

SUBMISSION TO THE
NUNAVUT WILDLIFE MANAGEMENT BOARD
FOR

Information:

Decision: X

Issue: Clyde River HTO Request to increase the Arctic char commercial quota for Sam Ford Fiord to 9000kg

Background:

The Clyde River Hunters and Trappers Organization (HTO) has requested an increase for the Arctic Char commercial quota of Sam Ford Fiord from 4500 kg to 9000kg. The commercial arctic char quota identified in Schedule V of the NWT Fishery Regulations for Sam Ford fiord is 3600kg. Based on science advice provided by the Department of Fisheries and Oceans (DFO) in 1995, the quota was varied to 4500 kg. In 1999, the Clyde River HTO requested the Nunavut Wildlife Management Board (NWMB) increase the commercial arctic char quota to 6800 kg. DFO advised that an increase to 6800kg would be a high risk option for overfishing the stock (see attached 1999 DFO submission to the NWMB). DFO identified a medium risk option (increase to 5500 kg) and a low risk option (remaining at 4500 kg). The NWMB approved an increase of 5500kg, and the fishery was opened under Variation Order at that quota in 1999/2000. Since that time, the waterbody has been opened under Variation Order at quotas ranging from 3600kg-5500kg (Table 1).

Year	Quota (kg)	Reported Harvested Quota (kg)
2016/2017	4500	4,500.00
2015/2016	4500	No Info
2014/2015	4500	No Info
2013/2014	4500	No Info
2012/2013	4500	851.81
2011/2012	4500	198.64
2010/2011	4500	No Info
2009/2010	4500	No Info
2008/2009	4500	No Info
2007/2008	4500	631.82
2006/2007	4500	1,455.00
2005/2006	3600	1,518.63
2004/2005	3600	No Info
2003/2004	3600	3,203.36
2002/2003	3600	4,256.06

2001/2002	5500	3,791.13	Probable Data Error
2000/2001	5500	4,248.80	
1999/2000	5500	18,817.51	
98/99	4500	3,448.13	
97/98	4500	3,708	
96/97	4500	2,108	
95/96	4500	4,356	
94/95	4500	6,182	
93/94	3600	4,220	
92/93	3600	3,600	
91/92	3600	400	
90/91	3600	228	
89/90	3600	227	
88/89	3600	625	
87/88	3600	4,035	
86/87	3600	3,500	
85/86	3600	1,805	
84/85	3600	1,200	
83/84	3600	997	
82/83	3600	1000	
81/82	3600	907	

Table 1. Commercial arctic char quota for Sam Ford Fiord and reported harvest Fisheries and Oceans (DFO) - Science advice remains unchanged from 1999 for Sam Ford Fiord. This population is considered at moderate risk¹ of harm from fishing at a level of 5500 kg.

The five-year exploratory fishery protocol is used to provide information on the viability of a commercial fishery in a particular waterbody. It requires sustained harvest annually of the quota over the five-year period and a comparison of biological characteristics of the fish caught at the start and at the end of the five-year period. Changes to the population structure following sustained levels of harvest may indicate that the level is not sustainable. However, if the harvest over that period does not change indicators of population health, then a higher level of harvest may be sustainable. Harvest of the full quota annually is necessary for this approach.

¹ Moderate risk: some information is missing which would allow for the assessment of the health of the stock. We think fishing at this level may not adversely affect the stock; however, it is very important to collect data from any harvest that occurs. It is also important to reassess the stock once biological data has been collected and analyzed.

Recommendations:

Based on a review of the available information and 1999 science advice and assuming the subsistence harvest remains unchanged on the waterbody, DFO's view is there continues to be a moderate risk to the Arctic Char population in Sam Ford Fiord at commercial harvest level of 5500 kg and a high risk to the population if the commercial quota was increased to 9000kg.

The fishery should be monitored to assess the effect of the harvest level on the stock and the following conditions implemented:

- The fishery should follow the exploratory fisheries five-year approach, with all samples and data being submitted annually to DFO-Science in Winnipeg;
- Minimum gillnet mesh-size of 5 ½ inches employed.

Consultations: A. McPhee and J. Moyer (DFO Resource Management – Winnipeg).

Prepared by: Jeremiah Young
Fisheries Management Technician
Fisheries and Oceans Canada
Northern Operations

Date: Aug. 1, 2017

Attachment:

ATTACHMENT:

DFO 1999 Submission to the NWMB for Decision

Issue:

Request from the Clyde River HTO to increase the Arctic char commercial quota for Sam Ford Fiord.

Background:

DFO received a letter from the NWMB to assess a request for an increase in the commercial Arctic char quota for Sam Ford Fiord. The request from the HTO is to increase the commercial quota from 4500 kg to 6800 kg – a 50% increase in the quota. The fishery targets the Walker Arm River Arctic char stock (Shane Sather, DSD Officer, Clyde River, pers. comm.). Walker Arm is regularly fished commercially with an Arctic char quota of 4500 kg/year (see Table next page). Walker Arm also supports an important subsistence fishery. The Nunavut Harvest Study indicates that the reported total (domestic and commercial combined) Arctic char harvest is 13000 kg/year (preliminary results, Johnny MacPherson, NWMB pers. comm.). The reported domestic harvest for Walker Arm is then approximately 8500 kg/year.

It is important to note that there are discrepancies between the size of the total harvest reported in the Nunavut Harvest Study and the one reported by the HTO secretary manager and the local Renewable Resource Officer. While the Nunavut Harvest Study indicated an average yearly reported harvest of 13000 kg (including commercial and domestic catches), the HTO and local RRO report total catches of less than 5500 kg (4500 kg commercial and 1000 kg domestic). The ongoing Nunavut Harvest Study will yield useful information on the total Arctic char catches from Sam Ford Fiord.

In Nunavut, Arctic char populations appear to be able to sustain a harvest of about 5%-10% annually. If the current level of the domestic and commercial fisheries obtained from the Nunavut Harvest Study is accurate (i.e. 13000 kg or 4800 fish), a population of 50000-100000 is needed to sustain the present harvest. More information should be collected on the size of the domestic fishery before increasing the commercial harvest. Because of the important domestic fishery at this location, care must be taken to ensure that the commercial fishery does not impact on the domestic fishery.

We have little biological information on the Arctic char population of Sam Ford Fiord. Interviews with fishermen (C. Read, DFO Winnipeg, unpublished information) indicated that the fish number and size had changed little over the last 30 years. A sample of 100 Arctic char was taken in 1997-98. The average length and weight were 62.5 cm and 2.7 kg respectively. 42 Arctic char were sampled for length and weight in 1993-94 and their sizes were not significantly different than what was obtained in 1997-98. From the little information we have, the stock does not appear overexploited.

The following table illustrates the annual commercial catches from Sam Ford Fiord from 1977 to 1998. Unpublished data from the Department of Fisheries and Oceans Commercial Harvest Statistics.

Year	Quota kg (round)	Taken kg (round)	% Taken
77/78	3629	N/A	N/A
78/79	3629	472	13
79/80	N/A	N/A	N/A
80/81	3629	N/A	N/A
81/82	3600	907	25
82/83	3600	1000	28
83/84	3600	997	28
84/85	3600	1200	33
85/86	3600	1805	50
86/87	3600	3500	97
87/88	3600	4035	112
88/89	3600	625	17
89/90	3600	227	6
90/91	3600	228	6
91/92	3600	400	11
92/93	3600	3600	100
93/94	3600	4220	117
94/95	3600	6182	172
95/96	4500	4356	97
96/97	4500	2108	47
97/98	4500	3708	82
Total:	74787	39570	53

Note: In 1996-97 and 1997-98, HTO and RRO reported that the quota was reached. However DFO files reported that the commercial quota was not reached.

Options:

- | | | |
|-----------|-------------|--|
| Option 1. | Low Risk | The low risk option for this fishery is to leave the commercial quota at 4500 kg. The fishery has never been assessed before. We should treat this fishery as experimental. We have data from the commercial fishery of 1997-98 that could be compared to samples that would be collected in 2002-03. Better information should be collected on the importance of the domestic fishery at this location. The data from NWMB Harvest Study suggests that this waterbody is an important source of food for the community and as such should be managed to preserve the domestic fishery. DFO recommends this option. |
| Option 2. | Medium Risk | The quota for this waterbody could be raised marginally to 5500 kg. This will allow somewhat more commercial fish available with any potential impacts to be small enough to be recognized before serious problems exist. Periodic monitoring of the catch would help assess the impact any increase in harvest is having on the fishery. |
| Option 3. | High Risk | If the quota go up to 6800 kg, the potential for overfishing the stock and the impacts on the subsistence fishery become more serious. We have no data to determinate if the fishery can sustain a commercial harvest this large without having an impact on the subsistence fishery. DFO recommends against this option. |

Prepared by:

Patrice Simon
Fisheries Management Biologist
DFO Nunavut Area Office

and

DFO Winnipeg