

# Rearing & Overwintering Access Restoration 2008

Prepared by:

Gladys Netro
Executive Secretariat

**DDRRC** 

# Rearing & Overwintering Access Restoration

[CRE-06-08]

October 2008

Prepared By:

Gladys Netro

DDRRC

Prepared for:

The Yukon River Panel



### **ACKNOWLEDGEMENTS**

We would like to thank Hans Algotsson, our field supervisor, and our two student employees, Heather Fraser and Sonny Parker, for all their hard work in the field during the summer. Al von Finster, Resource Restoration Biologist of Fisheries and Oceans provided us with invaluable support and advice. Funding for this initiative was provided by the Yukon River Panel.

## TABLE OF CONTENTS

ABSTRACT	5
INTRODUCTION	6
METHODS AND RESULTS	7
DISCUSSION	12
CONCLUSIONS AND RECOMMENDATIONS	15
REFERENCES	16
LIST OF PHOTOS	17
APPENDICES	

### **ABSTRACT**

This project aimed to relocate Chinook salmon to rearing habitats and salvage juvenile Chinook from isolated habitats. Planning was conducted in consultation with DFO. Two local high school students were hired and worked in the field under a field supervisor. Both students remained with the project throughout, learned a lot from the season and they performed well. DFO staff provided invaluable technical support to the team. The project started on July 9 and ended on Aug 10, 2008. A total of 98 juveniles salmon were captured and transported to upstream habitats or from isolated pools to open waters. The amount of salmon that were trapped and relocated was low, due to high water level in all streams. This negatively affected trapping success, while breaching or bypassing obstruction. New areas were investigated. The DDRRC recommends that the project continues by assisting the juvenile Chinook to make it to habitats to rearing and spawning areas.

#### INTRODUCTION

In 2006, a pilot project was initiated by the Dawson District Renewable Resources Council in response to concerns by Tr'ondëk Hwëch'in elders and other locals that salmon rearing and spawning habitat has been diminishing within the Tr'ondëk Hwëch'in traditional territory. Further, field investigations by the YFWMB Dawson Area Community Steward and the Department of Fisheries and oceans on several non-spawning streams in the Dawson area indicated that beaver dams and other non-permanent barriers are obstructing the movement of salmon fry into known rearing and overwintering habitat. Field investigations also indicated that significant numbers of fry remained in pools in spawning rivers that became isolated after the spring freshet. This project incorporated the methodology and recommendations of our 2006 and 2007 projects to achieve our 2008 objectives.

The objectives of the project were to:

- Restore Chinook salmon stocks through increasing access to rearing and overwintering habitat
- Involve, educate and give experiences to 2 students from Robert Service School.
- Build community capacity and stewardship for the restoration of salmon stocks and habitat
- To add to knowledge of salmon utilisation of small streams in the central Yukon.
- To salvage salmon fry from isolated pools in the Klondike River floodplain
- Develop a monitoring program for future assessment and restoration

Coordination and communication for this project was provided by the author in her role of Dawson District Renewable Resource Council Executive Secretariat.

#### METHODS AND RESULTS

The project had three main components. These were:

- 1. Planning and mobilisation, including the hiring of staff, determination of logistics, etc;
- 2. Field work stage, during which juvenile salmon were relocated into upstream habitat or salvaged from isolated pools; and
- 3. Reporting.

Each component will be discussed below.

### 1. Planning and mobilisation

A project supervisor, Hans Algotsson, was hired in late June, 2008. The three known Chinook rearing habitats that were identified in the proposal were: Clinton and Mickey Creek, tributaries to the Fortymile, and the Germaine Creek area which is an old Klondike River channel at the confluence of Germaine Creek.

A three passenger 4 x 4 vehicle was provided by supervisor Hans Algotsson for the project. The funding that was proposed in our detailed proposal was less than quotes from vehicle rental firms from Whitehorse, so we therefore made this change to stay within budget.

Two local high school students, Heather Frazer and Sonny Parker were also hired in early July 2008. Throughout the project, they were encouraged to develop an understanding of the environment in which they live, how salmon are a part of that environment, and how humans can play a role in helping the resource along, and appreciating the role of Mother Nature, by the increased volume of rain.

### 2. Fieldwork stage: Investigation of sites and Relocation of juvenile Chinook salmon

This component of the project began on the 14 July 2008. During the first week Al von Finster (DFO Restoration Biologist) accompanied the field supervisor and the students to the Klondike and Fortymile watershed sites, and trained the employees in the technique of capturing anesthetizing and measuring juvenile chinook.

The technique used throughout the project was baited Gee-type minnow traps. These were set in accordance with the "Protocol for the baiting of G-type minnow traps for the capture of juvenile Chinook salmon in the Yukon River drainage basin" (Appendix A). All fish captured were counted, and only juvenile salmon were released above obstructions. Incidental by catches included slimy sculpin, Arctic grayling, and long nosed sucker (Appendix B).

A total of 98 juvenile chinook salmon were salvaged or released upstream of obstructions. Captures of juvenile Chinook salmon by location and date are shown in Table 1.

Date	Clinton Creek	Mickey Creek	Germaine Creek	
July 11-08				
July 12-08				
July 13-08				
July 16-08			2	
July 17-08	7	1		
July 18-08				
July 19-08				
July 23-08				
July 24-08				
July 25-08				
July 29-08				
July 30-08	10			
July 31-08	12	0		
Aug 01-08				
Aug 02-08				
Aug 05-08			6	
Aug 07-08	29	31		
Aug 09-08				
Sub total	58	32	8	
TOTAL				98

Table 1 - Total salmon moved in July Aug 2008

Relocation of Chinook salmon began on July 15<sup>th</sup> in the Klondike drainage and extended until Aug 5<sup>th</sup>. A total of 8 juveniles were captured and released. Relocation of juveniles in the 40 Mile drainage starting on July 17<sup>th</sup> and was completed August 7<sup>th</sup> with a total of 90 juvenile relocated upstream of obstructions.

The project began at the Germaine Creek Reclamation salvage site in the Klondike drainage area. Only a total of 8 juveniles were relocated from this area, compared to the 1298 juvenile

salmon that were moved in the previous year. Due to the rainy summer with high water levels, there were no isolated pools along the Klondike.

An important component of the project was to address concerns that had arisen from Tr'ondëk Hwëch'in elders regarding the handling of juvenile salmon, and the perceived spread of disease through human/fish contact. To this end, the project methodology was modified so that fish were only anesthetized and measured on several training days and in the presence of experienced DFO staff. A small group of Tr'ondëk Hwëch'in members travelled to a very nice spot along the Klondike River, about 2 km south from the Dempster highway, on August 13<sup>th</sup> to observe the project first hand, including anesthetizing and measuring fish. Invitation to other Tr'ondëk Hwëch'in elders was issued through the Tr'ondëk Hwëch'in elders coordinator, but they were unable to attend.

# 4. Reporting

A final report was drafted following completion of the field work. Creek-specific information was added to the "Draft North Yukon Mainstem Restoration and Enhancement Record of Activities" (Appendix C).

#### DISCUSSION

The 2008 season was different than most years, due to the sustained and very high water levels. This water had washed out most of the beaver dams and moved log jams in Clinton Creek and the juvenile Chinook salmon were able to make it to their destination. This provided an opportunity to check other possible areas. Flat Creek, All Gold Creek, Too Much Gold Creek, Leotta Creek and Goring Creek were trapped at the Klondike Highway crossing and Bonanza Creek was trapped approximately 5 to 8 km upstream. See Appendix C. No salmon were trapped in the creeks, except for 40 juveniles in Bonanza Creek.

### Klondike River – Germaine Creek Reclamation area salvage

In the previous year, 1298 juvenile Chinook were salvaged from isolated pools in the Germaine Creek area. This year 8 salmon were salvaged. This great reduction is attributable to the Klondike River rising in early July and flowing through the majority of pools that are normally isolated.

### Clinton Creek

In the previous year, 2066 juvenile chinook were captured and restored to upstream habitats. This year 58 salmon were captured and returned to the creek at the confluence with Wolverine Creek. This is attributable in part to the very high water: in a July 15 overflight DFO staff noted that most or all of the beaver dams on the creek had been breached. Juvenile salmon were able to migrate freely upstream. An additional problem was that the Fortymile River flooded and backwatered lower Clinton Creek. This negatively affected trapping success.

### Mickey Creek

In the previous year, 1273 juvenile salmon were captured and restored to the creek above the Clinton Creek Road Crossing. This year 32 salmon were captured and returned to the creek, with 31 being captured at the very end of the project. The crew walked downstream to investigate potential obstructions and found that there were trees across the creek. Migration up Mickey Creek typically starts later than Clinton Creek. This is believed to be attributable to difference in temperature, with Mickey Creek being colder. As with other

streams, flows in Mickey Creek were high throughout the project. The temperature was also even more cold than normal. It is likely that the majority of the upstream migration occurred after the project was over.

### Staff and Administration

Hiring a dedicated supervisor with background in Fisheries was very effective. In 2007 there were some challenges were involved in finding someone qualified to work a short contract in the middle of the busy summer season. This year, our supervisor had previous experience in fisheries, having worked at the Fishing Branch and having completed the Fish course "Fishery Technician Program" through Yukon College that was held in Dawson City.

The number of resumes that came in for the two local high school student positions was high. The job advertisement was posted at the Robert Service School, Klondike Employment Centre and at other locations in the community. It was not easy to make our selections. Both students were punctual, enthusiastic, competent and enjoyed the work, however were discouraged when the numbers of juvenile salmon were low. Over a discussion at Mickey Creek of the impact of high water, the students were able to clearly understand how nature takes its course and some years the fish have it easy. The students appreciated nature and it seemed the open discussion on site was one of the big teachings of the project.

Hiring local students raises the potential that they will want to be involved in future local projects or to choose a career in natural resource management. Further, the knowledge and experience they gathered will be described to their peers, thereby instilling an interest in salmon and their habitat in other local youth. Both students produced a report reviewing their experience (see Appendix D).

Some suggestions to enhance the educational experience of the youth workers include:

- O A concerted effort to connect them with other types of fishery field work;
- o Being given more opportunities to learn, in experiential ways, the importance of salmon in the ecosystem of this region.

- O Continue connecting with other youth workers in the field as when the Youth Community Steward came to participate, for a day;
- o Encouraging student workers to have open discussions at the creeks and to promote the practice (and benefits) of recording observations. The reports of the students are attached and the value in having students involved is expressed through their writing.

The length of the project this year worked well for the students and the supervisor. All three were available on daily basis and were anxious to go, even though it was raining most days.

The administration component of the project was successful, particularly in the management of human resources and the budget.

The vehicle arrangement was satisfactory. Renting a vehicle from Whitehorse would have been more costly than our budget allowed. The project supervisor provided a 4 x 4 truck that worked well. This year the students preferred to do the drives to return home each day as they had other commitments in town, at home and with sports.

Public participation was limited this year. Contacts were made in advance, however individuals were not able to commit for an outing. Weather was also a consideration, due to the wet summer. The single day trip with the Tr'ondëk Hwëch'in youth, elder and a staff member went well. The demonstration gave the public a clear idea of what the project entailed. This year, the Klondike, 2 km upstream from Dempster Highway bridge was the selected location for the public day. This was a great selection as it was conveniently close to town and the elder and youth were able to see the variety of fish that were trapped. In previous years, 40 Mile area had been chosen, however the road conditions from all the rain was in poor condition. Gaining public support early in the season would need to begin earlier, through public posters and emails.

#### CONCLUSIONS AND RECOMMENDATIONS

The 2008 project provide valuable information to compare to previous years and to plan for future years. The extreme high water, which extended from early July to September, required modifications to the project as the juvenile salmon were not trapped in isolated pools and were generally able to reach rearing habitat unaided.

The DDRRC makes the following recommendations:

- Continue to hire a dedicated supervisor with experience in fieldwork.
- Identify additional salvage sites through community input and field investigations.
- Continue to hire a crew of high school aged students as field assistants.
- Make a concerted effort to connect the project with other types of fishery work being done in the field in the Dawson Area. To be aware of other R&E projects in the community and in some cases would be effective to work over lap at different stages at certain creeks and rivers.
- Having overnights at 40 Mile could be a possibility, to minimize traveling time.
   Depending on commitments in town for the team.
- Continue to rent 4 x 4 pick up to be able to drive in back country areas, where it's easy to get stuck in the mud.
- The culvert at Mickey Creek could be backwatered by building up the channel bottom at the end of the outlet pool with rock. Alternative, Highways of Yukon Government could be approached to do this. This would allow juvenile salmon free access through the culvert.

#### REFERENCES

- Bradford, M.J., J.A. Grout, Sue Moodie. 2001 Ecology of juvenile chinook salmon in a small non-natal stream of the Yukon River drainage and the role of ice conditions on their distribution and survival. Canadian Journal of Zoology, vol. 79, p 2043-2054
- Jones, Sebastian. 2005 A report on a fry trapping exercise on Shell Creek, August 2005.
- Smart, Cholena. 2006 **Spawning and Rearing Access Restoration CRE-06N-06.**Dawson District Renewable Resources Council
- von Finster, A. June 2, 2005 On-site to Germaine and Viceroy channels, May 26 & 27, 2005. Memo to file- Klondike Drainage Ground Water Channel Investigations.

  Oceans, Habitat and Enhancement Branch, Y&TBR, Fisheries and Oceans Canada.

  2p
- von Finster, A. November 24, 2005 Report on 2005 sampling of Mickey Creek, tributary to the Fortymile River, a central Yukon stream affected by wildfire.

  Memo to Mickey Creek stream file. Oceans, Habitat and Enhancement Branch, Y&TBR, Fisheries and Oceans Canada. 5p.
- von Finster, A. December 6, 2005 Clinton Creek, tributary to the Fortymile River,

  Yukon River North Mainstem sub-basin Record of 2005 sampling. Memo
  to Clinton Creek FCSAP file. Oceans, Habitat and Enhancement Branch,
  Y&TBR, Fisheries and Oceans Canada. 8p
- Cholena Smart. September 2007 Rearing & Overwintering Access Restoration Report (CRE-06-07) Dawson District Renewable Resources Council

# LIST OF PHOTOS

Photo 1.	Al von Finster in conversation on public day with Tr'ondëk Hwëch'in members (Margaret Titus and 3 youth)
Photo 2.	Sonny Parker measuring a fish with Heather Fraser assisting
Photo 3.	Al vonFinster, Heather Fraser and Sonny Parker along Klondike River
Photo 4.	Students Sonny Parker, Heather Fraser and Hans Algotsson (supervisor) at Klondike River



Photo 1 – Al von Finster explaining the project on public day



Sonny Parker measuring a fish and Heather Fraser assisting



Al vonFinster, Heather Fraser and Sonny Parker along Klondike River



Heather Fraser, Sonny Parker and Hans Algotsson at 40 Mile

#### APPENDIX A

# Protocol for the Baiting Of G-Type Minnow Traps for the Capture of Juvenile Chinook salmon In the Yukon River Drainage Basin

# Fisheries and Oceans Canada Habitat and Enhancement Branch

Baited G-type minnow traps have proven to be an effective means of capture for juvenile Chinook salmon in the Yukon River drainage basin. Trapping has been conducted by consultants, public interest groups, and government agencies. Salmon roe was the main bait that was used to trap the juveniles.

DFO Habitat developed the following Protocol in 1985 to provide a consistent methodology for G-type minnow trapping in the Yukon River Drainage basin in Canada:

Traps are baited with either Yukon River Chinook or Chum salmon roe. The roe is not salted or otherwise chemically preserved. A "walnut" sized" piece of roe is placed in a perforated thin plastic sandwich or similar bag, and the bag tied off.

(Note: roe is most easily handled when it is frozen: freeze the skeins flat, and chip off appropriate sized pieces. Thin, flexible plastic bags will remain flexible even in cold water. Zip closure bags tend to be stiff and are not recommended. Even very slight current will "pump" thin plastic bags and expel attractant from the bait. Perforations are most easily made with an "Exacto" or similar hobby knife blade: up to 15 bags may be stacked and 0.5 to 1.5 cm long cuts made through them).

The bags of roe are kept frozen for as long as possible before using, as they are most easy to handle when in this state. The potential of the odour of the roe attracting bears is also decreased.

The traps are prepared by having a tether of string or line attached to either of the halves. The trap is baited, closed, and a twist tie (paper coated wire) is used to tie the

two halves together. The minnow trap clip is not used, as traps are often lost due to high water, etc: if the halves of the trap remain joined together, the trap will continue to capture and destroy fish. When closed by a twist-tie, the trap will quickly open and cease to capture and destroy fish.

When setting the traps in a new area, it is advisable to place the traps in all available types of habitat. Habitat utilisation by juvenile chinook tends to vary from location to location: pre-judgement is not advisable. The traps should also be marked with survey flagging. A 24 hour set is recommended.

# APPENDIX B

# Incidental Bycatch

	Date	Arctic Grayling	Slimy Sculpin	Long nose Suckers
	Jul-17-08		13	8
	Jul-19-08			
	Jul-30-08		15	30
Clinton Creek	Jul-31-08	6	3	4
	Aug-01-08			
	Aug-02-08			
	Aug-07-08		1	4
	Aug-08-08			
	Total	6	37	58
	•			
	Jul-17-08	13	53	
	Jul-26-08			
	Jul-31-08	10	6	
	Aug-01-08			
Mickey Creek	Aug-02-08			
	Aug-07-08	1	8	
	Aug-08-08			
	Aug-09-08			
	Total	24	67	
		<del></del>		
	Jul-11-08			
	Jul-12-08			
	Jul-13-08			
Germaine Creek	Jul-16-08		5	1
Germanie Creek	Aug-5-08		7	
	Total		12	1
	<b>T</b>			1
	Total			
Grand total		30	121	71

### APPENDIX C

# Yukon River North Mainstem Salmon Restoration and Enhancement – Record of

Activities

### Fortymile River

### Clinton Creek

Drainage Area: 206 sq km

Clinton Creek is the first west bank tributary upstream of the mouth of the Fortymile River. The watershed has been much affected by the abandoned Clinton Creek asbestos mine. Failures of waste rock dumps have resulted in the creation of Hudgeon Lake and in significant contributions of sediment to the lower creek. Storage of water in the upper drainage may be buffering flows sufficiently that beaver are able to maintain dams across the creek. Beaver dams were identified as a probable obstruction in 2005

Actions in 2006

DDRRC Stewardship crew relocated 782 juvenile Chinook salmon from the lower creek to the Wolverine Creek area. Salmon appeared in large numbers in the lower creek, between July 7 – July 12. DFO reported 17 beaver dams between the mouth and the mine site in August.

Actions in 2007

DDRRC Stewardship crew relocated 2070 juvenile Chinook salmon from the lower creek to the Wolverine Creek area. Salmon appeared in large numbers in the lower creek when trapping was initiated on July 18.

Actions in 2008

58 Juvenile Chinook salmon were relocated to the mouth of Wolverine Ck. Very high flows affected trapping success and resulted in the breach of most upstream beaver dams.

23

Recommendation for 2009

Continue to trap juvenile salmon next year.

Mickey Creek

Drainage area: 63 sq. km

Mickey Creek is the first east bank tributary of size of the Fortymile River.

Wildfires burned the majority of the drainage basin in 2004. A perched

culvert at the Clinton Creek Road crossing was identified as a partial

obstruction in 2005.

Actions in 2006

DDRRC Stewardship crew relocated 34 Chinook salmon, but the project

ended before large numbers entered the stream.

Actions in 2007

DDRRC Stewardship crew relocated 1273 Chinook salmon. Salmon

appeared in large numbers in early August, and probably continued on past

the project end.

Actions in 2008

32 juvenile Chinook salmon were relocated over the culvert. Upstream

migration of salmon appeared delayed due to the high and cold stream flows.

Recommendations for 2009

Bring the water level up below the culvert and continue to monitor the

juvenile salmon next year.

Klondike River

Bonanza Creek

Area: not determined

24

Bonanza Creek flows north and enters the Klondike River downstream of the main Bridge. The drainage basin has been intensively placer mined.

#### 2008 Activities

47 juvenile Chinook salmon and 11 sculpin were captured in 15 trap-nights with the traps set between 5 and 8 kilometres up from the mouth.

### Recommendation for 2009

No sampling be taken from this creek.

### Germaine Creek area salvage

The Klondike River has developed a new channel in this area. The old channel carries water in the spring. As water levels fall, the Klondike River no longer enters the channel. A series of isolated pools remain and extend downstream to the mouth of Germaine Creek.

### Actions in 2007

Salvage took place, resulting in the return of 1297 fry to the Klondike River.

#### Actions in 2008

8 juvenile Chinook salmon were relocated to the main channel. Flows in the Klondike rose in July and the isolated pools were re-connected to the river.

### Recommendation for 2009

Continue to check for isolated pools between Flat Creek and Germaine Creek.

### **Goring Creek**

Area: not determined

Goring Creek flows north from a defined valley into a series of wetlands and then to the Klondike River Activities in 2008

No juvenile Chinook salmon or other fish were captured in 5 trap-nights at

the Klondike Highway crossing.

Recommendations for 2009

No sampling be taken from this creek.

Dempster Bridge area salvage

A series of pools extend down the right (north) side of the river.

Connection with the river depends on ground water inflows

Actions in 2007

Salvage took place, resulting in the return of 101 fry to the Klondike River.

Action in 2008

The crew checked this area but the pools were not isolated due to the high

flows.

Recommendations for 2009

Continue to check for isolated pools between Flat Creek and Germaine

Creek.

North Klondike River

No work was done on the North Klondike River due to high water levels.

Viceroy Channel

Drainage area: Not applicable

Viceroy Channel is a small, ground water fed channel. It is crossed by the

Viceroy Mine Road about 800 meters upstream from it's mouth. A beaver

dam was established about 300 meters upstream from the mouth in the

summer of 2005.

26

Actions in 2006

DDRRC Stewardship crew relocated 13 Chinook salmon by July 6, and then

ceased trapping due to the low returns for the effort expended.

Actions in 2007

Trapping took place early in the project, resulting in the release of 16 fry to

the Viceroy channel.

Actions in 2008

The area was blocked by beaver dam and high possibilities, so there was no

work done due to high water level.

Recommendation for 2009

Continue to monitor Viceroy Channel.

Too Much Gold Creek

Area: not determined

Too Much Gold Creek flows from a narrow valley into a series of wetlands

extending to the Klondike River.

Activities in 2008

No juvenile Chinook salmon or other fish were captured in 6 trap-nights at

the Klondike Highway crossing.

Recommendations for 2009

No sampling be taken from this creek.

Leotta Creek

Area: not determined

Leotta Creek is 2 km east of Dempster junction and west of Flat Creek. The

water flows narrowly from the hills and flows into the Klondike River.

27

### 2008 Activities

No juvenile Chinook salmon or other fish were captured in 2 trap-nights at the Klondike Highway crossing.

### Recommendations for 2009

No sampling be taken from this creek.

### **All Gold Creek**

Area: not determined

All Gold Creek enters the South Klondike River immediately west of the mouth of Flat Creek. The drainage basin has been intensively placer mined, and the creek is unstable.

### **Activities in 2008**

No Juvenile Chinook salmon were captured 4 slimy sculpin were captured in 8 trap-nights at the Klondike Highway crossing.

### **Recommendations for 2009**

No sampling be taken from this creek.

### **Flat Creek**

Area: not determined

Flat Creek enters the South Klondike River from the south. The Klondike Highway crosses the creek near the mouth

### **Activities in 2008**

No juvenile Chinook salmon were captured in 6 trap-nights. 3 burbot were captured at the Klondike Highway crossing

### **Recommendations for 2009**

No sampling be taken from this creek.

### APPENDIX D

### **Student Reports**

I learned a lot of things working for the DDRRC. I learned about fish in the Yukon, other wildlife and locations in the Dawson Area, that I wouldn't have learned about if I didn't take this opportunity. I would suggest this job to anyone else my age who likes being outdoors, interested in the salmon population and wanting to make a difference in it.

I learned a lot about the 40 mile area, which I thought was very interesting. I liked going to Clinton Creek and Mickey Creek, even though the drive was long. I wouldn't have ever known that the beaver dams make such a difference on the salmon population.

Even though the weather wasn't the best this year, I know it was good for the salmon. With the high water some beaver dams and other obstructions were washed out. And the salmon could swim up past the beaver dams and the other obstructions.

At Germaine creek we put traps into the isolated ponds. We didn't catch much salmon in those isolated ponds, but I hope we made somewhat of a difference.

I really liked the two weeks when Al was here, and getting to put the fish to sleep to measure them was pretty neat. And Al had a lot of information about every kind of fish it seemed like, and a lot of other things that I never would have known.

I think that this program should keep going to give other kids the opportunity like I had.

Heather Fraser

### Salmon Project 2008

During the month I worked on this "salmon saving" project I learned a lot about salmon and various other fish species that inhabit Yukon rivers and creeks.

Before working on this project I knew almost nothing about salmon migration and how nature and human activity can make a huge impact on how many salmon will live or die.

One of the biggest things that surprised me most was the impact of high water on salmon fry migration up the small creeks. This summer was one of Dawson's wettest on record. The rivers and creek water levels were much above normal for the time of year. This allowed the small salmon to swim up creeks easier that normal. The high water would wash out beaver dams and other blockages while at the same time allowing them to pass through what are normally very shallow sections but due to the

high water, have become deep enough.

Even though the high water has made it sometimes seem like a lack of salmon in all the minnow traps we set near the mouths of creeks, it really just meant that nature did our job for us by allowing almost all the salmon to travel up the creeks on their own.

In previous years on this job groups have caught and transported thousands of fish.

Knowing this I realize how important this job can be to salmon migration. Humans can help a lot with the right amount of funding and interest. I hope to see in future years more projects like ours taking place because the amounts of full grown salmon is decreasing all the time and projects like ours can help to reverse that trend.

I enjoyed this summer's work. The biggest reward I felt from doing this job is knowing that what I'm doing may be saving many salmon in the future.

by Sonny Parker