



## Spawning and Rearing Access Restoration

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Prepared by:

Cholena Smart

DDRRC

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Sept, 2006

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Prepared for:

The Yukon River Panel



## ACKNOWLEDGEMENTS

We would like to thank Sebastian Jones, Dawson Community Steward, who has assisted greatly with this project. Without his knowledge, resources, financial contribution, and time this project would not have been possible. Thank you also to our two student employees, Hannah Findlay-Brook and Clinton Taylor, who approached the project with enthusiasm and dedication. Al von Finster also provided us with invaluable support and advice. We would also like to thank the volunteers and other participants who accompanied us on field trips. Funding for this initiative was provided by the Yukon River Panel.

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## **ABSTRACT**

This was a pilot project to determine the feasibility of restoring access to upstream Chinook salmon spawning and rearing habitats, and to foster community stewardship of salmon and salmon habitats. Planning was conducted in consultation with the Dawson Community Steward and DFO. Two local high school students were retained and worked in the field under the technical oversight of the Community Steward. The project started on June 14 and ended on July 14. Non-spawning streams were investigated and monitored to determine the status of the upstream migration of juveniles. When salmon did appear, a total of 830 juveniles were captured and transported to upstream habitats on three streams. Both students remained with the project throughout, and performed well. We conclude that the pilot project was successful in proving the feasibility of a Stewardship project in the Dawson City area. Recommendations to increase the scope and efficiency of future projects are provided.

## INTRODUCTION

This 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 on several non-spawning streams in the Dawson area have indicated that beaver dams and other non-permanent barriers are obstructing the movement of salmon fry into their normal rearing habitat.

The objectives of the project were to:

1. To restore Chinook salmon access to rearing habitat.
2. Involve and educate the general public on access restoration.
3. Encourage community stewardship.
4. Establish a community monitoring program for future assessments and restoration

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

## METHODS AND RESULTS

The project had four main components. These were:

1. Planning and mobilisation, including the hiring of staff, determination of logistics, etc;
2. Stage one of fieldwork, including investigation and monitoring creeks for the start of the upstream migration of salmon fry;
3. Stage two of field work, during which the majority of juvenile salmon were relocated into upstream habitat; and
4. Reporting.

Each component will be discussed below.

### 1. Planning and mobilisation

The DDRRC met with the Community Steward and DFO staff to identify candidate streams. A primary criteria was ease of access by road. This was to increase the potential for safe public participation and crew efficiency. Three known Chinook rearing streams were chosen as candidates: Clinton and Mickey Creek, tributary to the Fortymile, and Viceroy Channel, tributary to the North Klondike. A number of south bank tributaries to the Klondike River with perched culverts at the Dawson Road crossings were also identified as potential sites.

Transportation for the crew was an issue. There were no long-term rental vehicles available in Dawson City in 2006, and the students did not have their own transportation. Private vehicles had to be used, and the owners compensated at \$0.50/km.

Two local high school students, Clinton Taylor and Hannah Findlay Brook were hired on 29 May 2006. 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 they can care for our resources.

## 2. Stage One of Fieldwork: Investigation and Monitoring of creeks

Monitoring of the known Chinook non-spawning streams started on June 14 and was then conducted weekly. On June 20, the crew accompanied Al von Finster (DFO OHEB) as he conducted sampling on Viceroy Channel, Clinton and Mickey Creeks.

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 salmon captured were anaesthetised and measured for fork length. Incidental by catches included slimy sculpin, Arctic grayling, and long nosed sucker (Appendix B).

The crew also investigated Two Much Gold Creek by walking downstream from the Dawson Road. This creek was found to have no surface connection to the Klondike River, and was removed from consideration as a candidate stream.

## 3. Stage Two of Fieldwork: Relocation of juvenile Chinook salmon

Relocation of Chinook salmon commenced on July 6 in Clinton and Mickey Creek, and Viceroy Channel. A total of 829 salmon were captured and released upstream of obstructions. Captures of juvenile Chinook salmon by location and date are shown in Table 1 and are described below.

	Date	Clinton Creek	Mickey Creek	Viceroy Channel
<b>Chinook Salmon</b>	Jun-28			1
	Jul-06	13		10
	Jul-07	17		3
	Jul-12	265	7	
	Jul-13	166	15	
	Jul-14	321	12	
	Sub total	782	34	14
	<b>TOTAL</b>			<b>830</b>

Table 1 – Total salmon moved in Jun-Jul 2006



Low numbers of Chinook salmon were captured in Clinton Creek on July 6 and 7, with 6 traps capturing 13 and 17 juveniles, respectively. Numbers of juvenile Chinook salmon captured rose significantly when trapping resumed on July 12, when 9 traps captured 265 juveniles. Captures thereafter remained high until the project ended on July 14. A total of 782 juvenile Chinook were transported to upstream habitats in Clinton Creek.

Juvenile Chinook were absent in Mickey Creek until July 12, when 9 traps captured 7 juveniles. Captures thereafter remained low until the project ended on July 14. A total of 34 juveniles transported to upstream habitats.

Juvenile Chinook salmon were absent in Viceroy Channel until June 28, when 5 traps captured a single juvenile salmon. Captures remained low. Following the July 7 sampling, when 6 traps captured 3 juveniles, a decision was made to cease trapping there.

Fish of other species were captured throughout the project. Results by species, location and date may be found in Appendix B

An important component of the overall project was to provide training and education opportunities to the larger community. Efforts were made to involve the public both through hands on participation on field trips and a public awareness campaign. Invitations were extended through posters, the Community Steward newsletter and the weekly Dawson guide 'Exposure' (see Appendix C) to the general public to join the crew for an afternoon at the Forty Mile site. Local reporter Andrea MacRae visited the fieldwork site in early July, resulting in a July 17 article in the Yukon News (Appendix D). On the final day of the project, two members of the public and the author attended the Forty Mile site.

#### 4. Reporting

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

## DISCUSSION

Much was learned in 2006 which will be applicable to subsequent projects.

Two Much Gold Creek did not have, and is unlikely to have, surface water connections to the river during juvenile Chinook salmon upstream migration periods.

The timing of the project was early for the conditions existing in 2006. It is likely that significantly greater numbers of juvenile salmon could have been captured and relocated if the project had occurred later in the summer.

The 2006 project planning was based on DFO sampling in Mickey Creek the preceding year. On July 7, 2005, DFO captured 126 juvenile Chinook salmon in two minnow traps located downstream of the perched culvert on Mickey Creek. This clearly implied that the upstream migration was in process: however, DFO were uncertain whether the timing of the 2005 migration was early, average or late. The pilot project was therefore planned to start prior to the date of the 2005 sampling, and to extend beyond it.

The start of the main 2006 upstream migration in Mickey Creek occurred some time between July 14 and August 9 when the same section of creek was trapped by DFO. On July 14, 9 traps captured 12 juveniles, and on August 9, 2 traps captured 174 juveniles.

Early season juvenile salmon sampling in Clinton Creek had not been conducted prior to 2006. No comparisons may be made with preceding years. The sudden increase of juveniles between July 7 and 12, 2006 is noteworthy, as it implies that the immigration to the stream started suddenly. As with Mickey Creek, the upstream migration continued after the end of the project. During DFO sampling on August 9, 2006, 3 traps captured 175 juveniles.

Viceroy Channel is ground water fed and extends approximately 1.5 km along the west side of the North Klondike River. It is likely that there was an immigration of juveniles to the stream after trapping ceased on July 7. Trapping was also hampered by a lack of good setting sites downstream of the beaver dam, which was located 500 meters from the Viceroy Road.

There are no trails to the dam or the area downstream of it, and the North Klondike River is a Chinook spawning stream. This raised the potential for bear encounters. As the juveniles entering Viceroy Channel do so from the North Klondike River, consideration should be given to capturing juveniles from the river rather than from the lower creek.

The trapping conducted in 2005 will be used in the development of a community monitoring program. The structure of this program will be discussed with DFO technical staff over the winter of 2006/7.

The strategy of hiring two local high school students was entirely satisfactory. They were enthusiastic, disciplined and competent. Having two students provided security and comfort regarding the supervisor/student relationship. This was important for the supervisor, students and parents/guardians. Further, it affected field dynamics: when several young people work together it allows them the potential to enjoy themselves, and the fieldwork, more.

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. The students have both produced reports reviewing their experience (see Appendix F).

High numbers of salmon were captured in Clinton Creek on the day that the public participants attended the project. They were pleased to have had the opportunity to be a part of the project.

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

An alternate vehicle arrangement would have been preferable, as the project placed a significant burden on the Community Steward to provide his own. As this was a pick-up,

larger groups of people could not be taken on field trips to the project sites. This limited the potential for community participation.

The project placed a significant demand on the time and equipment of the Dawson Community Steward. As this was a pilot project, this was expected. As the project moves to the next phase, a dedicated supervisor should be considered.

The limited number of public participants was unfortunate. The lack of available transport and the distance of sites from Dawson likely had a significant impact on the willingness of people to take part in a field trip. The author also struggled to find the time to arrange a field trip; therefore it may be worth hiring someone for several days to coordinate the public participation component. It would also be good to have some sites closer to Dawson so a field trip was not so demanding on people's time.

## CONCLUSIONS AND RECOMMENDATIONS

The pilot project was successful. It proved that relocating juvenile Chinook salmon upstream of obstructions was feasible, and that a Stream Stewardship-type project in the Dawson City area is justified.

The DDRRC and Dawson Community Steward make the following recommendations:

- Begin the project later in the year to increase the likelihood of maximizing the numbers of salmon relocated into upstream habitats.
- Explore other means to maximize the efficiency of the crew in relocating salmon.
- Hire a dedicated supervisor to lead the fieldwork component of the project.
- Continue to hire a crew of high school aged students as field assistants.
- Rent a vehicle for the project which could seat field crew as well as several others (e.g. crew cab).
- Expand the project to other sites, and other types of stranding, including piloting the salvage of fry from isolated pools in the Klondike River floodplain.
- Explore opportunities for public participation by identifying a suitable site close to Dawson.
- Hire a coordinator for a limited time (several days) to organise and manage public participation.

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## LIST OF PHOTOS

- Photo 1. Sebastian Jones, Hannah Findlay-Brook and Clinton Taylor at the completion of fieldwork near Clinton Creek. Photo by Cholena Smart, 2006.
- Photo 2. Students Hannah Findlay-Brook and Clinton Taylor measuring and recording salmon fry. Photo by Sebastian Jones, 2006.
- Photo 3. Showing the public participants stream obstructions in Clinton Creek. Photo by Cholena Smart, 2006.
- Photo 4. Volunteer Michelle assists Hannah and Clinton with trapping. Photo by Pam Brown, 2006.



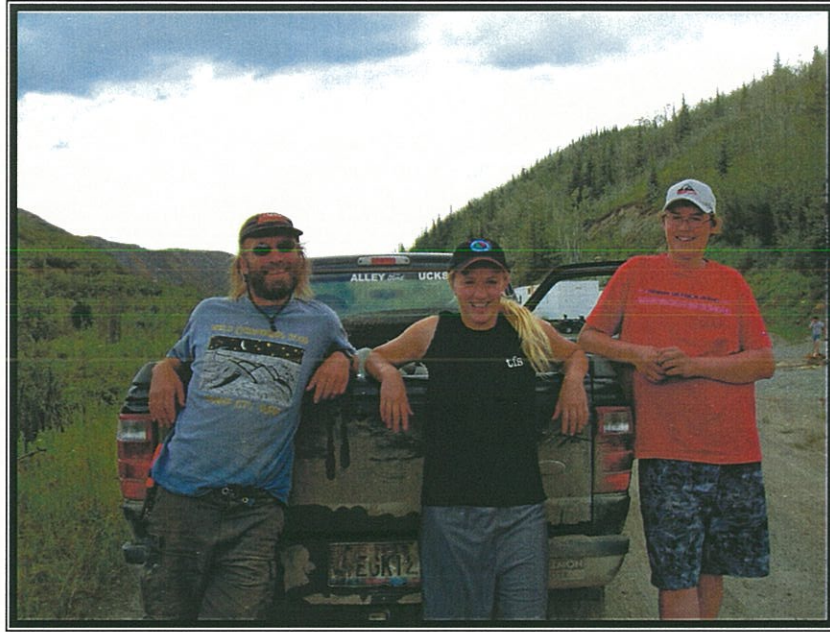


Photo 1 – Sebastian Jones, Hannah Findlay-Brook and Clinton Taylor at the completion of fieldwork near Clinton Creek.

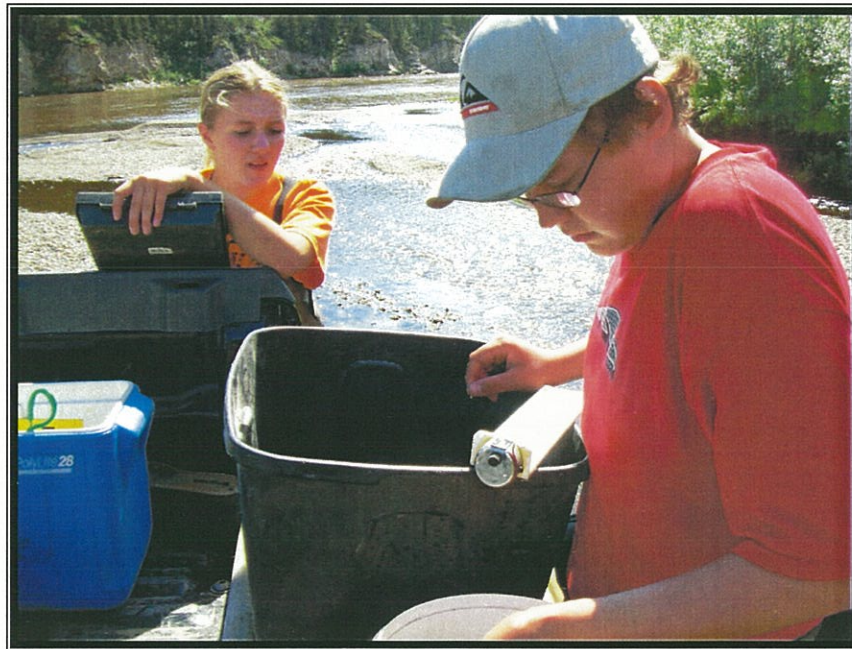


Photo 2 – Students Hannah Findlay-Brook and Clinton Taylor measuring and recording salmon fry.





Photo 3 – Showing the public participants stream obstructions in Clinton Creek



Photo 4 – Volunteer Michelle assists Hannah and Clinton with trapping.

## TABLES

Date	Location	# traps	Hours fished	Chinook	Sculpin	Suckers	Grayling	Total
14-Jun-06	Viceroy	4	4	0	1	0	0	1
28-Jun-06	Clinton	5	24	0	6	3	0	9
28-Jun-06	Mickey	5	24	0	5	0	0	5
28-Jun-06	Viceroy	5	24	1	2	0	0	3
6-Jul-06	Clinton	6	24	13	13	23	0	49
6-Jul-06	Mickey	6	24	0	53	0	21	74
6-Jul-06	Viceroy	6	24	10	4	0	0	14
7-Jul-06	Clinton	6	24	17	6	5	0	28
7-Jul-06	Mickey	6	24	0	51	0	10	61
7-Jul-06	Viceroy	6	24	3	12	0	0	15
12-Jul-06	Clinton	9	24	265	11	63	0	339
12-Jul-06	Mickey	9	25	7	101	0	5	113
13-Jul-03	Clinton	9	25	166	5	32	0	203
13-Jul-06	Mickey	9	24	15	72	0	48	135
14-Jul-06	Clinton	9	24	321	1	41	0	363
14-Jul-06	Mickey	9	24	12	93	0	48	153
<b>Totals</b>				830	436	167	132	1565

**Table 2: Number of traps, hours fished and total catch at each location**

## 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. A wide range of types of baits have been used, including canned fish and invertebrates, fish, baked goods, animal foods, and salmon roe. The presentation of the baits has also varied. In some instances pierced cans were placed in the traps; various types of plastic bags were used; or the bait was placed loose in the traps.

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	Longnose Suckers
<b>Clinton Creek</b>	Jun-28		6	3
	Jul-06		13	23
	Jul-07		6	5
	Jul-12		11	63
	Jul-13		5	32
	Jul-14		1	41
	<b>Total</b>		<b>42</b>	<b>167</b>
<b>Mickey Creek</b>	Jun-28		5	
	Jul-06	21	53	
	Jul-07	10	51	
	Jul-12	5	101	
	Jul-13	48	72	
	Jul-14	48	93	
	<b>Total</b>	<b>132</b>	<b>375</b>	<b>0</b>
<b>Viceroy Channel</b>	Jun-06		1	
	Jun-28		2	
	Jul-06		4	
	Jul-07		12	
	<b>Total</b>		<b>19</b>	
<b>Grand total</b>		<b>132</b>	<b>436</b>	<b>167</b>



## APPENDIX C

Posters and advertising extended to public for field trip participation

# exposureCALENDAR

## 14 friday

11am Salmon Fry Outing to Forty Mile • join community steward & students in collecting salmon fry and moving them upstream from obstructions • transportation arranged, meet at RRC, corner of 3rd & King St. • bring lunch • call Sebastian 993-4401 for info

Arts For Employment Application Deadline • KIAC 993-5005

LAST CHANCE to purchase Dawson Sled Dawgs Raffle tickets!  
1st prize: 150cc ATV (\$2000),  
2nd prize: kids motocross helmet (\$159) 3rd prize: \$50 gift cert to TireCraft • Tickets \$10 @ Eldorado, TireCraft, Home Hardware, Yukon Energy, Fireweed Helicopters. Draw July 15 9pm @ Eldorado. Lottery #2006-065

## 15 saturday

\*Canada's Parks Day!

Dawson Women's Shelter Bottle Drive! • call 993-5086 & Shelter will pick up recyclables

\*10:30am Disturbed Marmots • walk & discussion, Tombstone Park Interpretive Centre • call Wildlife Viewing 667-8291 for info

\*1pm Tombstone Park hike & marmot talk • Tombstone Park Interpretive Centre • info 667-8299

\*2pm Old Fashioned Picnic • behind Commissioner's Residence • hosted by Parks Canada

7pm St. Paul's Historic Prayer Service • Front & Church St.

## 16 sunday

9am St. Paul's Church • Said Eucharist, Family Service @ 10:30am • Front & Church St.

5:15pm, 6:45pm, 8:15pm Dawson Softball • all teams play • games at Crocus Bluff ball fields

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## COME AND SPEND AN AFTERNOON WITH US!

Join the Community Steward and two local high school students as they collect salmon fry and move them upstream of obstructions so they can use the rest of the watershed. Learn about the ecology of streams and how humans and beavers and salmon interact!



This is a fun project that also helps our fish and we are inviting you to come and check out local youth learning about caring for our resources; if there are lots of fish, we could use a hand!

There will be transport arranged for a day trip to the project site at 40 mile on Friday the 14th of July. Meet at the RRC at 11am! Bring lunch.

If you are interested and would like more information please contact: Cholena, DDRRC (993-6976) or at (993-4040) or Sebastian, Community Steward (993-4401)

## APPENDIX D

Yukon News, 17 July 2006

# Dawson youth trade fries for fry

By Andrea MacRae  
Special to The News

### DAWSON CITY

**W**ould you like fries with that? The well-worn question is a routine part of many student summer jobs.

Clinton Taylor and Hannah Findlay-Brook of Dawson City have found summer employment far removed from the inside of a burger joint.

Rather than serve fries, they collect fry (juvenile fish) and give them a lift, carrying them upstream past barriers in the water.

Taylor, 13, and Findlay-Brook, 14, are fisheries field assistants in a six-week project run by the Dawson District Renewable Resources Council.

Under supervision of the Dawson community steward Sebastian Jones, they've monitored fry numbers, trapped, measured and counted finger-sized fish of different kinds and relocated them above stream obstructions, mainly beaver dams and culverts.

Last week, with the lanky assistants and gear squeezed into a pickup truck, Jones explained the multiple goals of the project.

The council wants to restore salmon access to the upper streams, add to local knowledge by giving Taylor and Findlay-Brook skills and experience and hopefully show young people there's work in the fisheries field, said Jones.

"This is, to a certain extent, a pilot project this year. If we can show that we're actually accomplishing some good by moving fish to areas which have been blocked off, then there's a good chance we'll do it next year and other years in the future," he said.

"If we can move a couple of hundred fish in each stream, then I think that will show that it's probably worth it."

Chinook salmon eggs are laid in gravel at the end of summer, hatch in the stream bed and emerge in spring.

They migrate from their natal streams to smaller rearing streams with more food and better shelter where they stay until almost two years old, said Jones.

"This is why it's so important for Chinook salmon. If we can get them upstream from these culverts so they can access the rest of the creek, they may well spend the winter and next summer before they then migrate down next fall."

The team made the first stop of the afternoon at the bottom end of a large culvert in Mickey Creek, not far from where it flows into the Fortymile River.

The waist-deep water called for hip waders. As Taylor and Findlay-Brook made their way through the pool to the six fish traps they'd set, Jones realized that he didn't even have to give them instructions anymore.

They emptied the wire-mesh traps baited with salmon roe into a bucket of water, gathered about 60 small speckled fish, and hauled it up the bank to the back of the truck.

The trap closest to the culvert had the most fish in it, an indicator that they would swim farther if they could overcome the fast flow, said Jones.

Measuring and counting each slippery, wriggly fish required knocking them out briefly.

The smell of cloves filled the air as one crew member added a small syringe of liquid to a second pail of water.

"Clove oil works as an anesthetic," Jones said.

"You know how you put cloves on your tooth (for a toothache)? It works similarly, but oil doesn't dissolve in water so we mix the oil with alcohol."

Part of the beauty of the project is it's low-tech, low-cost design, said Jones. And it's also lower impact than blowing up beaver dams or running hatcheries.

"A project like this is much less likely to have unintended consequences."

Taylor identified each fish — mostly grayling here — and placed it on a ruler, announcing the length to Findlay-Brook who records the data.

They joke about who drops the fish, but Jones made sure they take turns with the tasks through the day.

The fish went into a recovery bucket of fresh water and got a short truck ride up around the culvert.

Findlay-Brook hoisted the fish pail out of the back, commenting on how strong arms her arms will be afterwards.

The two assistants have learned to identify protected spots for release, said Jones.

"Where young fish hang out, they like places where they can hide from predators like kingfishers, mink and otters, behind bits of wood, between big rocks."

"They can swim through fairly fast water but they don't like to actually live in it most of the time."

In applying for the job, Findlay-Brook was attracted to working outside, doing something fun and interesting.

She's learned about Fortymile and Clinton Creek, areas she didn't know.

"I've learned a lot about different kinds of fish. I've seen a lot of them and learned how to help them, and what's wrong with the areas they're in and about beaver dams."

Taylor agreed he's gained knowledge about the different local species. The best part of the job is "playing around in the creeks," he said with a smile.

But it's not always easy work, noted Jones later.

There have been days of bushwhacking, scratches, weary labours and lots of bug bites, but his assistants are "both excellent kids," he said.

"I'm tickled pink with how keen they are and with what grace and good humour they've approached the work."

The crew traveled on to six more traps where Clinton Creek empties into the Fortymile.

This location yields Chinook salmon fry. Huge moose tracks lined the creek and an otter scampered up the bank while the team measured the fish.

Taylor stepped out of his gear, his feet wet again.

When Findlay-Brook asked how many "soakers" he'd had with his low gumboots, he informed her that he stayed dry the day before — the only day so far.

This time the fish got a longer ride. Above a series of beaver dams, Findlay-Brook emptied the bucket of fish and seemed happy to watch them swim away.

There is satisfaction in the work, said Jones.

"You do feel like you're doing something productive and useful. It's not what you would call a world-changing thing, but if we all do stuff like this, the world will be a better place. It all adds up."

The Dawson District Renewable Resources Council hopes to increase public awareness of fish habitat management and river stewardship through the project.

Andrea MacRae is a freelance writer who lives in Dawson City.

## APPENDIX E

### 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.

**Recommendations for 2007** – continue with relocation and maximise the number of juveniles moved.

##### **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.

**Recommendations for 2007** – continue with relocation and maximise the number of juveniles moved



## **Klondike River**

### **North Klondike River**

#### **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.

**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.

**Recommendations for 2007** – continue with relocation and maximise the number of juveniles moved by trapping from the North Klondike River near the Viceroy Road Crossing.

#### **Too Much Gold Creek**

Drainage Area: less than 20 sq km

This is a small stream with a perched culvert at the Dawson Road crossing

**Actions in 2006** – DDRRC Stewardship crew walked from the Dawson Road downstream. There were extensive wetlands and no surface connection between the creek and the Klondike River.

**Recommendations** - no further activities are justified for this creek.

## APPENDIX F

### Student Reports

#### Clinton Taylor

This summer I worked with the fish enhancement program and these are some of the things we did. We walked through bushes looking for beaver dams, walked up creeks such as Clinton Creek and Mickey Creek which are located at forty miles and a creek just a little ways up the viceroys road. What we did on those creeks was we set G-traps to catch minnows, after we caught them we would count and measure them, and then we would bring them up the creek past any structures that block the fish from moving up stream. For the first couple of weeks we only did this twice a week and until the fish started arriving and then we did this four days a week and we were catching anywhere from 250 to 350 fish a day. We only worked four days a week for 2 weeks. On my last day of work we brought out some of the public and we showed them what we were doing and how we did it.

What I thought was the most fun part of this job was walking up the creeks and going through the deep water. My least favorite part was walking through the bushes at viceroys because it was hot out and the bugs were everywhere.

I learned a lot from this job, it taught me about different fish species and their habitat.

Clinton Taylor  
July 19, 2006

## Hannah Findlay-Brook

July 19<sup>th</sup>, 2006

Hannah Findlay-Brook  
Box 1731  
Dawson City, Y.T  
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### Re: Fisheries Field Assistant 2006

My being a fisheries field assistant for the 6 week project has really opened my eyes to the area in which I live. I learned a lot about the different types of fish and the fish fry's habitats and the obstacles that they have to face such as beaver dams, king fishers, etc.

I really enjoyed the work we did for this project. It was the most fun when we measured and recorded the fish. I think, what made the job most enjoyable was how easy going and fun Sebastian is. He told us all about the Clinton area and the Clinton creek mine. He was interested in what we had to say and answered all of our questions. He really made sure the project was more of a learning experience then a job. We goofed around and had lots of fun which made the work much easier and fun. Sebastian taught us a lot so we knew exactly what we were doing at all times. It was a lot of fun!! And it really made you feel good in the end.

There is nothing about this project that I would change. The ride to Forty Mile was endlessly long, but then again, it was defiantly worth it. The mosquitoes were horrible but there's nothing you can do about that!! I can't complain about anything.

If I were to do this project again then I think it would be more exciting to go to other places, such as Moosehide. Traveling by boat would be something fun and different too.

Thank-you for the great opportunity!!

Sincerely,

*Hannah Findlay-Brook*

Hannah Findlay-Brook