

## Memorandum

To: Angus Mackey, Pacific Salmon Commission  
Victor Keong, Pacific Salmon Commission  
Sean Collins, DFO Whitehorse

From: Nick de Graff, Salmon Stewardship Program Coordinator

Date: July 6, 2016

### **Re: Salmon Stewardship Coordinators for Yukon Schools. Year 4**

This memorandum represents a summary of activities associated with the Salmon Stewardship Coordinators for Yukon Schools program (SSCYS) that was recently completed for the Pacific Salmon Commission in 2015/16 (Contribution Agreement CRE-02-15). The program involved 9 schools in the Whitehorse Area (Dusk'a Head Start Family Learning Centre, Christ the King, Elijah Smith, Golden Horn, Grey Mountain, Jack Holland, Holy Family, Selkirk Elementary and Whitehorse Elementary) and at 10 rural schools (Beaver Creek, Carcross, Carmacks, Dawson City, Destruction Bay, Haines Junction, Pelly Crossing, Mayo, Ross River and Teslin) throughout the Yukon. Approximately 400 students were engaged in various program activities that included presentations, fish dissections and the opportunity of participating in a field trip to release fry that were raised over the winter in classroom aquariums.

The combined total of 1,017 Chinook fry that were raised in Whitehorse, Carcross, Carmacks and Teslin school aquariums were released into the McIntyre Incubation Facility. These fish were eventually coded wire tagged and planted into Fox Creek, a small tributary that discharges into Lake Laberge in south central Yukon. Fox Creek is currently the focus of a long term restoration project that is overseen by the Ta'an Kwach'an Council.

In north Yukon, 47 Chinook fry were raised in school aquariums that were sourced from fertilized eggs collected from the Mayo River, in the communities of Dawson City, Mayo and Pelly Crossing. These fry were released back in the Mayo River in early May of 2016. Another 100 Chinook fry, that were sourced from fertilized eggs obtained from the Blind Creek weir, were successfully raised in the Ross

River school and subsequently released back into the stream of origin during the spring of 2016.

Fertilized chum eggs were also sourced from the Kluane River in October of 2015 and raised to the fry stage in Beaver Creek, Destruction Bay and Haines Junction school aquariums. These fish (370) were released back into the mainstem of the Kluane River in early May.

Egg to fry survival in the individual aquariums ranged from 0 to 100 percent. The majority experienced high survival rates, averaging about 92 percent. In those few cases, where egg mortality was 100 percent, aquarium water was changed and additional eyed eggs or alevins were obtained from other community aquariums where incubation was more effective. Therefore, all schools that participated in the program had an opportunity to observe the various early developmental stages of Pacific salmon.

As in previous years the program coordinators encouraged each school to assume more responsibility for the maintenance of the aquariums in an attempt to reduce the overall program costs. Generally, only two visits were made to each school during the scholastic year. The initial visit was to seed eggs into each aquarium that was normally set up by school staff before arrival during the late summer or fall. Subsequent visits through the winter either presented information related to Pacific salmon life history and/or dissected a salmon. The program finished with assisting in field trips that released the fry during the spring. The need for additional visitations were associated with either a chiller malfunction or aquarium maintenance. Feed was either directly delivered to a school or mailed if the school was in a rural location.

Most of the schools that participated in 2015/16 had previously partaken in the program and were very comfortable with the prospect on taking on more responsibility. However, schools with little or no previous experience required more visitations by the program coordinators. All schools funded their own transportation costs associated with the field trips. The Whitehorse Rapids Fish Hatchery (Yukon Energy Corporation) donated feed and fertilized eggs for the Whitehorse program including the Carcross, Carmacks and Teslin schools.



**Figure 1 Donor fish captured in Tatchun Creek for Carmacks School on August 15, 2015.**



**Figure 2 Female chinook containing ripe eggs captured in the Mayo River on August 13, 2015.**



**Figure 3 Students from Carcross School releasing Chinook fry at the McIntyre Incubation Facility in Whitehorse on May 26, 2016.**



**Figure 4 Students from Christ the King Elementary School releasing Chinook fry at the McIntyre Incubation Facility in Whitehorse on May 27, 2016.**

**TIMEJOURNAL REPORTS  
2015/16 STREAM TO SEA PROGRAM  
CAN-NIC-A-NICK ENVIRONMENTAL SCIENCES**

**FOR**

**PACIFIC SALMON COMMISSION**

**July 6, 2016**

**Salmon Stewardship Coordinator Summary Report – July/August 2015**

Activities:

School	Teacher (s)	Activity	Date-Hours	Students	Comments
YESAB inquiry and emails			July 15, 2015 2 hours		
Planning for egg takes			July 20, 2015 1 hour		
Planning for egg takes			July 30, 2015 2 hours		
Equipment purchase and planning for egg takes			Aug 6, 2015 3 hours 58 km		
Preparing for field work – egg takes			Aug 9, 2015 4 hours		
Grocery shop and drive to Dawson City			August 10, 2015 8 hours		
Klondike River egg take			August 11, 2015 9 hours		
Drive to Mayo and aquarium setup			August 12, 2015 8 hours		
Mayo River egg take			August 13, 2015 8 hours		eggs = 658

School	Teacher (s)	Activity	Date-Hours	Students	Comments
Drive to Carmacks and aquarium setup			August 14, 2015 9 hours		
Tatchun egg take and beaver dam removal			August 15, 2015 12 hours		eggs = 138
Drive to Ross River			August 16, 2015 8 hours		
Egg take, deliver eggs to Ross River School, return to Whitehorse			August 17, 2015 12 hours		2,388 km eggs = 348
Courier filter to Ross River and unpack			August 18, 2015 3 hours		38 km
DFO reporting, YESAB and emails			August 19, 2015 4 hours		

**Salmon Stewardship Coordinator Summary Report – September/October 2015**

Activities:

School	Teacher (s)	Activity	Date-Hours	Students	Comments
Email teachers to solicit program			August 30, 2015 1 hour		
Email responses and purchase gear			August 31, 2015 1 hour		
Draft 2016 proposal			September 21, 2015 4 hours		
Organize Kluane egg take			October 5, 2015 1 hour		
Prepare for Kluane egg take			October 6 4 hours		
Egg take for Beaver Creek School	Mr. Ritco		October 7 14 hours	7	Beaver Creek eggs = 223
Egg take for Kluane/Haines Junction Schools and field trip	Ms. Blair Mr. Preto		October 8 10 hours	10	Destruction Bay eggs = 224 Haines Junction eggs = 176
Office			October 9 2 hours		



**Salmon Stewardship Coordinator Summary Report – October/November 2015**

Activities:

School	Teacher (s)	Activity	Date-Hours	Students	Comments
Paper work – transplant permits and logistics			October 16 2 hours		
Organize Whitehorse area school setups			October 27 2 hours		
Set up two aquariums	Ms. Stitt Ms. Luks		October 28 6 hours		91 km
Set up three aquariums and check others	Ms. Morham Ms. Bouayad Ms. McDowell		October 29 7 hours		79 km
Set up three aquariums and check others	Ms. Gillard Ms. Bradford Ms. Cunningham		October 30 8 hours		85 km
Set up one aquarium and check others	Ms. Koser Ms. Bradford		November 2 3 hours		38 km
Exchange compressor and inspect other tanks	Ms. Luks Ms. Bradford Ms. Koser Ms. McDowell Ms. Gillard		November 3 3 hours		72 km

School	Teacher (s)	Activity	Date-Hours	Students	Comments
Seed eggs into 7 school aquariums	Ms. Luks Ms. Bradford Ms. Koser Ms. McDowell Ms. Cunningham Mr. Traynor Ms. Morham	Seed eyed eggs in aquariums.	November 4 8 hours	100	209 km
Seed eggs into 4 school aquariums	Ms. Stitt Ms. Bouayad Ms. Gillard Ms. Moore	Seed eyed eggs in aquariums.	November 5 4 hours	50	70 km
Seed eggs into 1 aquarium in Carmacks	Ms. Einish	Seed eyed eggs into aquarium.	November 6 5 hours		407 km
Provide eggs to Teslin teacher and change out chiller	Ms. Moore Ms. Banks	Meet at hatchery, exchange compressor	November 10 5 hours		145 km

**Salmon Stewardship Coordinator Summary Report – November/February 2015-16**

## Activities:

School	Teacher (s)	Activity	Date-Hours	Students	Comments
Christ the King Porter Creek Dusk'a Family Centre Whitehorse Elem. Selkirk Jack Hulland	Ms. Gillard Ms. Luks Ms. Moore Ms. Morham Ms. Koser Ms. Bouayad	Checked 6 tanks and adjusted temperatures	November 16 2 hours		83 km
Selkirk	Ms. Morham	Dissection	November 18 2 hours	12	45 km
Jack Hulland Christ the King	Ms. Gillard Ms. Moore	Checked 2 tanks and adjusted temperatures	December 4 2 hours		38 km
Dusk'a Family Centre Elijah Smith Ross River	Ms. Koser Ms. Bradford Ms. Edsel	Checked 2 tanks, delivered and shipped feed	January 5 3 hours		65 km
Carmacks, Pelly, Carcross, Teslin and Mayo	Package feed to mail and bag others for delivery schools.		January 6 1 hour		

School	Teacher (s)	Activity	Date-Hours	Students	Comments
Christ the King Porter Creek Whitehorse Elem. Selkirk Jack Hulland Holy Family Grey Mountain Goldenhorn	Ms. Gillard Ms. Luks Ms. Moore Ms. Morham Ms. Bouayad Ms. Stitt Ms. McDowell Ms. Cunningham	Check all remaining tanks in Whitehorse, distribute and mail outs feeds.	January 8 6 hours		105 km
Ross River	Ms. Etzel	Laminate posters and send to Ross River	January 20 2 hours		38 km
Carcross	Mr. Traynor	Check tank for disease and morts	January 23 3 hour		111 km
Whitehorse Elementary	Ms. Bouayad	Check tank, add water and replace thermometer	January 26 1 hour		55 km
Duk'sa Family Centre Elijah Smith	Ms. Bradford Ms. Koser	Check tank, adjust temperatures	February 2 1 hour		55 km
Grey Mountain Christ the King	Ms. McDowell Ms. Gillard	Check tank, adjust temperatures	February 3 1 hour		
Haines Junction D Bay Beaver Creek	Dan Ritco Rose Blair Andy Preto	Adjust tanks and deliver feed	February 11 3 hours (actual 8 hr)		472 km

School	Teacher (s)	Activity	Date-Hours	Students	Comments
Haines Junction D Bay Beaver Creek	Dan Ritco Rose Blair Andy Preto	Dissection and Presentation at BC, take alevins to HJ	February 12 4 hours (actual 8 hr)	6	472 km

**Salmon Stewardship Coordinator Summary Report – February/June 2015-16**

## Activities:

School	Teacher (s)	Activity	Date-Hours	Students	Comments
Christ the King, Ross River and Whitehorse Elementary Schools	Ms. Gillard Ms. Etzel Ms. Bouayad	Checked 2 tanks, installed feeder, mailed feeder.	February 25 2 hours		38 km
Goldenhorn School	Ms. Cunningham	Checked 1 tank and installed feeder	February 29 1 hour		
Porter Creek Secondary, Holy Family and Grey Mountain Schools	Ms. Luks Ms. Stitt Ms. McDowell	Checked 3 tanks and installed feeder in 1	March 1 2 hours		52 km
Christ the King School	Ms. Gillard	Presentation and dissection	April 21 3 hours	35 students plus teachers	48 km
Holy Family School	Ms. Stitt	Presentation and dissection	April 26 3 hours	15 students plus teachers	62 km
Multiple Schools		Logistics	April 28 1 hour		
Goldenhorn School	Ms. Cunningham	Presentation and dissection	April 29 3 hours	15 students plus teachers	

School	Teacher (s)	Activity	Date-Hours	Students	Comments
Grey Mountain School	Ms. McDowell	Fry Release	May 6 3 hours	15 students plus teachers	58 km 99 chinook fry
Multiple Schools		Logistics and purchase supplies	May 10 1 hour		46 km
Holy Family School	Ms. Stitt	Logistics and purchase supplies	May 11 1 hour		52 km
Selkirk and Porter Creek Schools	Ms. Morham and Ms. Keenan	Presentation and fry release.	May 12 6 hours	25 students plus teachers	74 km SE - 100 chinook fry
D-Bay, HJ and Beaver Creek Schools	Mr. Preto, Ms. Johnson, Ms. Churchill and Ms. Kaminecki	Fry release.	May 13 9 hours	10 students plus teachers, Elders, parents and RCMP	758 km HJ 14 chum fry D-Bay chum 183 fry BC chum 173 fry
Teslin School	Ms. Banks	Fry release and coordinate other school	May 16 3 hours	8 students plus teachers	64 km 104 chinook fry
Porter Creek School and Dusk'a Learning Centre	Ms. Keenan, Ms. Koser and Ms. Luks	Fry release and clean tank	May 17 3 hours	10 students plus teachers	63 km PC: 86 chinook fry
Jack Holland School	Ms. Moore	Presentation, coordination and dissection	May 24 3 hours	15 students plus teachers	57 km
Carcross and Whitehorse Elementary Schools	Mr. Traynor and Ms. Bouayad	Fry release, clean and check tank	May 25 2 hours	5 students plus teachers	57 km Carcross: 95 chinook fry

School	Teacher (s)	Activity	Date-Hours	Students	Comments
Carmacks School	Ms. Einish	Fry release	May 26 2 hours	15 students plus teachers	65 km 93 chinook fry
Christ the King School	Ms. Gillard	Fry release	May 27 4 hours	40 students plus teachers	64 km 88 chinook fry
Jack Holland and Elijah Smith	Ms. Bradford and Ms. Moore	Fry Release and presentation	May 30 5 hours	25 students plus teachers	84 km ES – 64 chinook fry JH – 98 chinook fry
Holy Family	Ms. Stitt	Fry release	May 31 3 hours	15 students plus teachers	76 km 93 chinook fry
Dusk'a Learning Centre	Ms. Koser	Fry release	June 3 3 hours	5 students plus teachers	65 km 97 chinook fry