

Memorandum

To: Angus Mackey and Victor Keong, Pacific Salmon Commission

From: Nick de Graff, Salmon Stewardship Program Coordinator

Date: June 25, 2018

Re: Salmon Stewardship Coordinators for Yukon Schools. Year 6

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 2017/18 (Contribution Agreement CRE-02-17). The program involved 11 schools in the Whitehorse Area and at 12 rural schools throughout the Yukon (Table 1). 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 total of 1,150 Chinook eyed eggs were obtained from the Whitehorse Rapids Fish Hatchery and raised in Whitehorse area school aquariums. The proceeds (684 fry) were taken back back to the Whitehorse Rapids Fish Hatchery as a fire at the McIntyre Incubation Facility prevented its use as a holding facility in 2018. Fry were eventually adipose clipped and coded wire tagged at the hatchery then seeded 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 Yukon College and the Ta'an Kwach'an Council. In Teslin eggs were obtained from wild spawning Chinook in the Morley River during August of 2017. This was part of a restoration project lead by the Teslin Tlingit Council to restore salmon in a local creek. A total of 109 fry were released back into Morley River during early June of 2018.

In north Yukon, 156 Chinook fry and 244 chum fry were raised in school aquariums that were sourced from spawning fish in the Klondike River, Mayo River and Yukon River near Minto. These fish were raised in school aquariums located in Dawson City, Mayo, Pelly Crossing, Carmacks, Faro and Ross River. Eggs and milt obtained from wild chum salmon in the Minto area of the Yukon River were utilized this year for school aquariums in Faro and Ross River as the

egg take at Blind Creek was not successful due to the river being in flood. Another 64 chum fry, that were sourced from fertilized eggs obtained by DFO at the Fishing Branch, were successfully raised in a classroom aquarium in Old Crow.

Fertilized chum eggs were also sourced from wild spawning fish in the Kluane River during October of 2017 and raised to the fry stage in Beaver Creek, Destruction Bay and Haines Junction school aquariums. These fish (489 fry) were released back into the mainstem of the Kluane River in early May.

Egg to fry survival in the individual aquariums was highly variable ranging from 7 to 91 percent. The majority of classroom aquariums experienced moderate survival rates, averaging about 57 percent. It was noted that eyed eggs that were obtained from the Whitehorse Rapids Fish Hatchery appeared to have lower survival rates than in previous years. Some of the chum eggs that were obtained were not viable and several aquariums had a higher than expected mortality. Nonetheless all schools that participated in the program had an opportunity to raise salmon and observe the early developmental stages in the classroom.

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. The fire at the McIntyre Incubation Facility prevented the use of this facility for field trips, tours, stream studies and fry releases for Whitehorse Schools.

Most of the schools that participated in 2017/18 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.



Figure 1 Elders, teachers, parents and students from the Kluane School participating in a chum egg take at the Kluane River, October 5, 2017.



Figure 2 Female chinook salmon captured in the Mayo River for use as brood stock on August 11, 2017. Insert shows eggs being fertilized before placement in the school aquarium.



Figure 3 Teachers and students from Teslin School that released Chinook fry into the Morley River on June 6, 2018.



Figure 4 Students who received a presentation and participated in a dissection at the Christ the King Elementary School.

Table 1 List of participating Yukon schools raising salmon in aquariums as part of the Stream to Sea Program, 2017/18.

Number	School	Species	Stock Origin	Date Seeded	Number Seeded	Date Released	Release Site	Number Released	% Survival
1	Beaver Creek	Chum	Kluane River	5-Oct-17	268	8-May-18	Kluane River	231	86
2	Carcross	Chinook	WRFH	2-Nov-17	100	08-Jun-18	WRFH	63	63
3	Carmacks	Chum	Yukon River (Minto)	14-Oct-17	124	18-May-18	Yukon River (Minto)	48	39
4	D-Bay	Chum	Kluane River	5-Oct-17	185	8-May-18	Kluane River	92	50
5	Dawson	Chum	Klondike River	4-Oct-17	538	30-May-18	North Klondike River	35	7
6	Faro	Chum	Yukon River (Minto)	14-Oct-17	150	18-May-18	Yukon River (Minto)	12	8
7	Haines Junction	Chum	Kluane River	5-Oct-17	223	7-May-18	Kluane River	166	74
8	Mayo	Chinook	Mayo River	13-Aug-17	222	7-Jun-18	Mayo River	156	70
9	Old Crow	Chum	Fishing Branch	22-Jan-18	64	12-Jun-18	Porcupine River	58	91
10	Pelly Crossing	Chum	Yukon River (Minto)	14-Oct-17	137	18-May-18	Yukon River (Minto)	62	45
11	Ross River	Chum	Yukon River (Minto)	14-Oct-17	154	18-May-18	Yukon River (Minto)	87	56
12	Teslin	Chinook	Morley River	17-Aug-17	160	06-Jun-18	Morley River	109	68
13	Christ the King	Chinook	WRFH	27-Oct-17	100	04-Jun-18	WRFH	63	63
14	Dukstra Headstart	Chinook	WRFH	3-Nov-17	100	30-May-18	WRFH	53	53
15	Emile Tremblay	Chinook	WRFH	3-Nov-17	50	30-May-18	WRFH	24	48
16	Elijah Smith	Chinook	WRFH	3-Nov-17	100	31-May-18	WRFH	48	48
17	Goldenhorn	Chinook	WRFH	2-Nov-17	100	08-Jun-18	WRFH	64	64
18	Grey Mountain	Chinook	WRFH	27-Oct-17	100	31-May-18	WRFH	72	72
19	Holy Family	Chinook	WRFH	6-Nov-17	100	30-May-18	WRFH	62	62
20	Jack Holland	Chinook	WRFH	6-Nov-17	100	05-Jun-18	WRFH	57	57
21	Selkirk	Chinook	WRFH	27-Oct-17	100	04-Jun-18	WRFH	61	61
22	Takhini	Chinook	WRFH	6-Nov-17	100	04-Jun-18	WRFH	53	53
23	Whitehorse Elementary	Chinook	WRFH	6-Nov-17	100	05-Jun-18	WRFH	64	64