HRSEP: 99-FRB-HR-075
99-FRB-HR-071
FISS: DFO 071 ; DFO 075

HRSEP 1999/2000 Final Report

Category (Check one)

____	*RWS*	*(Resource & Watershed Stewardship)*
X	*HR*	*(Habitat Restoration)*
X	*ST*	*(Stock Rebuilding)*

Area (Check One)

____	*VI*	*(Vancouver Island & South Coast)*
____	*NCC*	*(North & Central Coasts)*
~~*X*~~	*FRB*	*(Fraser River Basin)*
____	*YT*	*(Yukon Territory)*

Proponent Information

Organization Name :	Fraser River Fishermans Society
Contact Name :	Dale B. Clark and Nancy Manuck
Contact Title :	Technical Supervisor and Director
Mailing Address :	102-32030 Lougheed Highway
	Mission B. C., Canada
	V2V 1A4

Phone : 1-604	Messages 820 4544	*Fax* :	820 4844
Alt Phone : 1-604	H: 826 6068	*Alt Fax:*	
Email :	Frfs@dowco.com		

Did you receive DFO input on this project? *Yes*

Name of DFO Contact(s): Maurice Coulterboisvert
Matt Foy

Project Information

Project Title	:	Silvermere Lake Fishway Repair
Start Date	:	April 01, 1999
End Date	:	March 31, 2000
Project Rationale (Problem being addressed)		Repair existing ladder into Silvermere Lake and assist Stave Valley Salmonid Enhancement Society (SVSES) with activities in the area. Additional works identified by Maurice Coulterboisvert after funding allotted including Silverdale Creek Falls and Chester Creek Fencing.

Was a feasibility study or pre-assessment done for this project? *Yes*
If yes, please describe.

Matt Foy and Harold Beardmore visited the Silvermere site and made recommendation for repair. Maurice Coulterboisvert visited the Silverdale Creek Falls site.

Activity Type

Check all that apply

Inventory & Mapping		*Stock Assessment*	*X*
Public Awareness		*Habitat Restoration*	*X*
Stock Enhancement	*X*	*Stewardship/Community Planning*	
Other		*Specify*	

Project Objectives (from your proposal and/or agreement)

Objective # 1 :	Complete short term repair of Silvermere Lake ladder and assist SVSES with Annual activities in drainage
Was it achieved?: Yes/No + Details	*Fish passage was restored to the fullest extent possible, SVSES was assisted* Egg takes enumeration, monitoring, maintenance and fed fry distribution.
Objective # 2 :	Preliminary trial utilizing a boulder blaster to provide fish access above falls on Silverdale Creek. Fencing on a portion of Chester Creek was to be installed
Was it achieved? : Yes/No + Details	A one-day trial was completed with very promising results. The Chester Creek fencing was completed and previously planted riparian vegetation was maintained.

Partnerships

List and describe the personnel involved in the project.

A professional blaster and an outside site supervisor were employed for the Silverdale Creek falls portion of the project. All other employees were either FRFS staff or from the regular work pool of members.

# of persons trained _____
# of persons employed 5
person-days of employment created 40

# of volunteers involved 6
# of volunteer hours 100

Is the local community involved in this project? List and describe the partnerships involved.

Stave Valley Salmonid Enhancement Society, planning, implementation and execution.
BC Hydro, planning and implementation
Fisheries Renewal BC, fiscal support and implementation

Genstar Land Development Corporation, access to sites and supportive of activities.

Project Location

Complete as fully as possible.

	(Details – name, code or other)
Water body / System(s)	Fraser Lower Basin, North Shore
Watershed(s)	Stave River, Chester Creek and Silverdale Creek
Nearest Community	Mission, B. C.
Other Geographic Information	All activities occurred between Mission and Ruskin. Stave code: 10004710001900. Water ID: 00882LFRA

Latitude/Longitude _____ *UTM Coordinates* _____

Results/Quantifiable Measures

Species Addressed (Check as many as applicable)

X	Coho		Pink	
	X Chum	1 Jack	Chinook	
	POS Sockeye	STHD/CT's		Other

Habitat Addressed (Check as many as applicable)

	In-channel	X	Off-channel	
X	Riparian	Intertidal fresh water		Estuarine/Marine
X	Lake		Other	

For Mapping & Inventory Projects:
Was your data collected according to the DFO-HEB Info Mgmt. guidelines? (ref. Brad Mason) Yes/No
If yes, was it submitted in digital format?

Linear metres of area mapped:
Other:

For Stock Rebuilding Projects:
 # Adult Salmon Enumerated: ~~1000~~
 # Juvenile Salmon Enumerated:
 # Salmon marked/Tagged or released:
Other:

For Stewardship/Community Planning Projects:
 # Public Presentations/Media Releases:
 # Landowners Contacted: 8
Other: SVSES school District #75 grade 4 participation, Stave River Water Use Plan consistency

For Habitat Restoration Projects:

Fencing:	*Stream length protected*	~~0.2~~	*km*
	Stream area (fence to bank) protected	~~6000~~	*sq. meters*
Riparian replanting:	*Area replanted*	0.1	*sq. meters* (1,000 m²)
	# trees/plants	1000	
In-channel habitat:	*Stream area restored*		*sq. meters*
Off-channel habitat:	*Stream area created/restored*	1000	*sq. meters*
Estuarine habitat:	*Area created/restored*	~~800~~	*sq. meters*
Lake habitat:	*Area created/restored*		*sq. meters*
Fish Access:	*Length of stream made available*	~~120~~	*km*
	Area of habitat made available	1120	*sq. meters*

Other: Previously planted riparian vegetation annual maintenance for ~~2 km~~ of stream bank

Project Description

Please enter a general project description below. Please include an overview of the methods and techniques used. If required, you may attach an additional sheet.

Following funding allocation a meeting was held with Maurice Coulterboisvert and Jim Taylor of the Stave Valley Salmonid Enhancement Society (SVSES) regarding the goals and what projects we could expect to complete this year. A number of options were discussed and the following priority list was developed based on the information available at the time.

1) Do a quick fix on the Silvermere Fishway as there are uncertainties about the appropriateness of the current location.
2) Fence Chester Creek as SVSES has a commitment to plant at the site and those plants will need protection from the cattle and the cattle should be excluded from the stream
3) Attempt a trial of the boulder blaster on Silverdale Creek Falls to create fish passage
4) Armon Creek (another Silverdale tributary) attempt to create fish passage above that impasse
5) Assist with upgrade of Silvermere Hatchery (George Donatelli's).
6) Initiate works to create fish passage above Hayward road on Donatelli Brook (A Silvermere Lake Tributary)

SLIVERMERE LAKE FISHWAY - The internal structure of the fishway was repaired prior to the first flows out of lake on October 29. This was accomplished by replacing and more securely fastening landscape ties as steps in more or less the original configuration. As the bottom end of the ladder has eroded over the years and is exposed at low tide a temporary fish ramp was attached to assist in low Fraser level access for fish. This was and is really only a short-term solution and a larger project, which stabilizes the entire area, should be under taken in the future. The expected life of the ramp is less than 3 years and the fishway may last up to 5 seasons.

Please see attached trap report for monitoring results.

CHESTER CREEK – The fencing was complete and planting will occur by SVSES and School District #75

SILVERDALE CREEK FALLS – one-day trial completed creating 2 stepped pools, in solid bedrock using a boulder blaster.

SILVERMERE LAKE HATCHERY – half stack and water dissolved oxygen issues were completed using BC Hydro donation via X – Files filming at Ruskin Dam. Hand burying of water lines and site maintenance was completed during the course of Fisheries Renewal BC funded works on the main rearing pond.

ARMON CREEK and DONATELLI BROOK issues were not addressed this year. A brief field inspection and it looks like there will be much difficulty with machine access, adults are spawning in lower section.

In addition some planting at Stave River East Backwater channel site was completed in February and March of 2000.

Follow-up & Monitoring

Please describe the current status of the project. Has the problem being addressed been solved? (see "project rationale") What are the ongoing issues in the area and your recommendations for future work.

SILVERDALE CREEK FALLS – Landowner was very cooperative and more work is still required to ensure up stream access of adult salmonids.

CHESTER CREEK – fencing is complete, plantings should be monitored to ensure appropriate native species are encouraged. Note the land where work occurred has changed ownership so new contacts will have to made.

SLIVERMERE LAKE FISHWAY – Short-term fix completed but over lying issue of low productivity from this system has not been addressed. See attached comparative monitoring results.

ARMON CREEK and DONATELLI BROOK – no work occurred at either site so we should try again this year.

Supporting Documentation

You may attach additional documentation to illustrate your project's results. (optional)

Documentation Attached (Check as many as applicable)

_____	*Maps*	_____	*Brochure*
_____	*Photos*	_____	*News clippings*
~~X~~	*Data report*	_____	*Other*

↳ not received with this report.

Financial Summary

Please specify project costs according to the following categories for the total budget received from HRSEP. *You may also attach further financial statements in other formats, as produced by your group's financial systems. It is not necessary to forward copies of individual receipts and invoices. As per the terms of our Agreement, please retain these in your files for a minimum period of three years, as DFO reserves the right to audit all HRSEP projects.*

		Projected Amount	***Actual Amount***	*Details*
Wages / Personnel Costs	*$*		$18,470.01	All workers excluding blaster
Transport / Equipment	*$*		$1020.00	Coastal Rock Breakers
Office / Overhead	*$*	$	$2141.01	10% of funded project
Other Costs	*$*		$1650.00	Misc. including landscape ties, plywood, lumber soil for Stave East, seed, etc.
Total Received from HRSEP	*$*		23,281.02	Project 29+32

Please see attached detailed budget (in excel format)

Contributions to the total budget may be from other agencies or in-kind contributions from your own organization, please specify:

		Amount	*Details*
Other Contributors to Total Project	*$*	$10,800. 00	In kind contributions
		$31,674.00	FsRBC 1999/2000 Program

Σ = 42,474.00

The crew has been working with Dale Clark presently to continue working in the Silvermere project.

Silverdale Creek experimental phase of falls project, the crew worked with the boulder blaster determining the extent of and viability of creating access past this barrier, results were very positive.

In the Silvermere/Thompson creek the crew is monitoring and trapping. Note an interim structure was constructed to assist in low flow access at bottom of ladder prior, to arrival of adults on site.

First Flows out of lake October 29, early down stream run of juvenile Squaw, at that time for about 3 to 4 days. First Chum in by dipping from ladder on Nov. 07 and first Coho Jack (very few early in run nice size but not large) in on Nov. 09.

Thompson Creek Fall 1999 Adult returns

January 2, 2000

First Chum arrived at Wilson road on Nov 03, Only 36 were counted within the 1998 project area before down stream spawners undermined an old beaver dam and created an upstream barrier. The Barrier completely blocked adult return access from possibly as early as Nov 10 to December 01 when it was removed by hand. Coho immediately arrived upstream, 15 fish within 24 hours. No Chum arrived after December 01 but approximately 200 carcasses / spawning fish were counted below the barrier on that day. The Exclusion of Chum may have had hidden benefits for the Coho as virtually all of the spawning area within the 1998 project area was available and undisturbed.

Besides daily counts around the public area of the stream and weekly total counts covering the entire stream were taken with the following results:

December	04	41 Adult returns on site
December	11	43
December	18	140 (one day after peak spawn)
December	27	10
Total count		234
Daily immigration estimate		287
Run Estimate		200 successful spawners

Fish continue to enter the system at this time but only small numbers, a final count will follow in the final report.

99-RBTHR-075

Interim Report Apr 17/00

Stave 1999/2000 Comparative Enumeration of Thompson Creek and Silvermere Lake

Both systems were monitored at least once daily seven days a week from October 30, 1999 until January 23, 2000. At that time the Silvermere Lake trap was opened to allow free fish passage both up stream and down. On February 17th the trap and fence supplies were removed, dismantled and transported for storage and repairs.

Thompson Creek Enumeration

First Chum arrived at Wilson road on Nov 03. Only 36 were counted within the 1998 project area immediately below Wilson Road. Spawners in the lower reaches undermined an old beaver dam and created an upstream barrier and not adults entered the system of either Chum or Coho from Nov 09 to December 01. The Barrier, an 18 inch falls over a rotting stick straight onto cobble, was removed by hand on December 01. Coho immediately arrived upstream, 15 fish within 24 hours. No Chum arrived after December 01 but approximately 200 carcasses / spawning fish were counted below the barrier on that day. The Exclusion of Chum may have had hidden benefits for the Coho as virtually all of the spawning area within the 1998 project area was available and undisturbed.

Daily counts/estimates were taken from the roadside visible areas of the stream to create a running total of immigrants. Weekly total counts covering the entire stream were also taken to confirm the daily estimates.

The following are the results of this enumeration:

December	04	41 Adult returns on site
December	11	43
December	18	140 (one day after peak spawn)
December	27	10
January	05	10
Total count		244
Daily immigration estimate		308
Run Estimate		200 successful spawners

Interim report April 17/00

Silvermere Lake Enumeration

Up stream trapping at the Silvermere fishway commenced as soon as water started flowing out of the lake. A down stream migration of a small number of course fish was observed just when the lake started flowing. The trap was flooded out on December 15 and 16 by high water in the lake. The trap worked well when Coho did make it through the fish way however most fish were simply dipped from the ladder and passed into the lake. Too many times fish were observed just below the trap and then they just disappeared.

The results of the trapping are as follows:

CHUM	41 Does
	94 Bucks
	135 total
COHO	19 Does
	29 Bucks
	09 Jacks/Jills
	57 total

NOTE: -No Chum passed the final step into the lake or into the trap on their own.
- about 50% of the Coho made it into the trap
- Less than 20 % of the Coho were wild stock mainly in the early run.
- Stave Valley Salmonid Enhancement Society brood stock for Silvermere Lake collect its allotted 30,000 eggs from within the system for the first time. Eggs were taken from through out the run, first eggs on November 20, 1999 and last eggs taken on January 03, 2000.

In Summary

In comparing these two streams it is important to note that both historically supported anadromous salmon returns. Also that Silvermere sub basin has had access for about 20 years and that Thompson Creek was accessed in 1998.

The numbers show that clearly Silvermere Lake is under producing as the normal winter outflow is at least 10 times that of Thompson which is getting up to 6 times the number of fish using it.

As the use by hatchery fish was consistent in both systems it must be assumed that the Silvermere fishway in its current location and or condition is just not attracting fish in significant numbers.