



PACIFIC SALMON FOUNDATION COMMUNITY SALMON PROGRAM FINAL REPORT

The Pacific Salmon Foundation thanks you for undertaking work to benefit salmon in the wild.

Your effort, combined with the works of others, is making a difference.

You are appreciated.

- This form has been developed to help you report your accomplishments to PSF
- Please use this form for your Final Report, do not send final report in other formats
- The information you provide will be used to document the specific and overall accomplishments of your project and the effectiveness of the Community Salmon Program in working toward its intended outcomes
 - Your Final Report and statement of expenditure are due 60 days after the 12-month expiry date of the Date of Grant (One year and two months after you receive your cheque)
 - Attach *original* receipts for all PSF funded expenditures, if you need them to be returned please indicate
 - Residual grant funds are to be returned with Final Report
 - Photocopy your receipts and report and retain copy for your records
 - Forward report, original receipts, project photos and maps to:

Pacific Salmon Foundation
Community Salmon Program
#300 – 1682 West 7th Avenue
Vancouver, BC
V6J 4S6

- Please also email a copy to jshinkewski@psf.ca

Jim Shinkewski
Salmon Programs Coordinator
jshinkewski@psf.ca
604 664-7664 ex 112



Project Title	Chase River Culvert Remediation Project
Project Type	Habitat Rehabilitation
Organization	Island Waters Fly Fishers
Grant Amount	\$11,543
Total Project Value	\$22,559.03
Stream and Receiving Waters Name	Chase River
Nearest Town/City	Nanaimo, BC
Target Salmonid Species	Chum Salmon

Project Number CSP-11S 019

PROPONENT INFORMATION

Organization **Island Waters Fly Fishers**

Project Title **Chase River Culvert Remediation Project**

Contact **Harry A. McLeod**

Address **6627 Jenkins Road, Nanaimo, BC V9T 6H7**

Phone **250 3901695** Email : hamcleod@shaw.ca

Website: iwff1.ca

PROJECT DESCRIPTION

Project Summary: Please describe accurately your project and identify what you did or not do as compared to your application summary:

Methods Used

On August 23 -24, 2011, 11 half inch steel baffles were installed at regular intervals on one side of a 64.5 M long culvert below the E&N Railway in Nanaimo, BC. The culvert is 3.75 M wide and 3.4 M high and has the appearance of a large cement tunnel. The 1.5 M baffles were bolted to the cement floor of the tunnel after being dipped in epoxy resin. They were placed at right angles to the flow from about the center of the tunnel to within 0.25 M of the wall on the side that had the least damaged floor. Fish could therefore get around either end and the side with no baffles would allow woody debris to slip by. The purpose of the baffles was to reduce the velocity of the current in the tunnel during high autumn flows.

The second phase of the project was to raise water levels below the tunnel where a drop-off at the entrance prevented chum salmon from swimming into it. This was accomplished by making a rock weir dam downstream where the river narrowed and some rocks were already in place. Holes were first drilled into nearby boulders, and then short loops of cable were dipped in epoxy, and inserted into the holes. This was left overnight to set; the boulders were dragged into place the next day with a winch. A bit of prying and the addition of some smaller rocks completed the task. The rock weir will raise the water levels during the higher fall flows so that chum can enter the tunnel and access another 7 Km of upstream spawning area. Chum are not good jumpers and prior to this project, seldom made it into, or past the tunnel.

Problems and how they were solved

The original plan was for 1/4" steel baffles. It was later decided that 1/2" steel would be more suitable, but this added more cost. Through knowledge of local fabricators, DFO was able to find someone that would make the thicker baffles for the same price as the thinner ones.

A second problem was the actual implementation of the project. There was a need to get the baffles to the project site which was away from roads and down a steep ravine. As well, knowledge of what equipment and techniques to use was required. Again, the local office of DFO through their contacts, was able to get the railway to deliver the baffles to their tunnel, and the BC Conservation Foundation to do most of the project implementation, assisted by volunteers.

An oversight in the planning of the project was liability insurance for the landowner, in this case, the Island Corridor Foundation, and the railway operators, Southern Railway of BC. This was overcome by adding additional specific construction liability insurance to the existing Streamkeepers type insurance already held by the Island Waters Fly Fishers, and absorbing this cost by our club.

Unexpected Outcomes

On October 14th, almost two months after completion of the baffle installation, I inspected the lower reaches of the Chase River and became aware of a log jam about 700M downstream of the project. Apparently, this blockage was also present a few years earlier and had become progressively worse each year as large trees fell across the entire stream, accumulating drifting woody material and other debris. At this time, the blockage was such that no salmon could pass through it. Many chum salmon were gathered immediately downstream. None could even use the recently completed project in the tunnel upstream. Several volunteers were hastily assembled and on October 22nd after several hours of sawing, chopping, and tossing woody debris and garbage, a narrow channel was made through the blockage. As soon as the water cleared, chum salmon made their way upstream through the channel. In the days that followed, we documented chum salmon, and later coho salmon, spawning all the way up the Chase River, past the project, to its farthest possible reaches.

Timing

It took only one day to install the baffles, drill holes in boulders and insert cables. Another half day was required to winch the rocks into a weir. Everything went smoothly.

Budget

The project came in under budget by \$1908.97.

Recommendations for future work

The log jam downstream of the project is a continuing threat to fish migration. Cutting a channel through the debris has only been a temporary solution to the problem. We have had to clear the channel several times this fall as debris drifts in to clog it up again. It needs to be cleaned out entirely to prevent continuing accumulations. The Nanaimo Fish and Game Club indicated that many of their 2500 plus members have heavy equipment and trucks and would be willing to clear the log jam. We will continue to monitor the situation.

Please describe how you met or exceeded your objectives as compared to your application for funding, describe unintended outcomes. Describe where you did not meet your objectives.

Objective #1

" Provide upstream Chum salmon migration access to seven km of stream, including Chase River (3km) and the Cat Stream (4km) to which they now have no access by installing baffles in the culvert". This objective has been completely met.

Objective #2

"Educate and engage members of the Island Waters Fly Fishers and Vancouver Island University students in a significant stream restoration project". Volunteers from both the Island Waters Fly Fishers and Vancouver Island University have been successfully engaged and educated in stream restoration as a result of this project.

Objective #3

"Enhance an important Coho salmon stream by increasing the biodiversity. It is believed that allowing other species into the upper watershed will provide more nutrient material for all species". Coho and chum have now been introduced into the upper watershed of the Chase river as a result of this project.

Project Support

Please list all Federal, First Nations, Provincial, Regional and Municipal government employees involvement in your project.

Department of Fisheries and Oceans

Mel Sheng
Douglas Poole

Vancouver Island University

John Morgan

BC Conservation Foundation

Kevin Pellet
Michelle Kehler
Kirsty Brennan
Craig Wightman

Island Waters Fly Fishers

Harry McLeod
Bernie Heinrichs
Ron Moll
Brian Lapadat
Jim McEwan
Rick Wanhill
Bill McColl

Friends of the Millstone

Charles Thurkill

Northwest Hydraulic Consultants Ltd.

Graham Hill

Island Corridor Foundation

Graham Bruce
Jim Dias

Southern Rail of Vancouver Island

Don McGregor
Byron Reed

Streamkeepers

Jean-Michel Hassens

Hub City Fisheries

Lloyds Insurance Business of BC (through)
Guardian Risk Managers Ltd.(by)
Underwriters Insurance and Speirs and Company
Alan McNulty (Broker)

PROJECT SUMMARY STATISTICS

The statistics you provide will help us to determine the specific and overall achievements of your project and the Community Salmon Program and will be made available to interested individuals and organizations.

Quantifiable Results (Important these are a measurement of your project's success)

Stock Assessment or Stock Enhancement Projects (please specify species)

Number of juvenile salmonids enumerated _____ Number of salmonids released _____

Number of adult salmonids enumerated 3500 Chum, 400 Coho _____ Facility Upgrade
yes _____

Number of salmonids marked/tagged _____

Will this information be integrated into a Watershed Management Planning Process? No _____

Habitat Assessment

Which methodology was used in your project: Streamkeepers, other? Engineering design and layout _____

Did you use GPS? _No_____ Will it be integrated into a GIS? _No_____ Whose? _n/a_

Linear or square meters of area inventoried, mapped or assessed: Culvert 64.5 M long, 242 Sq. M

Was this project a component of Effectiveness Monitoring of a Habitat Rehabilitation Project?
_No_____

Will this information be integrated into a Watershed Management Planning Process? No

Habitat Rehabilitation Projects

Riparian Restoration	Area replanted	≈square metres
	Number of trees/shrubs planted	
In-channel habitat	Stream area rehabilitated	m ²
Off-channel habitat	Stream area created/rehabilitated	m ²
Estuarine habitat	Area created/rehabilitated	m ²
Lake habitat	Area created/rehabilitated	m ²
Fish Access	Length of stream made available	m or 7 km
Fencing	Length of fencing	≈metres
	Area protected (fence-to-bank width x length along stream = m ²):	≈square metres
Other (specify)	Baffles installed in railway culvert Pool created by building weir to raise water levels	11 2500Sq.M

Education, Public Awareness, Stewardship, Community Planning, Volunteer Training Projects

Targets Audience (check all that apply)

Grade K-12	_____
Post Secondary	__1_____
Education and Awareness	_____
Landowners Contact	_____3_____
Volunteers Trained	__6_____
Public presentations	__one for 400 PSF
Dinner/Auction_____	_____
Community Planning	_____
Other (specify)	_____

Communications

Please indicate which communications tools were used to highlight the project (check all that apply):

PSF sign and decals _____ Newspaper/ media releases _yes___ Brochure _____
 Website _____ Media interview _yes___
 Other _____

Volunteers (Important: this is a measurement of your project's success)

Total number of volunteers involved in this project	12	Total number of volunteer hours in this project	620
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Total number of persons trained (staff and volunteers) __9__

Supporting Documentation

Please attach additional documentation to illustrate your project's results.

Photos: Photos of before, during and after projects are required. By providing these you grant permission to PSF to reproduce or publish these photos; therefore, care should be taken to ensure all identifiable persons in photos are aware of this. Please provide photographers name if photo credit is desired.

Generic photo consent form is available at www.psf.ca and is to be retained by your organization.

Documentation attached (check all those that apply):

Maps X___ Brochure ___ Photos _X___ News clippings _X___ Data Report _X___

STATEMENT OF EXPENDITURES

Please provide a detailed financial statement of project and PSF grant expenditures
 Attach original receipts and invoices to this Final Report for PSF funded expenditures.

INVOICE/RECEIPT/COMPANY	PSF CSP (\$)	OTHER CASH (\$)	IN-KIND (\$)
Materials, Supplies, Equipment, Repairs, Maintenance, Transportation, Travel, Capital, Other			
BCCF: Equipment repairs/rentals, Materials and supplies, Courier, HST	4170.05		
Volunteer Labour: Professional Fees, Project Coordination, Technicians, Consultants, Labourers, Other (Important: this is a measurement of your project's success),			
Volunteer Labour (@estimate of \$15/hr)	N/A		1380.00
Engineer	1850.80		
Southern Rail Baffle Delivery Site Survey, initial planning: (IWFF, Friends of the Millstone) Project Coordination (IWFF), 100 hrs@\$25/hr Unanticipated partial log jam removal to allow salmon passage upstream to project and beyond:3 trips to remove debris, 60 hrs @\$15/hr (IWFF, FOT Millstone, Streamkeepers)			2000.00 1800.00 2500.00 900.00
Training, Meetings, Communications, Publishing, Printing, Permits, Insurance Other			
Assessment of Project success(numerous walks throughout Chase river to count fish) IWFF, FOT Millstone, Streamkeepers			1800
Meetings, Communications, Office Supplies (IWFF)			2195
BCCF wages	2717.76		
Administration, Overhead, Insurance, Office Rental, Accounting			
Insurance (IWFF)		250	
Administration (BCCF)	895.42		
Accounting (IWFF)			100
HST Rebate, Anticipated or Received- to be applied to project costs			
A TOTAL PSF CSP EXPENDITURES	9634.03		
B TOTAL OTHER		250	
C TOTAL IN-KIND			12675.00
D TOTAL PROJECT COST A+B+C			22559.03
E PSF CSP GRANT	11543.00		
LESS TOTAL PSF CSP EXPENDITURES A	9634.03		
OUTSTANDING GRANT TO BE RETURNED TO PSF	1908.97		

