Chum Fishery Substitution

Yukon River Panel Project CRE-106N-03

Final Report

Prepared on behalf of the North Yukon Renewable Resources Council (RRC) and the Vuntut Gwitchin First Nation

By

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ABSTRACT:

The Old Crow subsistence fishery was closed on the Porcupine River main-stem from August 10th to October 15th, 2003, resulting in a significant boost in the escapement of chum salmon. A substitute of surplus farmed arctic char was secured for Old Crow dog owners to replace lost dog food generally supplied through the subsistence fishery. The substitute char has been secured for delivery to Old Crow dog owners until April 30th, 2004.

OBJECTIVES:

a. Inspire and build community capacity and stewardship for the conservation, restoration, and enhancement of salmon stocks and their habitat in the Porcupine River sub-basin: In order to carry out needed research and to ensure long-term salmon habitat stewardship, the human capacity must be developed within the community of Old Crow. This is consistent with goals and objectives of the Vuntut Gwitchin Final Agreement and that of the Vuntut Gwitchin First Nation (VGFN). This project will help to build a sense of responsibility and ownership in regard to salmon conservation;

b. Restore chum salmon stocks by directly increasing spawning escapement: This project will effectively replace the chum salmon fishery and thereby will ensure that an additional 4,000 to 6,000 fish, which would normally be harvested, will instead reach the spawning grounds. This escapement "boost" will directly contribute to the restoration of the Porcupine River chum stocks;

c. Set the stage to ensure the long-term conservation of the chum salmon resource and habitat in the Porcupine River sub-basin: The experience gained by community members through this project will provide a basis from which local managers pursue the conservation and restoration of this valued resource.

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1 INTRODUCTION:

The Porcupine River is one of the largest tributaries in the Yukon River system. It extends from its mouth at Fort Yukon, Alaska, across the Canada/U.S. border, where it drains a large portion of the north Yukon and most of the Traditional Territory of the Vuntut Gwitchin First Nation. The Porcupine has a number of large tributaries in Canada, including three significant rivers that form its headwaters: The Whitestone, Miner, and Fishing Branch Rivers. The only settlement within the Porcupine River watershed is the village of Old Crow, located approximately 80 kilometres east of the Canada/U.S. border at the mouth of the Crow River. Old Crow has a population of roughly three hundred, mainly Vuntut Gwitchin First Nation members.

Three species of salmon migrate up the Porcupine River. These include a chinook run, that passes Old Crow mainly during the month of July, a chum run, that passes Old Crow mainly in September, and a coho run, that passes Old Crow between early October and late January. There have also been limited reports of summer chum in the vicinity of Old Crow. The Vuntut Gwitchin depend on the chum run for a substantial subsistence fishery.

Declining returns of chum salmon have been a serious concern for local and federal managers. The Fishing Branch River, believed to provide the primary spawning grounds for Porcupine River chum salmon, has seen a dramatic decline of returns in recent years. During the year 2000, a record low of approximately 5,000 chum returned to the Fishing Branch River. The Department of Fisheries and Oceans (DFO) escapement target range for this river is 50,000 to 120,000 chum, with a maximum recorded return of 353,000 in 1975 (U.S. and Canada JTC, 2002). In 2002, faced with another low return, the DFO, (consultation with the North Yukon RRC and VGFN) implemented a partial closure of the Porcupine River chum fishery. In anticipation of a similar situation the following year (2003), local managers proposed this project as a proactive measure. The concept being to close the fishery in exchange for the resources required to obtain a substitute food for dog owners, the largest users of the chum resource. Despite higher than expected chum returns in 2003, the project continued, providing a significant boost to chum escapement on the Porcupine River.

2 METHODS

Through the summer of 2003, various sources of substitute food for Old Crow dogs were investigated. These options included obtaining bulk chicken, beef, or horsemeats from Alberta and Yukon sources, chum salmon (brood stock) from a hatchery in Juneau, Alaska, and arctic char surplus from the Icy Waters Fish Farm in Whitehorse.

As required under this project, the Old Crow subsistence fishery on the Porcupine River main-stem was closed by the DFO from August 10th to October 15th, 2003.

It was decided that the most logistically feasible and the highest value per dollar option was the supply of arctic char available from the Icy Waters Fish Farm in Whitehorse. This

supply was composed of char parts (fish carcasses minus fillets) with some whole fish (fish farm culls). Icy waters agreed to provide between 900 and 1000 pounds of arctic char substitute on a bi-weekly basis. Arrangements were made for the char substitute to be sent to Old Crow on Air North, including the purchase of transport containers. The first shipment of char arrived in Old Crow on September 18th, 2003. Upon arrival, a volunteer distributed the char equally among interested dog owners on a per dog basis. Sixty-nine percent of shipping costs ($0.45/pound) were subsidised by the project, with the remaining thirty-one percent ($0.20/pound) being paid by individual dog owners. The arctic char substitute will arrive and be distributed in Old Crow every two-weeks until April 30th, 2004.

3 RESULTS

3.1 Conservation Effects

The only effective indicator as to the strength of Porcupine River chum returns in 2003 was the number of chum that reached the enumeration weir on the Fishing Branch River. Approximately 29,500 chum reached the weir over the course of the season, which was considerably higher than in recent years. It should be noted, however, that this is still well below the escapement target of 50,000 and also below the ten-year average (1993-2002) of roughly 31,600 (DFO, 2003).

The Old Crow subsistence fishery generally harvests between 4,000 and 6,000 chum salmon. This project, therefore, increased 2003 spawning escapement proportionally. The Fishing Branch escapement of approximately 29,500 chum, therefore, included a large number of fish (13% to 20% of total) that were not harvested as a result of this project.

3.2 Community Response

Response from the community to the fishery closure and the substitute char provided was mixed. Many fishers were supportive of the closure. However, as the season progressed, it became evident that higher than expected numbers of chum salmon were returning in the Yukon River system. It was not possible to determine what levels were returning to the Porcupine system until a significant portion of the run had passed through the Fishing Branch enumeration weir. At this point, some fishers felt that they should be able to harvest chum, particularly with fisheries open on the Yukon River main-stem in Fort Yukon and Dawson City. Some others continued to support the conservation effort of the closure.

The arctic char substitute has been taken advantage of by all dog mushers in Old Crow, as well as many community members who keep dogs for bear protection and/or pets. While no interested dog owners have rejected the substitute, some have complained that the amount received is not enough to meet their requirements. Others, including prominent dog mushers, initially expressed satisfaction with the amount and quality of the char substitute. However, as winter temperatures arrived, more dog owners began to complain that the quantity of char was not sufficient. Some dog owners also complained about having to pay for a portion of the shipping costs. It was decided to continue with only the partial subsidy of shipping costs so that the shipments could be continued until the end of April. If shipping costs were fully subsidized by the project, the shipments would not be

available as long, which would result in dog-owners receiving less substitute overall. It was decided that this was the best arrangement to provide the maximum benefit for dog mushers with the available project funds. The amount of char being shipped to Old Crow is the maximum that Icy Waters can provide on a bi-weekly basis, and further resources would be required to purchase additional substitute from other sources.

4 CONCLUSIONS/RECOMMENDATIONS

It is quite evident that closing a substantial salmon fishery will provide a substantial increase in spawning escapement. However, the success of such a project must also be measured in community response.

While higher than expected returns were good news for the general conservation of chum stocks, such circumstances contributed to some local dissatisfaction with the project. An effort such as this project can only be maintained with sufficient community support, which is difficult to maintain if fisheries in adjacent communities remain open. Also, the provision of a substitute food for dog owners is critical for community support.

It should also be noted that a small number of chum salmon (319) were taken under the test fishery (CRE-27N-03) and distributed as food fish to elders and some dog owners. This also built community support, as elder's food fish needs for chum salmon were met. Overall, this project should be considered a success. Conservation goals were met, however, more resources would have assisted in meeting community needs more adequately.

4.1 Recommendations

If future programs of this nature are to occur, it is recommended that a mechanism be provided to ensure that any fishery closure on the Porcupine River is consistent with management measures taken both within the Alaskan portion of the Porcupine River, and, on the Yukon River main-stem in Alaska as well as the Yukon. While returns of Porcupine River stocks may or may not be reflected in the strength/weakness of Yukon River main stem returns, it is important that Old Crow fishers do not feel that they are alone in making sacrifices for conservation efforts. Effective "in-season" stock assessment and effective communication within the community will also build support among Old Crow fishers, a necessity for future conservation efforts.

5 REFERENCES

1. Department of Fisheries and Oceans (DFO), 2003. Unpublished Data.
2. United States and Canada Yukon River Joint Technical Committee (JTC), 2002. Summary Report: "Yukon River Salmon Season Review For 2002 And Technical Committee Report."