

Klusha Creek & Tatchun Creek Ongoing Obstruction Management 2004

FINAL REPORT

Yukon River Panel Project CRE-04-35

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Prepared on behalf of
Little Salmon/Carmacks First Nations
By Jean Jang

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ABSTRACT

The Little Salmon / Carmacks First Nation continued their stewardship of Tatchun & Klusha Creeks in 2004. Tatchun Creek was monitored to ensure it remained clear of obstructions, for Chinook salmon to spawn downstream of Tatchun Lake. In previous years Klusha Creek was walked and cleared of obstructions. This year through an over flight of Klusha Creek with Al von Finster and Kate Bartel (Dept. of Fisheries and Oceans) the flow was found too low to provide spawning habitat for Chinook salmon. Four stream counts were conducted on Tatchun Creek during Chinook salmon spawning periods. Gee-trapping was conducted on creeks in the Carmacks Village area.

1.0 INTRODUCTION

The Little Salmon/Carmacks First nation (LS/C FN) has a fundamental cultural relationship with Yukon River salmon. The community has long been the steward for the streams within its traditional territory, including Tatchun and Klusha Creek. In recent years the community has developed and implemented a 'Stewardship Plan' to ensure that adult salmon can utilize habitat in these streams.

Tatchun and Klusha Creeks are within the Mid-mainstem watershed of the Yukon River drainage basin. Located in the interior, the climate consists of cold winters and warm summers. Both creeks are entirely within the glaciated portion of the Yukon River Basin in areas ranging from 305m-914m above sea level. Some tributaries drain from nunatuks and non-glaciated mountain tops. Although surface ice in this region has melted; degradation still occurs due to permafrost. Both streams are clear with substrate ranging from large and small cobbles to large and small gravels with significant water storage in lakes.

The summer of 2004 was extremely warm and dry. Stream flows were very low throughout the southern and central Yukon.

The 2004 Tatchun and Klusha Creek project had the following objectives:

Objective 1 - to ensure that access for salmon to spawning grounds was not impeded

And

Objective 2 - to conduct counts of returning adult Chinook salmon and redds.

2.0 METHODS / MATERIALS

Obstructions on Tatchun Creek were identified, documented, mapped, breached and monitored in accordance with the Yukon River Panel Protocol for Obstruction Removal and Maintenance of Upstream Migration for Salmon.

Gee type minnow traps were used for the capture of juvenile salmon on Big Creek and upper Tatchun Creek (upstream of Tatchun Lake) following the guidelines provided by Fisheries and Oceans Canada - Habitat and Enhancement Branch. (Protocol for the Baiting of Gee-type Minnow Traps for the Capture of Juvenile Chinook Salmon in the Yukon River Drainage Basin)

Adult Chinook salmon were observed and counted through stream walks on Tatchun Creek on various occasions. An 'Etrex' – GPS was used to map the salmon surveyed. Salmon redds were photo documented. Polarized glasses were always used to increase visibility. Numbers from counts were forwarded to the Dept. of Fisheries and Oceans Stock Assessment Division in Whitehorse, Yukon.

3.0 SUMMARY

Klusha Creek

An aerial survey was made on Klusha Creek with Al von Finster, Kate Bartel and Jean Jang on July 31, 2004. Klusha Creek was very low and not suitable for Chinook salmon spawning habitat or upstream migration as suggested by Al von Finster. Therefore obstruction management on Klusha Creek did not occur.

Big Creek

G-trapping was conducted on Big Creek, Yukon Territory trapping for juvenile Chinook salmon. Larger juvenile Chinook captured were approximately 75mm in length and the smaller juveniles were 65mm (Figure 1). A total of 20 traps were set for a 22 hour period on July 26, 2004 and retrieved on July 27, 2004. Data sheets were submitted to Fisheries and Oceans Habitat Enhancement Branch.

Upper Tatchun Creek – upstream of Tatchun Lake

There were no juvenile salmon caught upstream of Tatchun Lake. A total of ten traps were set on July 28, 2004 and retrieved July 29, 2004. The traps were set for a 25 hour period.

Lower Tatchun Creek – downstream of Tatchun Lake

Spawning Chinook salmon were surveyed on four occasions from August 9-18, 2004. The larger salmon redds surveyed were on Aug. 9 with 75 Chinook, Aug. 15 with 84 Chinook and Aug. 18 with 80 Chinook (Figure 1).

A partial count was conducted from downstream of the Beaver Dam Pond to the campground on August 9, 2004. A total of 129 Chinook salmon were observed. Redds ranged from 75 to 1 Chinook with a mean of 12.9 (Figure 2).

A partial count was conducted from downstream of Tatchun Lake to the upstream end of Beaver Dam Pond. A total of 5 Chinook salmon were observed on August 12, 2004. Redds ranged from 3 to 1 Chinook with a mean of 1.3 (Figure 3).

On August 15, 2004 a full count was conducted from downstream of Tatchun Lake to the campground, a total of 268 Chinook salmon were observed. Redds ranged from 84 to 1 Chinook with a mean of 8.4 (Figure 4).

On August 18, 2004 a full count was conducted from downstream of Tatchun Lake to the campground, a total of 264 Chinook salmon were observed. Redds ranged from 80 to 1 Chinook with a mean of 11 (Figure 5).

Logjams and Beaver Dams were flagged and mapped; they were all located upstream and downstream of Beaver Dam Pond. Logjam 1A, 2, and 2A were removed with a small chainsaw and manual labor with the help of local residents from Little Salmon Carmacks Village residents (Figure 6).

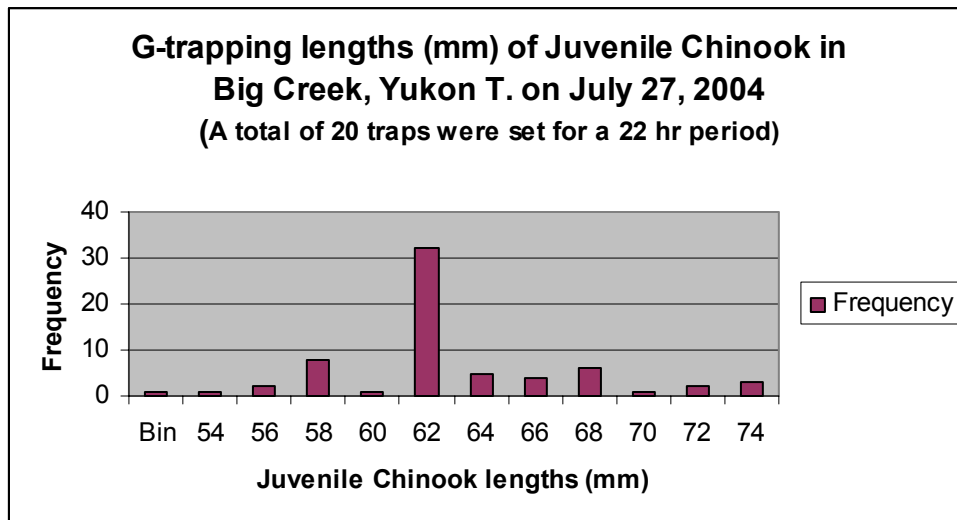


Figure 1: G-trapping results from Big Creek, Yukon T. showing the lengths of juvenile Chinook captured and their frequency.

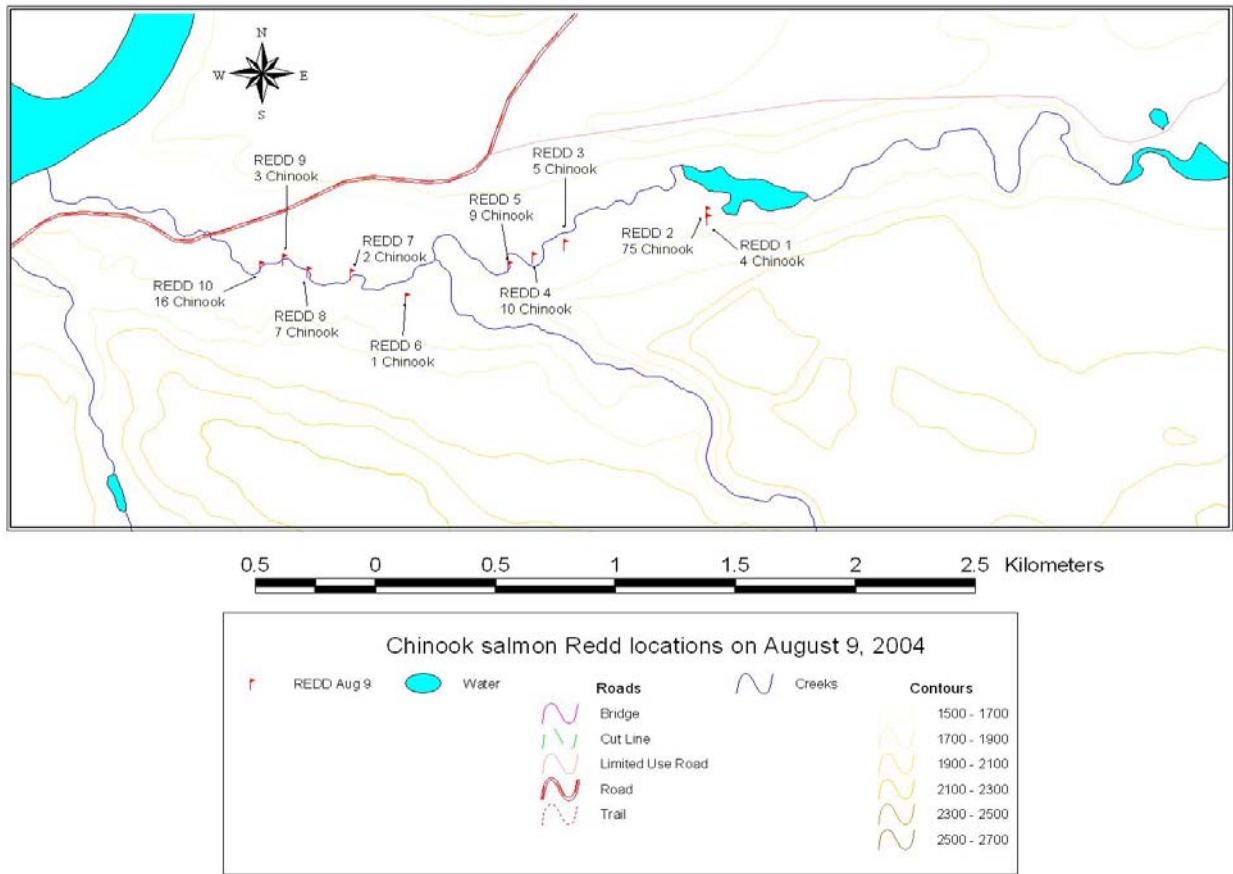


Figure 2: Chinook salmon redd locations and numbers observed on Tatchun Creek from Beaver Dammed Pond (center of map) to the campground on August 9, 2004.

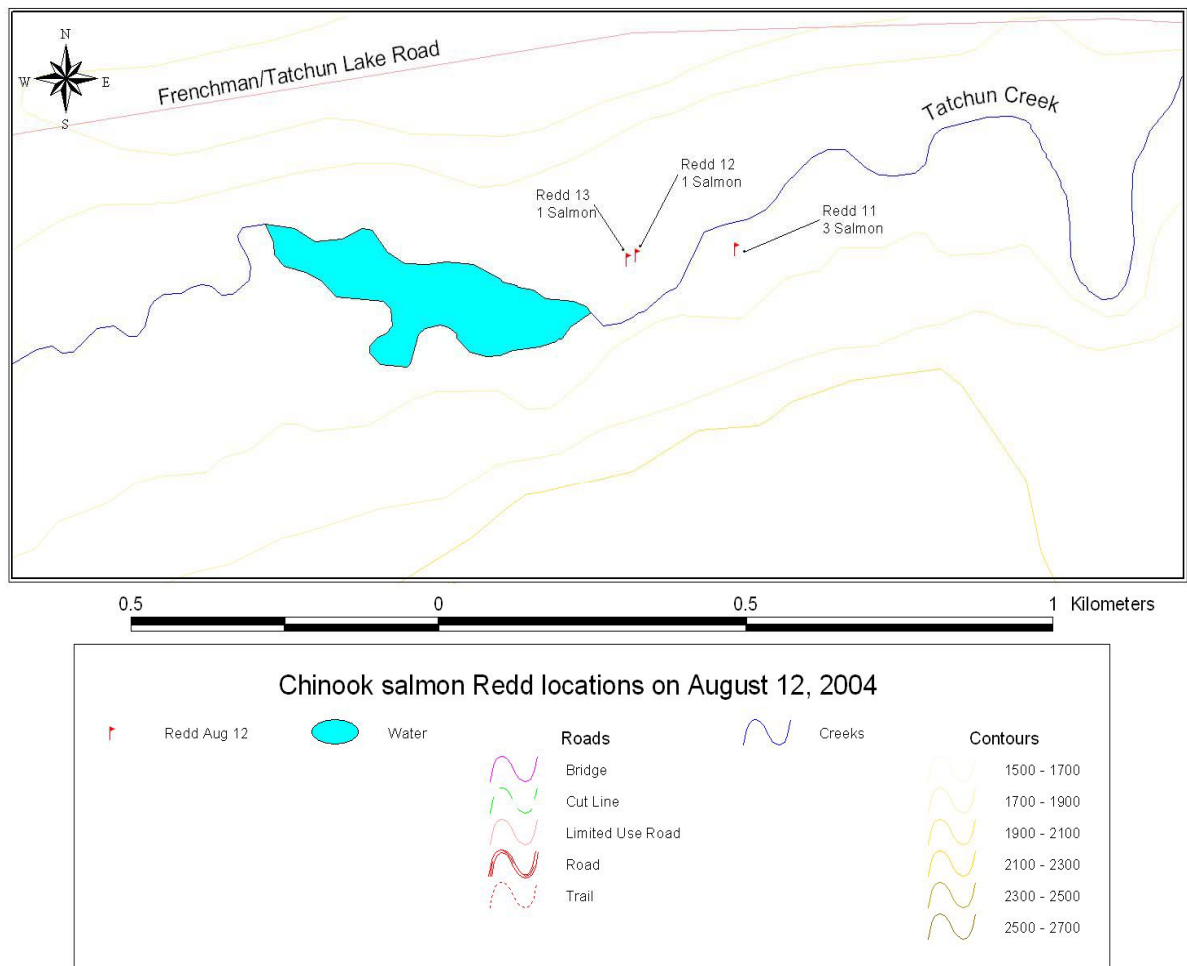


Figure 3: Chinook salmon redd locations and numbers observed on Tatchun Creek downstream Tatchun Lake to Beaver Dam Pond (in view of map) on August 12, 2004.

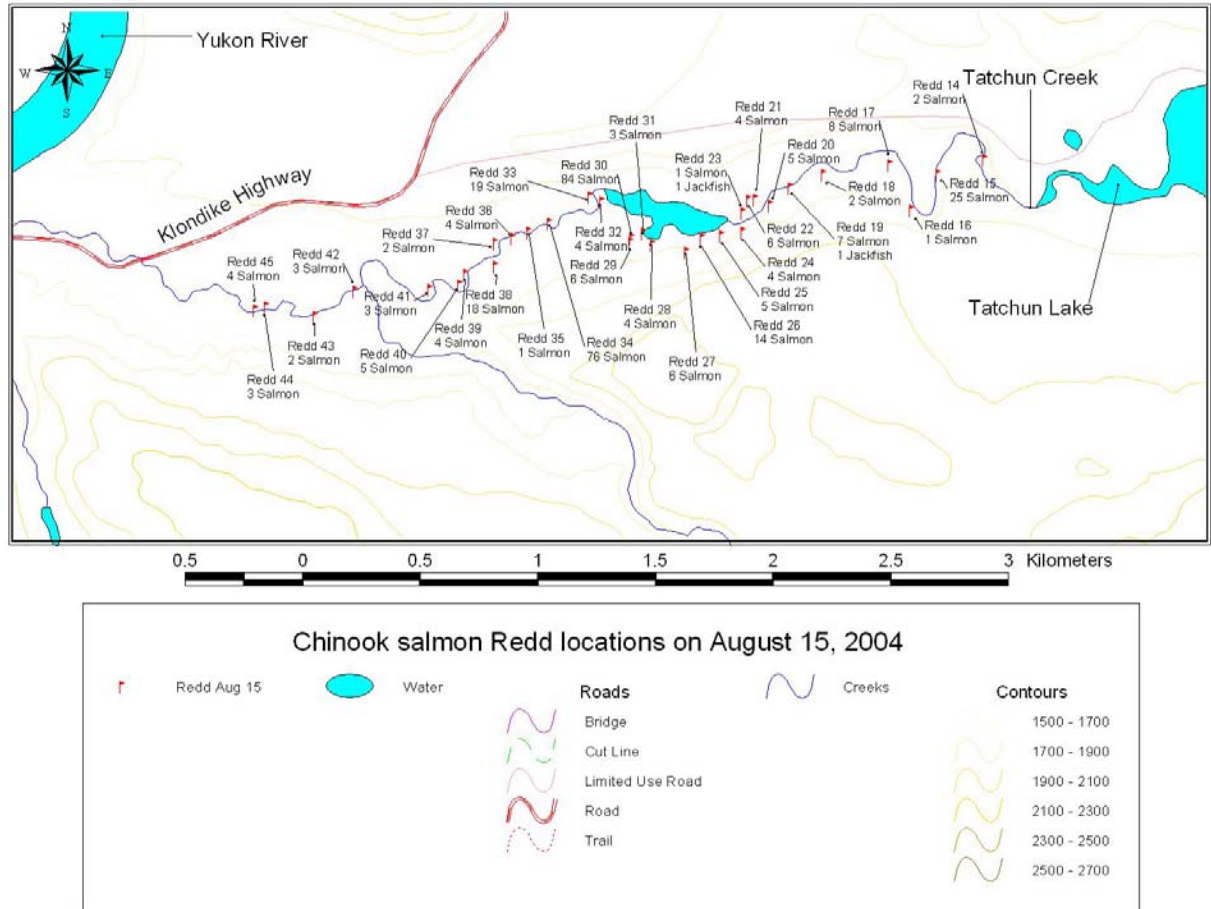


Figure 4: Chinook salmon redd locations and numbers observed on Tatchun Creek from Tatchun Lake to the campground August 15, 2004. Beaver Dam Pond is located at the center of the map, downstream from Tatchun Lake.

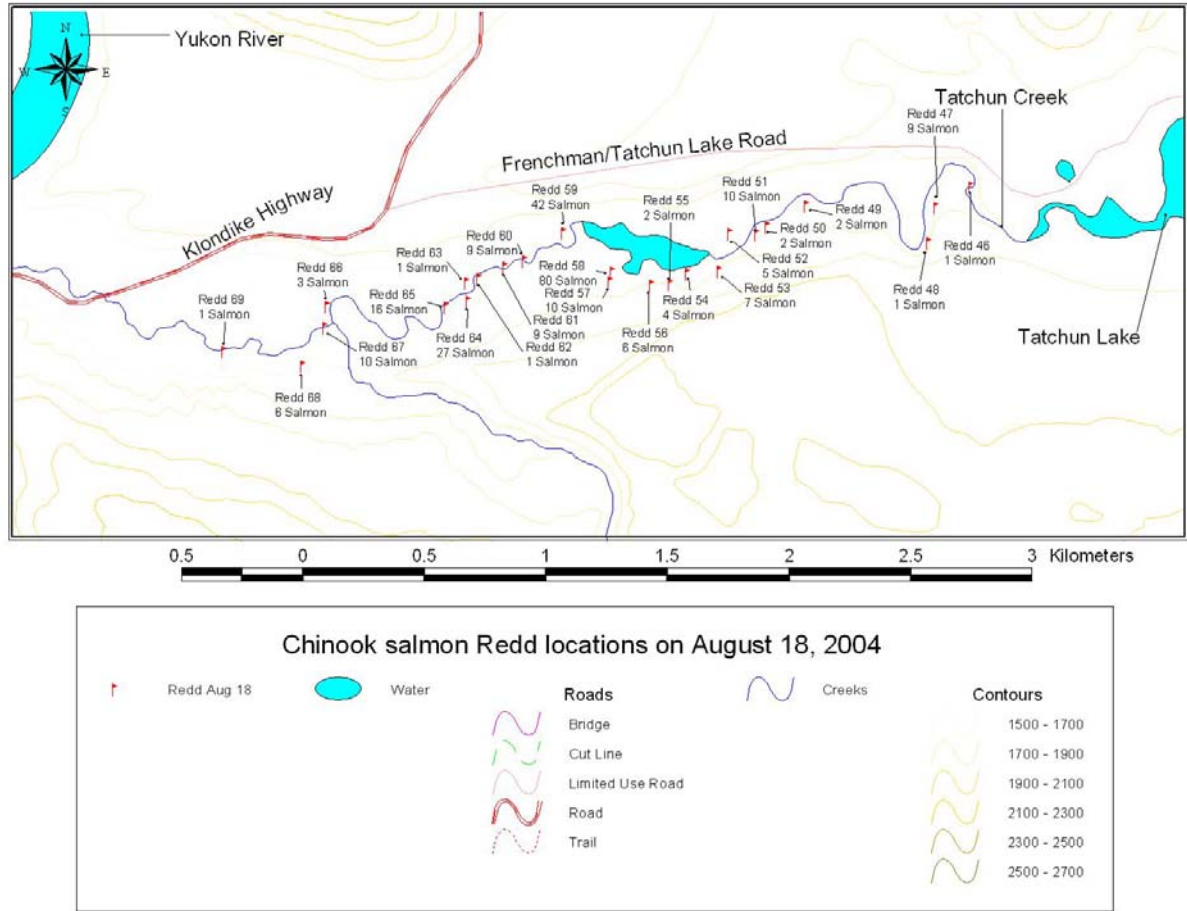


Figure 5: Chinook salmon Redd locations and numbers observed on Tatchun Creek from Tatchun Lake to the campground on August 18, 2004. Beaver Dam Pond is located at the center of the map downstream from Tatchun Lake.



Figure 6: Logjams and Beaver Dams located on Tatchun Creek surrounding Beaver Dam Pond downstream of Tatchun Lake on August 2 and 3, 2004.

APPENDIX 1: Photographs of Tatchun Creek



Figure 8: Logjam 2A, upstream view on Tatchun Creek.



Figure 9: Taking a break from removing a logjam (2A) on Tatchun Creek.



Figure 10: Downstream view of Tatchun Creek.



Figure 11: Headcut from Beaver Dam Pond onto Tatchun Creek.



Figure 12: Winston Billy holding a male Chinook salmon.



Figure 13: Jean Jang observing spawning Chinook salmon.