benefit of the family doing the fishing.

PROTECTION OF CRITICAL HABITATS

Where are the critical habitats?

Results of the 1995/1996 radio telemetry study suggest that Hornaday charr spawn in the mainstem Hornaday between Coalmine and Aklak Creek. Another spawning area is the La Ronciere Falls area, and there may be others. In addition to spawning areas, rearing (nursery) and overwintering areas are critical

habitats and should be protected. The nursery areas have yet to be identified.

Spawning charr have also been caught in the Seven Islands Lake and Rummy Lake systems, draining the Hornaday, and tests completed in 1996/1997 on a small sample (n=5) indicated they were landlocked charr. Although adult charr from these lakes probably do not mix with the mainstem stock that is fished, it is highly likely that their offspring enter the mainstem Hornaday during spring freshet and thereby contribute to and strengthen the searun stock.

How will they be protected?

The Hornaday River, from the falls downstream to the mouth, is considered critical habitat for the Arctic charr. This includes main feeder lakes including Seven Islands Lake, Rummy Lakes and Hornaday Lake.

The integrity of the entire Hornaday watershed (water quality and water quantity) must be maintained for the well-being of the charr resource, and should not be altered by development or other activities.

These areas are to be protected accordingly through agencies and processes already in place, such as the co-management bodies established under the Inuvialuit Final Agreement such as the EISC, EIRB and FJMC.

RESEARCH & MONITORING

a) DFO and FJMC will provide communities with information on the studies that are being conducted, prior to, during and after any and all projects are completed. The 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 Paulatuk Area charr.

b) Persons fishing for Hornaday or other Paulatuk area charr will provide the charr monitors and the Inuvialuit Harvest Study field worker with accurate information about their catches. When requested and practical, persons fishing for charr in the Paulatuk area will make their catches available for measuring and sampling by the charr monitors.

c) Fishermen will return any and all tags recovered from charr and also provide DFO or the charr monitor with accurate information about when and where any such tagged fish were caught. DFO and the charr monitors will ensure that accurate records are kept about all returned tags, and that rewards are distributed promptly.

d) We recommend that the August charr monitors continue to supervise the

charr fishery, ensure compliance with this Fishing Plan, and be given the local authority and support to do so.

Recommended Research Projects

1. Continue charr monitoring at the August fishery to determine the response of the charr to fishing.
2. Continue life history studies (lab and field) and determine/confirm the location of critical spawning and rearing habitats for charr of the Hornaday River system and further understand their life cycle.
3. Confirm the contribution of charr from Seven Islands Lake and Rummy Lake to the mainstem Hornaday charr.
4. Develop system to administer support for fishing in alternate areas.
5. Install and operate a water gauge station and conduct water quality and quantity studies.

LIFE OF THIS PLAN

- a) This Plan will be in effect for five years (1998-2002), after which time all aspects will be revisited and reviewed.
- b) If funding is available, the Paulatuk Charr Management Plan Working Group will continue to meet once per year to review data from the previous fishing season, update the plan if necessary, and inform the community about charr management initiatives.

We, the duly elected Directors of the Paulatuk HTC, hereby endorse this plan and declare it in effect from the 8th of July 1998 until the 31st of December 2002.

Chairman

Vice-Chairman

Member

Member

Member

Member

Member

for DFO
Lois Harwood

for FJMC
Don Dowler

Signed at Paulatuk, Northwest Territories, Canada, on the 8th of July 1998.

DFO NWT Fishery Regulations that apply to Inuvialuit subsistence fisheries

- 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.