

# Northern Boundary and Transboundary Rivers Restoration & Enhancement Fund

## Stage I Project Concept Form 2008

*(three pages only- additional information will not be considered by the Fund Committee)*

**Name:** David Stevenson

**Affiliation:** Rivers and Smith Inlet Salmon Ecosystem Planning Society

<b>E-mail address:</b> rsseps@telus.net	<b>Phone:</b> (250) 890-0297
	<b>Fax:</b> (250) 890-0296

**Project Title:** Nekite River Adult Chum Enumeration Program

Project Type:	Check one	Estimated Amount Required: <i>Specify currency</i>
Improved information for resource management	<input checked="" type="checkbox"/>	\$ 30,000 CDN
Habitat restoration	<input type="checkbox"/>	\$
Enhancement		\$

**Project Location:** Nekite River – Smith Inlet B.C. (DFO Statistical Area 10)

**Start Date:** June 1, 2008

**End Date:** January 31, 2009

**Provide a brief overview of the project; what is being proposed?**

- The Nekite River has been the focus of intensive fish enumeration efforts from the time DFO constructed a chum spawning channel within the lower river. The information collected has contributed to DFO fisheries management plans for the Central Coast.
- The Gwa'sala-'Nakwaxda'xw Nation has performed many of the monitoring activities; assessing escapements into the spawning channel since 1996 and into the Nekite River as a whole since 2001.
- The most useful information collected, from a stock assessment perspective has been through the Mark-Recapture program. An intensive in-river capture effort is made primarily during the commencement of the run, with Floy tags applied to adult chum. Secondary opercular punches are made and DNA samples and scale samples are taken and submitted for analysis. Once spawning activity commences and die-off occurs the First Nations crew carries out a dead-pitch program in order to recover tags. The total program length is approximately 6 weeks, depending on the run duration. Recovery efforts in neighboring tributaries will also be conducted.
- The proposal is to improve the population estimate derived from the mark-recapture program by increasing the total number of fish tagged and re-capturing a larger proportion of the tagged fish, thereby improving confidence limits. Estuary captures using seine boats will allow for an improved tagging effort. In order to recover more tags the deadpitch effort will continue, but improvements will be made handling fish that are typically unreachable (ie. at the

bottom of large pools). This will occur through snorkeling efforts and the strategic placement of stop-nets. Observations that influence fish mortality (i.e. bear kills) will also be conducted on a more regular basis.

- An intensive review of previous mark-recapture studies on the system will be conducted by DFO Stock Assessment and the Gwa'sala-'Nakwaxda'xw Nation this fall/winter. These evaluations will be incorporated into the study parameters.

**Relevance and Significance:** Describe the relevance and significance of the project to the Pacific Salmon Treaty and the goals of the Northern Fund.

- A reliable estimate of the chum population returning to the Nekite River is important for fisheries management. There is the potential for a commercial fishery on this run.
- Chum and coho captured from this run will be harvested in Alaska and Canada.

**Technical Merit:** Describe the logic behind the design; the feasibility of the methodologies to be used and the appropriateness of the technical approach.

- Mark-recapture programs using the Petersen method for analysis are a reliable way to estimate fish populations. This type of experiment has previously been utilized on the Nekite River, but improvements to the confidence intervals are required for utilization in fisheries management decisions.
- The marking (tagging) protocol utilized has been reviewed by DFO stock assessment. Fish handling techniques to ensure low stress levels and gentle handling are utilized.
- The estuary sampling will be conducted utilizing seine nets with bailers. Species other than chum salmon will be immediately released.
- Analysis and reporting of the mark-recapture experiment will be carried out by the Gwa'sala-'Nakwaxda'xw Nation. The objectives of the study will be to determine the chum population size, and to extrapolate information regarding residency times and to collect biological information. An accurate determination of current chum populations will provide reliable information for management.

**Key Personnel:** Identify key project personnel, the nature and extent of their role in implementation.

Doug McCorquodale – Fisheries Coordinator, Gwa'sala-'Nakwaxda'xw Nation: Project leader/co-coordinator

Dave Peacock – Area Chief, DFO Stock Assessment: technical review of program, project input

Karl Wilson, DFO Senior biologist – liaison and approvals with DFO

David Stevenson, RSSEPS Coordinator will manage the contract.

**Measures of Success:** Describe the specific objective standards, quantifiable criteria and quality control measures you will use to assess the actual performance of this proposal against expectations.

- Monitor capture and recapture efforts in-season. Compare efforts, results, and confidence limits with previous experiments conducted.

**Project budget outline:** Provide estimates of line item costs for the following categories.

Wages and salaries	\$ 19,350.00
Contract services	\$
Travel	\$ 7,500.00
Supplies and materials	\$ 600.00
Capital equipment	\$
Indirect costs (food, admin, skiff rental)	\$ 2,550.00
Total	\$ 30,000.00

**Costs:** Describe the proposed budget for this project, including appropriate details about the larger cost items, especially capital acquisitions.

Supervising Biologist - 9 days @ \$550/day	\$ 4,950.00
Fisheries Technicians - 4 crew for 18 days @ \$200/day	\$ 14,400.00
Transportation – seine boat for 5 days @ \$1500/day	\$ 7,500.00
Supplies and materials – tagging equipment, nets, totes	\$ 600.00
Indirect costs	
Food – \$125/day for 18 days	\$ 2,500.00
Administration	500.00
Skiff rental - \$100/day for 5 days	500.00
Total	\$ 30,095.00

In-kind contribution by the Gwa'sala-'Nakwaxda'xw Nation Band

Supervising Biologist - 5 days @ \$550/day	\$ 2,750.00
Fisheries Technicians - 3 crew for 42 days @ \$200/day	\$ 25,200.00
Satellite phone rental	\$ 905.00
Accommodation – \$50/day/person	\$ 6,300.00
Transportation – 2 charter flights @ \$685 each, 5 sched flights @ \$155	\$ 2,145.00
Food – \$100/day for 42 days	\$ 4,200.00
Administration	\$ 3,500.00
Sub-total	
Total	\$ 45,000.00