

# RIVERS AND SMITH RECOVERY PLAN PROJECT SUMMARY

## PART I - IDENTIFICATION

<b>Proponent Name</b>	<b>Rivers And Smith Salmon Ecosystem Planning Society</b>
<b>Proponent Address</b>	1719 Beaufort Ave. Comox BC V9M 1R8
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## PART II - PROJECT OVERVIEW

<b>Project Name</b>	Early Marine Ecology for Juvenile Sockeye Salmon in Rivers and Smith Inlets	
<b>Project Location - Community</b>	Rivers and Smith Inlets, PBS, Nanaimo, and SFU, Burnaby	
<b>Watersheds - creeks, reaches</b>		
Attach map if available		
<b>Project Cost</b>	Total Project Cost	\$179,300
Funding	PSEF	\$63,000
Other, please list	Please see proposed budget Annex A	\$116,300
Volunteer/In-kind		\$
Please List		
<b>Project Term</b>	Start Date: May 1 / 04	End Date: Dec. 31 / 04
<b>Project Type</b> (Check all that apply)	Stock Assessment/Inventory/Enhancement	<b>X</b>
	Habitat Restoration	
	Education & Public Awareness	<b>X</b>
	Ecosystem Assessment	<b>X</b>
<b>Project Partnerships</b>	<b>Name</b>	<b>Contact Info</b>
(agencies/organisations providing planning, supervisory etc. support)	<b>Simon Fraser University</b>	<b>R. Routledge</b>
	<b>Pacific Biological Station</b>	<b>R. Tanasichuk</b>

### **PART III - PROJECT DESCRIPTION**

**Project Objectives and Rational:** To continue monitoring the juvenile sockeye migration and habitat conditions in Rivers and Smith inlets and adjacent waters with the aim of understanding the impact that this life stage can have on marine survival of these salmon populations. This is critical knowledge for assessing the recovery potential for these two once-major contributors to sockeye salmon fisheries in British Columbia.

**Project Design and/or Assessment Standards:** We are adapting and extending study designs used elsewhere on the B.C. coast, particularly in Barkley Sound. We have extended this design to incorporate physical and chemical oceanography, in light of early evidence that oceanographic processes in the inlets may play a key role in determining the capacity of the inlets to support the juvenile salmon migrations. The principle applicant is Prof. Rick Routledge, a biometrician and Director of the Environmental Science Program at Simon Fraser University. Also collaborating on the project are Drs. Ron Tanasichuk from the Pacific Biological Station and Frank Whitney from the Institute of Ocean Sciences. We also rely on the skipper and crew of the Oweekeno First Nation purse seine vessel, the Western Bounty, and local DFO personnel for conducting the fish sampling, on Mr. Al Hirst for performing the plankton analyses, and four SFU students for assisting with the sampling, and laboratory and statistical analyses. We shall submit our findings as they mature to well-recognized scientific journals for peer review by other scientists.

#### **Project Work plan and Timetable:**

May-July, 2004: Conduct field sampling.  
August, 2004: Write interim report on field season.  
August-December, 2004: Analyze samples.  
December, 2004: Submit final report on field season.

**Deliverables:** This is part of a long-term study, whose ultimate purpose is to understand factors influencing the productivity of these populations, and in particular on the impact of inlet conditions during the out-migration on marine survival. Success in achieving this long-term objective can be assessed only after several cohorts of juvenile salmon have returned to spawn. We began this project in 2002, and the first adults from this smolt migration will return this coming fall. We shall present as subsidiary measures of success insight that we hope to continue to gain on juvenile sockeye migration routes and timing through the inlets with specific emphasis on food consumption, food availability, and underlying physical and chemical factors.

**Monitoring and Maintenance:** As described above, longer-term monitoring is a central component to this project. Adult returns of Smith Inlet sockeye are well monitored at the counting fence on the Docee River. Adult returns of Rivers Inlet sockeye will continue to be estimated by Fisheries and Oceans Canada through their traditional spawning surveys. In addition, this work is being supplemented through a PSEF-sponsored hydroacoustics program in the Wannock River.

**Project Approvals:** Fisheries and Oceans Canada Fishing Permit, approval pending.

**Letters of Support:** List any agency/community/etc. letters of support for your project.

**Community Involvement:** We charter the Oweekeno First Nation purse seine vessel, the Western Bounty. We also attempt to visit the community at least once a year, to stop in at local service depots in the area, and to discuss our progress at as many RSSEPS meetings as possible. We are thereby in regular contact with the community. We have also made formal presentations to a workshop organized by the Pacific Salmon Foundation and to a meeting of Fisheries and Oceans' Central Coast Advisory Board. We shall continue to take advantage of such opportunities.

**Administration:** We have a schedule of sampling trips roughed out with the Fisheries Manager of the Oweekeno First Nation, and have lined up the scientific staff. Our costs are impossible to predict precisely in advance. As in the past, any modest cost overruns in 2004 will be covered by research grants to R. Routledge. The coordinator of the RSSEPS will manage the contract and monitor the outcomes.

## Proposed Budget

Item	Units	Unit Cost	Cost	PSEF Funding	Other Funding	Source
Seine Boat Charter	18 days	\$2000/day	\$36,000	\$36,000		
Plankton Sampling Technician	10 days	\$200/day	\$2,000	\$2,000		
Plankton Analysis Technician	40 days	\$200/day	\$8,000	\$8,000		
Net repairs and transportation			\$5,000	\$5,000		
Travel from Vancouver to Port Hardy			\$2,000	\$2,000		
Fish sampling technician			\$6,500		\$6,500	USRA & DGRR
Fish processing technician			\$10,000		\$5,000	DGRR
Statistical analyst			\$11,500		\$6,500	USRA & DGRR
Conductivity and Temperature Probe			\$1,300		\$1,300	DGRR
Miscellaneous supplies			\$3,000		\$3,000	DGRR
<b>Subtotal</b>			<b>\$85,300</b>	<b>\$63,000</b>	<b>\$22,300</b>	
Related Research Projects						
Analysis of Long Lake Sediment Core			\$10,000		\$10,000	USRA & DGRR
Analysis of Wyclees Lagoon Core			\$4,000		\$4,000	USRA & DGRR
Oweekeno Lake Sediment Coring			\$30,000		\$30,000	RCS
Hydrodynamic Modelling (pending)			\$50,000		\$50,000	ASI EFF
<b>Subtotal</b>			<b>\$94,000</b>	<b>\$0</b>	<b>\$94,000</b>	
<b>Total</b>			<b>\$179,300</b>	<b>\$63,000</b>	<b>\$116,300</b>	
Source Codes						
USRA	NSERC Undergraduate Student Research Award					
DGRR	NSERC Discovery Grant and other research funding from R. Routledge					
RCS	Raincoast Conservation Society					
ASI EFF	Advanced Systems Institute, Environmental Futures Fund (Decision pending)					