

East Coast Vancouver Island Salmon Carcass Program, 2005.



by:

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prepared for:

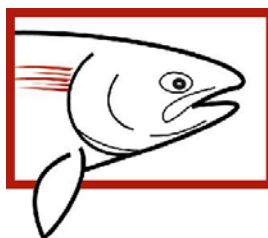
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Pacific Salmon Foundation
Vancouver, BC (project #ER023 2005)

and

BC Hydro
Nanaimo, BC

February 2006



GREATER GEORGIA BASIN

STEELHEAD Recovery Plan

www.SteelheadRecoveryPlan.ca

ACKNOWLEDGEMENTS

Funding was provided by the Habitat Conservation Trust Fund (HCTF) through the Ministry of Environment and by the Pacific Salmon Foundation. Continuation of the program in 2005 was made possible by keen volunteer support from the Parksville/Qualicum Fish and Game Association, Parksville/Qualicum Streamkeepers, Puntledge River Restoration Society, Courtenay Fish and Game Club, and Storie Creek Streamkeepers. Hupacasath First Nation helped with carcass redistribution in the Ash River with funding coming from BC Hydro. Craig Wightman¹ and Carol Cross² authorized carcass movements and provided technical recommendations. Federal and community hatcheries on the target streams provided post spawn salmon carcasses and were flexible in accommodating volunteer availability.

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1.0 Introduction

Studies suggest that 6-7% of the historical input of marine-derived nutrients from spawning salmon is currently available in Pacific Northwest streams (Gresh et al. 2000)³. Salmon carcass redistribution is recommended as a short term strategy to replace losses in marine-derived nutrients during periods of poor salmon returns. Most carcass distribution projects take post spawn hatchery broodstock and dead-pitched carcasses from spawning channels and distribute them in upper reaches of a watershed where natural abundance is lower.

The East Coast Vancouver Island Salmon Carcass Program commenced in 2002, when the British Columbia Conservation Foundation (BCCF) received HCTF seed funding from the Ministry of Water, Land and Air Protection (MWLAP) to implement carcass distributions and identify key areas with enhancement potential. BCCF hosted a workshop attended by DFO Community Advisors and representatives from the Vancouver Island Trout Hatchery, the Nanaimo River community hatchery, and from each of the major East Coast Vancouver Island (ECVI) federal hatcheries. A pilot project was completed in the fall of 2002 involving Qualicum Beach Streamkeepers with chum carcass plants on the Little Qualicum River.

In 2003/04, HCTF funding was used to implement potential projects identified during the 2002/03 season. Implementation involved communicating with local stewardship groups to garner interest, purchasing necessary equipment (fish totes, waders, gloves, peughs), production and distribution of a 'user-friendly' carcass distribution procedures booklet, and initiation of river-specific programs identified in the 2002 workshop.

In 2005/06, funding was provided by HCTF and BC Hydro to continue carcass distribution programs, with potential to add new streams to the list through local stream stewardship involvement. The Pacific Salmon Endowment Fund (administered by PSF) funded carcass plants on the Englishman River, adding another watershed to the program this year.

2.0 Study Area

Carcass distributions in 2005/06 were focused on central ECVI streams with available broodstock or spawning channel carcasses and local stewardship group interest. BCCF technicians coordinated and supervised projects on the upper Puntledge, Cruickshank, Big Qualicum, Little Qualicum, Ash (WCVI) and Englishman rivers (Figure 1). Equipment was provided to local stewardship groups to carry out independent carcass distributions in Woods and Casey creeks. Funding was provided to Northern Vancouver Island Salmon Enhancement Association (NWISEA) staff for pink salmon carcass plants on the Cluxewe River.

³ Gresh, T., Lichatowich, J., and P. Schoonmaker. 2000. An estimation of historic and current levels of salmon production in Northeast Pacific ecosystems. *Fisheries* 25(1): pp 15-21.

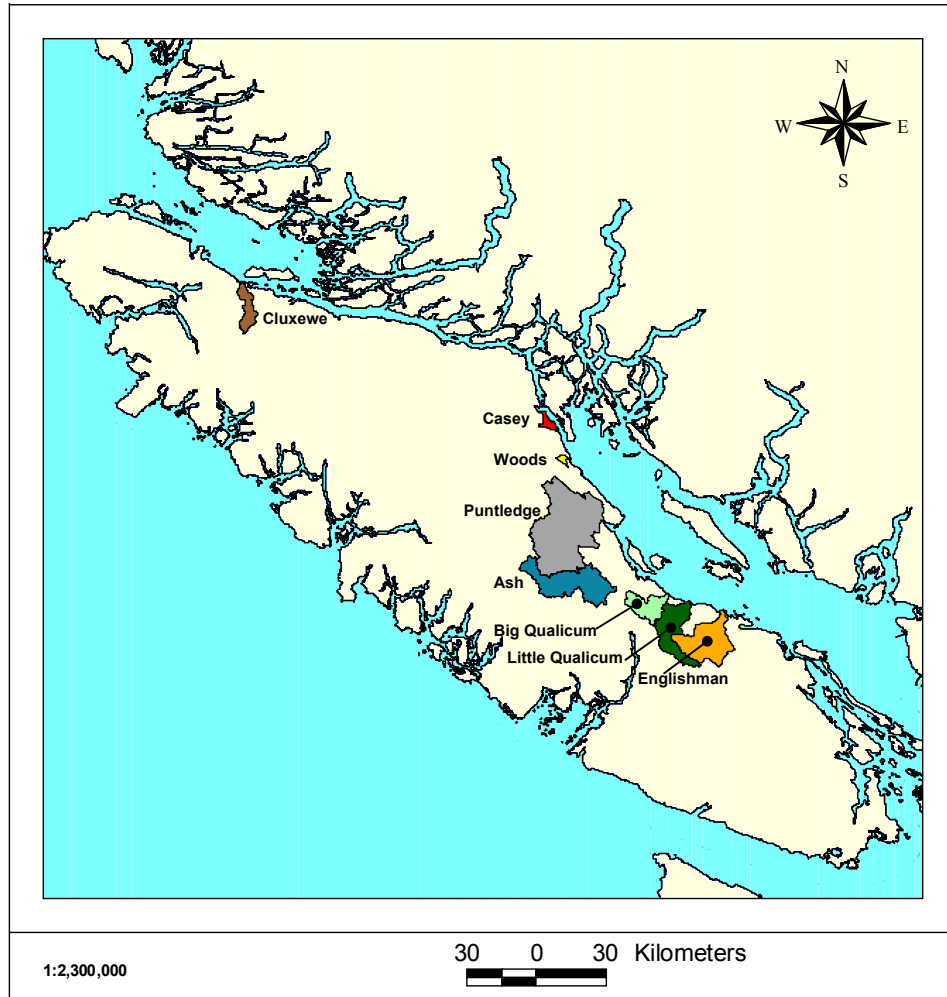


Figure 1. Vancouver Island watersheds where carcass plants occurred in the fall of 2005.

3.0 Activities/Techniques

3.1 *Planning and Approvals*

In early fall, hatchery managers and stewardship groups were contacted to confirm carcass sources and develop tentative carcass distribution logistics. Proposals to distribute salmon carcasses in the upper Puntledge, Cruickshank, Englishman, Big Qualicum, Little Qualicum, and Cluxewe rivers were submitted to Carol Cross of the DFO Introductions and Transfers Committee. All proposals were approved and included the following details (Appendix A):

- Proponent/coordinator contact information;
- Brief rationale;
- Carcass source;
- Carcass planting locations – including a map with sites and access points identified;

- Loading rate – number of carcasses of each species; and,
- Letters/emails indicating support for each project.

Additional consultation was required for plants on the Englishman River because the proposal was to use chum carcasses from the nearby Little Qualicum River. This cross-watershed transfer was deemed acceptable by the Introductions and Transfers Committee as the two streams are “geographically proximate and within the zone of influence”. Storie Creek Streamkeepers continued their independent carcass distribution project on Woods and Casey creeks using post spawn pink salmon from Quinsam Hatchery. The local DFO community advisor and Quinsam Hatchery staff assisted with approvals and BCCF provided equipment.

3.2 Carcass Distribution Techniques

Carcasses were transported to the planting locations by pick-up truck/trailer and distributed using peugh sticks (Appendix B, photo 1). Plastic fish totes were used to stockpile carcasses at hatcheries, and contain fish during transport. Where access permitted, carcasses were pitched directly from truck to stream. When the truck could not get within about 15 m of the stream, the carcasses were pitched twice or three times to reach the stream bank. The exception to this process was the Englishman River where an ATV and trailer were used to transport the carcasses approximately 250 m on a foot path from the end of the road to the stream bank (Appendix B, photo 2). A BCCF technician and one to five volunteers were involved on each distribution day. Fairly conservative loading rates were determined based on estimates of historic spawner densities, and/or a recommended density of 1,000 per kilometer. In a few cases, >1,000 pieces were dumped at a single location over several days allowing high flows to distribute the carcasses downstream.

4.0 Results

During the fall of 2005, a total of 13,289 salmon carcasses were distributed into 15 Vancouver Island streams (Appendix C). The total biomass represented by the carcasses exceeded 55,000 kg. The majority of fish were chum (9,595) while pinks and coho numbered 1,904 and 1,091, respectively. Only 699 chinook salmon were used due to low availability, although their large average size made up for low numbers. Poor salmon returns in 2005 resulted in fewer carcasses being distributed than in the previous season (Appendix D). In 2004, 14,419 carcasses were distributed, a difference of 1,130 fish. Carcass distribution was discontinued on the Quinsam River where recent construction of a partial barrier bypass now improves natural distribution of pink salmon in the upper reaches of the river.

A primary objective of this project was to have a BCCF technician coordinate and provide equipment for volunteers to undertake carcass distributions on their own. However, logistics and equipment involved in this program meant that a technician was required on most field days. Volunteers on the Puntledge River project were experienced enough to take on most of the work independently.

4.1 Puntledge River

A total of 2,945 chum salmon from Puntledge River Hatchery were planted in the Cruickshank, upper Puntledge, and Browns rivers (Figures 2 and 3). The project was completed over six days between October 27 and November 8, 2005. Three to four volunteers from the Courtenay Fish and Game Club and the Puntledge River Restoration Society assisted a BCCF technician with plants in Cruickshank and upper Puntledge rivers for the first two days. Further carcass distributions to the Cruickshank, upper Puntledge, and Browns rivers were carried out by volunteers supplied with the necessary equipment and a rental truck.

Post spawn hatchery broodstock were stockpiled in plastic totes at Puntledge Hatchery until about 400 fish were available for distribution. Totes were loaded into pick-up trucks with a forklift and transported to the Cruickshank and upper Puntledge rivers via Comox Lake mainline. Active logging operations made VHF radio communication mandatory. The round trip including loading took about three hours allowing crews to complete up to two trips per day. Carcasses were planted at two locations on the mainstem Cruickshank, three locations on Rees Creek, and at several locations along Comox Creek (Appendix B, photo 3). Two totes of fish destined for the upper Puntledge were placed in the reach downstream of Willemar Lake. The Browns River received 518 chum carcasses at the second bridge upstream of the mouth (Figure 3).

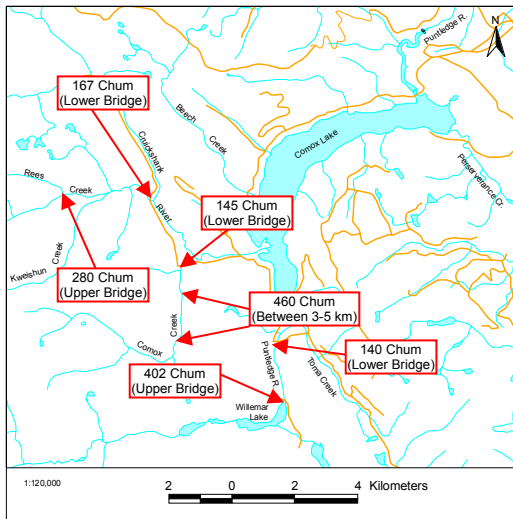


Figure 2. Main Salmon carcass distribution sites on the upper Puntledge River and tributaries of Comox Lake.

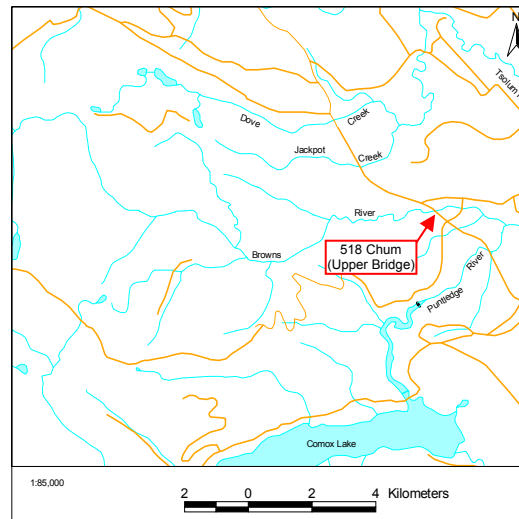


Figure 3. Salmon carcass distribution site on the Browns River.

4.2 Big Qualicum River

A total of 1,830 dead-pitched chum from a flow-controlled spawning channel were distributed in the upper Big Qualicum River on November 21, 2005. A pick-up truck was loaded by the conveyor system used during the annual spawning channel dead-pitch (Appendix B, photos 4 and 5). Efficient loading and short trips along the access road allowed for expedient plants. With the help of three volunteers from the Parksville-Qualicum Fish and Game Club (PQF&G) and Parksville-Qualicum Streamkeepers, all carcasses were planted in one day. Last season's distribution of 3,640 fish was not matched in 2005 due to poor chum salmon returns documented in a number of ECVI rivers in 2005. Carcasses were placed in pool habitat in the upper river to allow downstream distribution of nutrients, and in off-channel habitat where carcasses would hopefully be retained through the winter. A total of 1,030 chum were pitched into pools in the mainstem at kilometer 7 and 8, 200 were distributed in an off-channel network at kilometer 5, and a further 600 were placed in Hunts Creek (Figure 4; Appendix B, photos 1, 4, and 6).

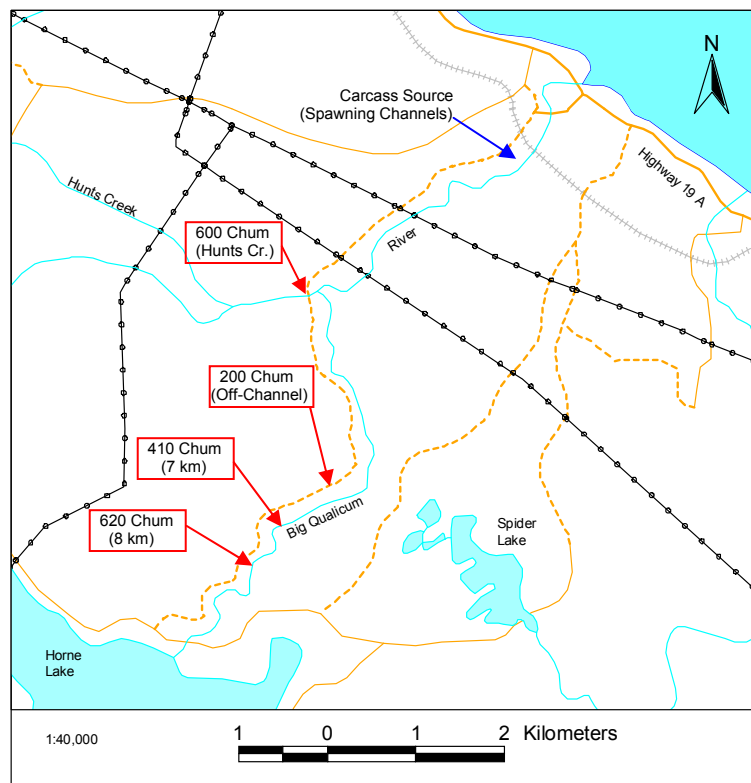


Figure 4. Salmon carcass distribution sites on the Big Qualicum River.

4.3 Englishman River

The Englishman River watershed was included in the 2005 fall carcass distribution program. The two day total of 2,060 carcasses represented half of the target loading rate. A lack of chum carcasses at the Little Qualicum spawning channel prevented additional plants. Carcasses were distributed on November 14 and 15, 2005 with the aid of three volunteers from the PQF&G and the Parksville-Qualicum Streamkeepers. Five hundred were distributed at Englishman River Falls Provincial Park, 510 at the South Englishman bridge, and 1,050 were transported to the end of Steelhead Place off Englishman River Road (Figure 5). An ATV with a small trailer was used to transport fish from the end of Steelhead Place to the stream bank. Carcasses were then pitched into a pool by volunteers (Appendix B, photos 2,7,8).

A brief snorkel survey on December 1, 2005 as well as observations made from the bank confirmed that most of the carcasses stayed near the dispersal locations. The carcasses introduced at Steelhead Place showed a slight dispersal with approximately 10% downstream, 30% in the immediate area, and 60% on the bank. The carcasses on the bank were submerged at the time of plants, but declining flows through mid December meant that carcasses were not distributed downstream as intended. Stream discharge dropped steadily from 16.5 m³/s in mid November to 4.5 m³/s during the swim (discharge data from Environment Canada website).

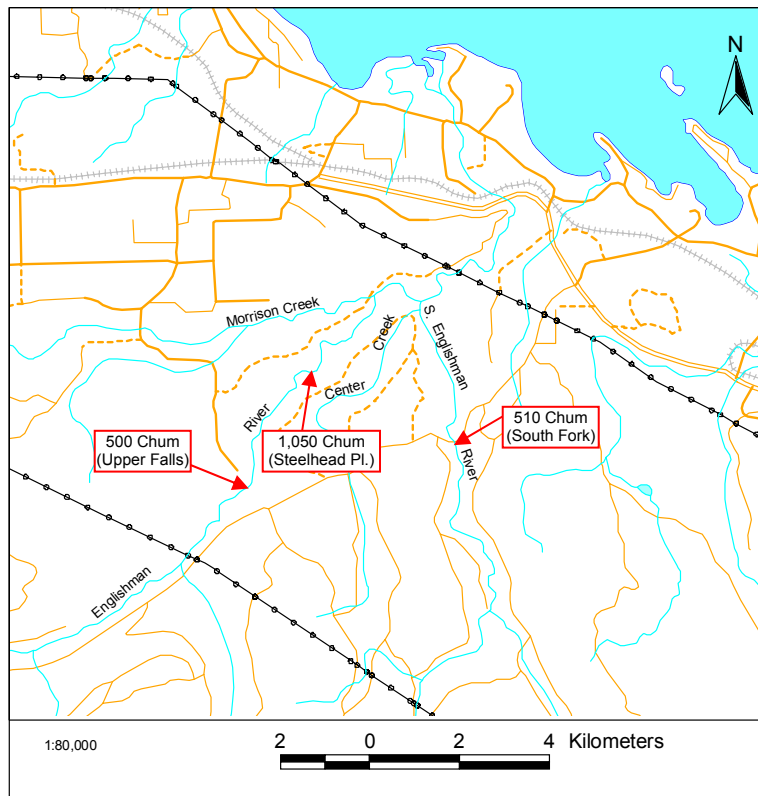


Figure 5. Salmon carcass distribution sites on the Englishman and South Englishman rivers.

4.4 Little Qualicum River

A total of 2,791 chum were distributed in the upper Little Qualicum River and tributaries over three days between November 8 and 10, 2005. A total of 1,954 fish were bulk loaded at three upper mainstem locations for stream flows to distribute (Figure 6). Kinkade and Whiskey creeks (two largest tributaries) received 140 and 564 carcasses, respectively (Appendix B, photo 8). An additional 133 fish were planted in a small wetland area used by coho and cutthroat adjacent to the Glory Hole on the mainstem. Similar to Big Qualicum, fish were dead-pitched from the Little Qualicum Project's flow controlled spawning channel as part of its annual operations. Three to six volunteers from the PQF&G and the Parksville-Qualicum Streamkeepers were involved on each distribution day. The spawning peak in the Little Qualicum River is typically one week earlier than in Big Qualicum, allowing a relatively seamless transition for carcass distribution crews between the two projects. However, poor escapements resulted in 1,476 fewer carcasses being distributed in the Little Qualicum River than in 2004.

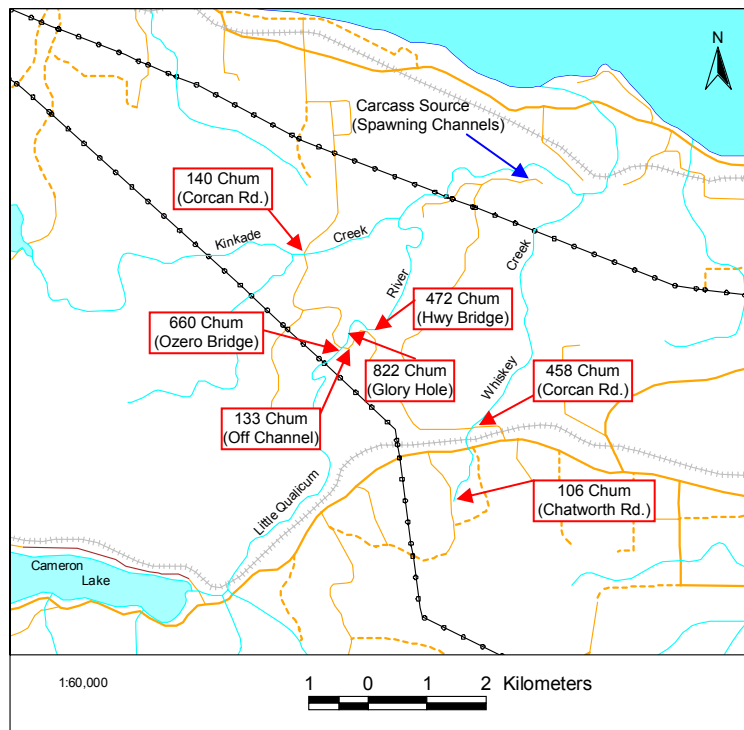


Figure 6. Salmon carcass distribution sites in the Little Qualicum River watershed.

4.5 Casey and Woods Creeks

Volunteers from the Storie Creek Streamkeepers distributed a total of 346 post spawn pink salmon from Quinsam Hatchery into Woods and Casey creeks. This was significantly less than the 730 fish that were planted last year. Technical guidance and approval from the Introductions and Transfers Committee was received with help from the local DFO Community Advisor. BCCF provided a fish tote, peughs, waders, and gloves to Storie Creek Streamkeepers for their project.

4.6 Cluxewe River

NVISEA staff distributed 1,558 pink salmon carcasses in the upper Cluxewe River between September 22 and October 6, 2005. The Skidder Lake mainline bridge was the distribution point for all the post spawn Cluxewe hatchery brood (Figure 7), estimated to weigh a total of 2,337 kg. Similar to the Storie Creek Streamkeepers, NVISEA staff completed the project on their own and received direction from BCCF staff. Wages and vehicle costs associated with the carcass plant were paid for by this project.

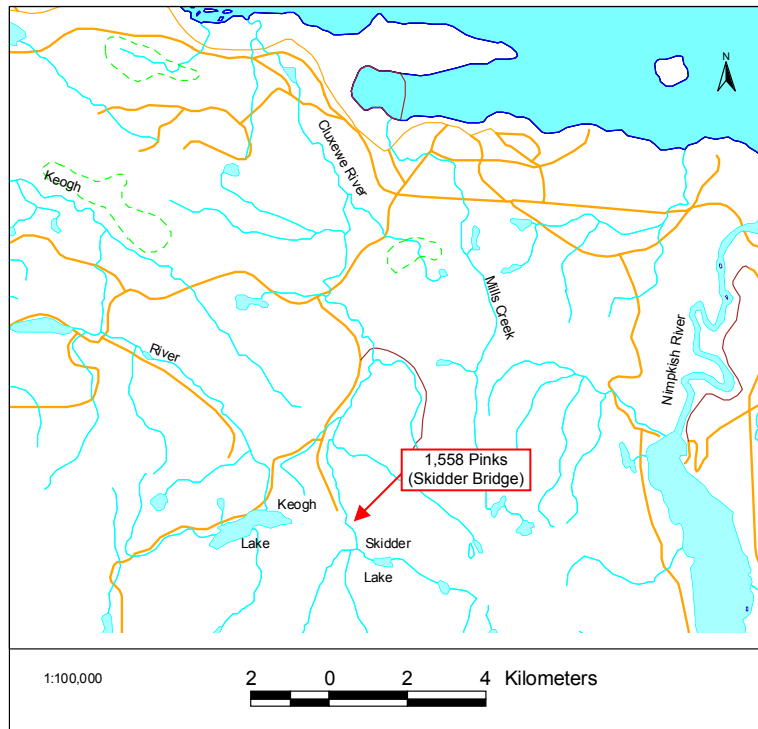


Figure 7. Salmon carcass distribution site on the Cluxewe River.

4.7 Ash River

BC Hydro, through their Bridge Coastal Fish and Wildlife Restoration Program (BCRP), provided funding for Hupacasath First Nation and BCCF fisheries crews to distribute salmon carcasses and to apply fertilizer to the Ash River in 2005. A total of 1,790 salmon carcasses were collected from Robertson Creek hatchery and planted in the Ash River at three locations between Elsie and Dickson lakes (Figure 8). A total of 699 chinook salmon and 1,091 coho were distributed in the Ash River between October 18 and November 19. Distribution sites were located 1 km downstream of the Elsie Lake dam (363 chinook, 465 coho), 500 m downstream of Ash Island Falls (195 chinook, 196 coho), and at the Ash mainline bridge above Dickson Lake (141 chinook, 430 coho). The total weight of the carcasses was estimated to be 9,215 kg based on an average weight of 8.5 kg for chinooks and 3.0 kg for coho.

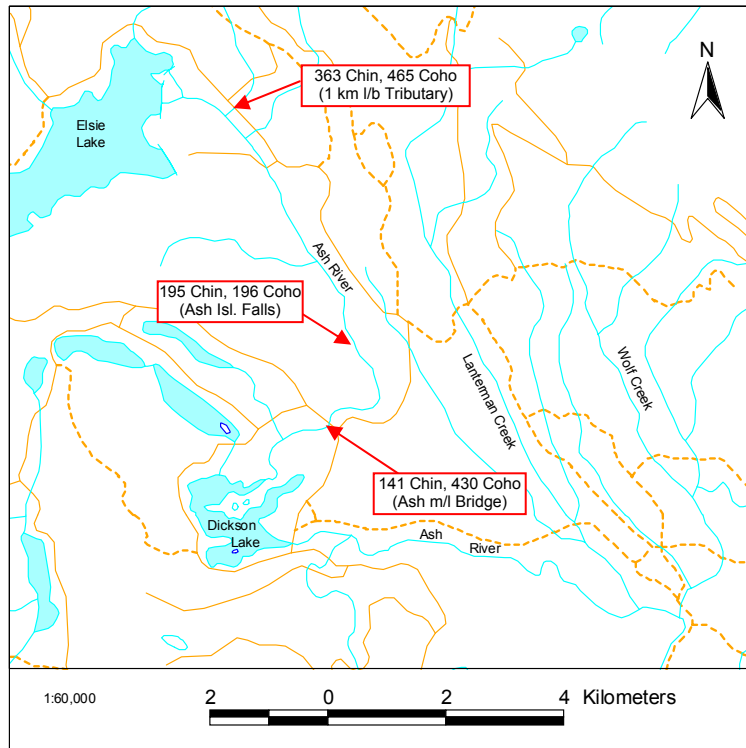


Figure 8. Salmon carcass distribution sites on the upper Ash River between Elsie and Dickson lakes.

Appendix A

**Sample proposal submission and DFO approval for
Little Qualicum River salmon carcass distribution.**

Attention: Carol Cross
Fisheries and Oceans Canada
Vancouver, BC

Project Proposed: Little Qualicum Project (LQP) Chum Carcass Distribution

Proponent: Harlan Wright, Fisheries Technician
BC Conservation Foundation (BCCF)
3-1200 Princess Royal Avenue,
Nanaimo, BC V9S 3Z7
(250) 716-8776
email: hwright@bccf.com

Target Date: November 1 to 18, 2005 (approximate)

Objective: Involve the local community stewardship group in increasing wild fish production (primarily steelhead, coho) in the Little Qualicum watershed through improved use of chum carcasses from spawning channel dead pitch operations.

Background: This small project is part of a larger program funded by the Habitat Conservation Trust Fund and the Pacific Salmon Foundation. The "Vancouver Island Salmon Carcass Program, Year 1 of 5" was proposed by BCCF to better utilize marine derived nutrients (spawning salmon) in east coast Vancouver Island watersheds. The aim of the project is to improve freshwater survival rates of stream rearing salmonids, particularly depressed winter steelhead stocks. A larger carcass program implementation project was funded by HCTF in 2003/04, and approximately 4,000 chum carcasses were distributed in the upper Little Qualicum River, including Kinkade and Whisky creeks.

BCCF has been under contract by the province since 1998 conducting steelhead stock assessment and habitat restoration primarily on the east coast of Vancouver Island.

Proposed Activities:

This project will only deal with carcasses within the Little Qualicum watershed. NO TRANSFERS OUT OF THE WATERSHED WILL OCCUR, AND NO CARCASSES WILL BE DISTRIBUTED ABOVE ANADROMOUS BARRIERS. As a result, no disease issues need be considered. As chum carcasses pitched from the LQP's spawning channel are natural, post-spawn mortalities, there are no chemical and/or medical treatment issues. There are no potential impacts on the quality of water withdrawals beyond what normally occurs in these streams during the salmon season. Where access is required (Waring's

Farm, Whisky Creek, Ozero Road), landowners have been notified and are supportive of the program.

Chum carcasses will be moved from the LQP spawning channel to three areas in the Little Qualicum watershed:

1. Little Qualicum River mainstem (Note: anadromous falls is at river km 11.5):
 - Large Woody Debris structures adjacent to Waring’s Farm (~6-7 km downstream of falls,
 - Inland Island Highway 19 bridge access (~2 km downstream of falls),
 - “Glory Hole” access (~1 km downstream of falls), and
 - Ozero Bridge access (~800 m downstream of falls).
2. Whisky Creek (Little Qualicum watershed) at site of recent dam removal (~1 km downstream of Melrose Road).
3. Kinkade Creek (Little Qualicum watershed) at Corcan Road bridge crossing (~2.4 km upstream of the confluence with Little Qualicum River).

Over three to four days, carcasses will be loaded onto a rented 3/4-ton 4x4 pick up truck, 250 at a time (1,125 kg), using the facility’s conveyor belt system and/or by hand. LQP staff believe this procedure will have minimal or nil impact on their normal dead-pitch operation. Qualicum Beach Streamkeepers and members of the South Coast Steelhead Coalition will supply labour for loading and off loading/distribution. Loading will average 15 minutes and distribution will range from ¾ to 1.5 hours. Over the three to four days we hope to distribute 14 loads. BCCF will supervise, document, supply necessary equipment/materials (extra waders, gloves, pew sticks, safety/first aid, tethers, etc) and report results to DFO stock assessment, habitat, hatchery and CA staff.

Target Distribution (assumes 14 loads – may be optimistic):

Location	# carcasses	# truck loads ¹	Weight ² (kg)
LWD structures @ Waring’s	500	2	2,250
Mainstem @ Hwy 19	1,000	4	4,500
Mainstem @ Glory Hole	750	3	3,375
Mainstem @ Ozero Bridge	750	3	3,375
Whisky Creek @ old dam site	250	1	1,125
Kinkade Creek @ Corcan Road	250	1	1,125
Totals	3,500	14	15,750

1. Based on a ¾ ton rental truck.

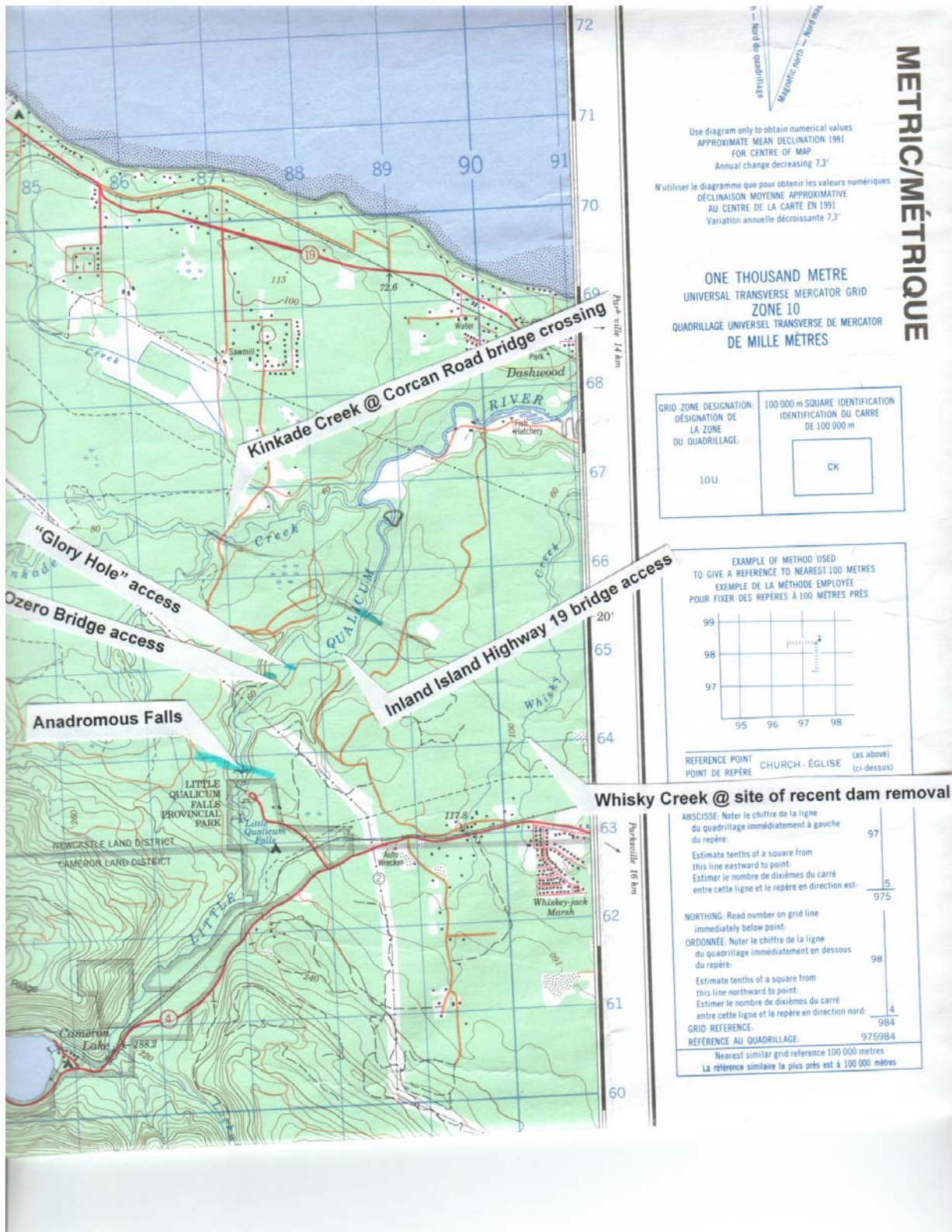
2. Assumes 4.5 kg/chum (*Guidelines for In-stream Placement of Hatchery Carcasses, DRAFT, Sept 2002*)

All but one of the proposed sites are relatively high in the watershed (still below barriers) where natural salmon distribution has been relative low. Approximately 15% of the carcasses will be placed in the riparian corridor just off the stream channel to provide nutrients through hyporehic zone ground water. The other portion will only be placed in off-channel wetted areas, and in the channel near LWD to increase retention. Carcasses

will be spread out spatially as much as possible, given the low number of accesses available. Where carcasses are placed instream, a loading density of 14 fish/unit (unit=100 m²) will be strived for (*Guidelines for In-stream Placement of Hatchery Carcasses, DRAFT, Sept 2002*). Some tethering may occur if time permits, and the success of this will be monitored. The four mainstem sites are located in a reach that sees high use by steelhead, as documented by extensive adult surveys and juvenile assessments (MWLAP files, Nanaimo).

There are no costs to DFO. BCCF will cover all expenses for the operation, and will be responsible for all coordination and reporting.

Page 4 is an NTS map showing the five proposed carcass placement sites and the mainstem anadromous falls.





Fisheries
and Oceans

Pêches
et Océans

October 12, 2005

Mr. Harlan Wright
BC Conservation Foundation
3-1200 Princess Royal Avenue,
Nanaimo, BC V9S 3Z7

Dear Harlan:

Subject: Transfer of Salmon Carcasses from Little Qualicum Spawning Channel

This letter will confirm that you and individuals designated under your authority may transport 2005 brood adult chum salmon carcasses from Little Qualicum spawning channel for deposition in the Little Qualicum river watershed for stream nutrient enrichment. Carcass collection, transport, and distribution must be conducted according to draft guidelines for instream placement of hatchery carcasses and in accordance with your project proposal. As per carcass guidelines, do not distribute fish that have evidence of disease or that have been medicated. If tethers will be used, ensure that they are bio-degradable or that they are removed from the river when carcasses have decomposed.

Please ensure that all relevant federal and provincial staff in the area are advised of the program before it proceeds and that deposited carcasses are cut in half or otherwise clearly marked to distinguish them for stock assessment purposes.

Please provide a summary of carcass placements when the project is completed.

Thank you.

Sincerely yours,

Carol Cross

cc.

B. Anderson
M.Higgins

G. Ladouceur
D. Kieser

Appendix B

Photo documentation



1. Pitching carcasses out of the tote and into LWD in the upper Big Qualicum River.



2. Backing up with a full load at the Englishman River.



3. Dispensing carcasses at the Comox Creek bridge.



4. Big Qualicum Hatchery staff loading the trailer with chum carcasses.



5. Loading the vehicle with the conveyor belt system at Little Qualicum Project.



6. Juvenile salmonids swarming over freshly placed carcasses in the Big Qualicum River.



7. BCCF technician dumping ATV trailer with chum carcasses at the Englishman River.



8. Volunteers pitching carcasses from the bank into the Englishman River at Steelhead Place.

Appendix C

Carcass distribution summary.

Watershed	Date	BCCF Crew	FN or DFO Crew	Volunteer Crew	Sp.	Source	Destination	Totals	*Biomass (kg)	
Ash	18-Oct-05	H. Wright	A. Ross, T. Tatoosh B. Peterson		Chinook	Robertson	LB tributary 1 km downstream of dam	223	1,896	
					Chinook	Brood	DS Ash Island Falls	135	1,148	
	19-Oct-05					Chinook		Ash River ML bridge	141	1,199
					Chinook		Chinook	LB tributary 1 km downstream of dam	140	1,190
					Chinook		Chinook	DS Ash Island Falls	60	510
	16-Nov-05		A. Ross, S. Tatoosh B. Peterson		Coho		LB tributary 1 km downstream of dam	465	1,395	
					Coho		DS Ash Island Falls	196	588	
	19-Nov-05		A. Ross, S. Tatoosh B. Peterson		Coho		Ash River ML bridge	430	1,290	
								1,790	9,215	
Big Qualicum	21-Nov-05	H. Wright, K. Pellett		L. Fong, A. Pickard, H. Coram	Chum	Spawning	Roadside between 6.5 and 8 km	1030	4,635	
					Chum	Channel	Hunts Creek	600	2,700	
					Chum	Dead	Off-channel (left bank) @ km 5	200	900	
					Chum	Pitch				
								1,830	8,235	
Casey	21-Sep-05			Storie Creek Streamkeepers	Pink	Quinsam Brood		217	326	
								217	326	
Cluxewe	22-Sep-05	none	NWISEA		Pink	Quatse hatchery brood	Skidder Main bridge	608	912	
	29-Sep-05						Skidder Main bridge	708	1,062	
	06-Oct-05						Skidder Main bridge	242	363	
									1,558	2,337
Puntledge	27-Oct-05	H. Wright		M. Harris, N. Strussi	Chum	Puntledge Brood	Comox Creek (spread from 3-5 km)	330	1,485	
					Chum		Rees Creek bridge @ 6 km	280	1,260	
	01-Nov-05	H. Wright		N. Strussi, M. Harris	Chum		Upper Puntledge @ lower bridge	140	630	
					Chum		Upper Puntledge @ upper bridge	235	1,058	
	04-Nov-05	S. Silvestri		N. Strussi, M. Harris	Chum		Mainstem @ 7 km	376	1,692	
					Chum		Mainstem @ 4 km log jam	166	747	
					Chum		Rees Creek @ km 1.3 (sandy pool)	133	599	
					Chum		Rees Creek @ km 0.5	127	572	
					Chum		Rees Creek @ lower bridge	167	752	
					Chum		Comox Creek @ lower bridge	145	653	
	07-Nov-05	M. Harris, N. Strussi			Chum		Comox Creek	130	585	
					Chum		Upper Puntledge d/s Willemar Lake	167	752	
	08-Nov-05				Chum		Browns River	185	833	
					Chum		Browns River	171	770	
Chum			Browns River	162	729					
								2,914	13,113	

Watershed	Date	BCCF Crew	FN or DFO Crew	Volunteer Crew	Sp.	Source	Destination	Totals	*Biomass (kg)
Englishman	14-Nov-05	H. Wright, K. Pellett		L. Fong, B. Bethel, P. Dawe	Chum	Little Q	Englishman River Falls	500	2,250
	15-Nov-05	H. Wright, K. Pellett		J. Domovich, T. Hilton P. Drummond	Chum	Spawning	South Fork @ 155 ML bridge	510	2,295
					Chum	Channel	Steelhead Place	1050	4,725
						Dead			
					Pitch				
								2,060	9,270
Little Qualicum	08-Nov-05	S. Silvestri, K. Pellett		L.Fong, T. Hilton	Chum	Spawning	Glory Hole	517	2,327
	09-Nov-05	K. Pellett		D. Oriss, L. Tomlinson, A. Nicol	Chum	Channel	Mainstem under Hwy 19 bridge	472	2,124
					Chum	Dead	Whisky Creek (Corcan Rd.)	458	2,061
	10-Nov-05	K. Pellett		P. Dawe, J. Domovich, L. Fong	Chum	Pitch	Whisky Creek (Chatworth Birdge)	106	477
					Chum		Ozero Bridge	350	1,575
					Chum		Ozero Bridge	310	1,395
					Chum		Kinkade Cr. at Corcan Road crossing	140	630
					Chum		Glory Hole	305	1,373
				Chum		Off-channel adjacent Glory Hole	133	599	
								2,791	12,560
Woods	21-Sep-05			Storie Creek	Pink	Quinsam		129	194
				Streamkeepers		Brood		129	194
Total								6,145	25,889

*Average weights used for Biomass calculations are as follows:

- Pink 1.5kg
- Chinook 8.5kg
- Chum 4.5kg
- Coho 3.0kg

Appendix D

Media coverage.

Carcass collection helps fish survive

By COLLEEN DANE
NEWS REPORTER

Dead fish may seem gross to most people, but they're a welcome donation for those involved in the Greater Georgia Basin Steelhead Recovery Plan.

This time of year, they're looking for as many as they can get their hands on, for their annual redistribution plan along the Little Qualicum, Big Qualicum and Englishman rivers.

This year's project, the fourth annual, wrapped up last week.

"We were transferring them to the upper reaches of the rivers ... for the purpose of providing nutrition for the juvenile salmon, steelhead and trout," says fisheries technician for the GGBSRP Harlan Wright, of the carcasses.

When other fish feed on the fleshy bits or loose eggs left behind, he explains, it results in better lipid stores — meaner higher over-winter survival rates.

While it's an event that

would happen naturally, says Wright, it's one that they can help along, especially due to the Little Qualicum and Big Qualicum fish hatcheries.

"The fish all concentrate in the spawning channels near the fisheries," explains Wright.

At peak die-off for the returning chum run, the carcasses are collected and distributed further upstream.

"We just take advantage of that source."

This year, 2,700 chum were distributed to the Little Qualicum, 2,060 to the Englishman and 1,800 to the Big Qualicum over six days.

The project was funded by the Habitat Conservation Trust Fund and BC Hydro — and supported by volunteers from the Parksville/Qualicum Streamkeepers and Parksville/Qualicum Fish and Game Club.

Wright says it's a small but important part of the overall recovery plan, which along with habitat enhancement will help restore steelhead counts in the area.



JON DOMOVICH (FISH and Game Club) and Peter Drummond (Streamkeepers) toss dead fish into the Englishman River.

SUBMITTED PHOTO

A18 • THE NEWS, Friday, December 2, 2005

news



OFFICIALS AT THE Big Qualicum River fish hatchery have seen fewer Chum salmon than targeted return to the waterway this year.

Poor salmon return to rivers

By NEIL HORNER
NEWS REPORTER

The number of Chum salmon entering the Little and Big Qualicum rivers is down sharply from expectations, say fisheries experts.

Greg Thomas, the resource management co-ordinator for the south coast area, says the level of fish returns in both rivers is well below the target. The reason for this, he says, is unclear.

"It's difficult to say at this stage if they are late or in low abundance, although we are thinking they are not returning in as high abundance, and that's why we shut the fishery."

Fisheries biologist Gordon Currie says the peak of the run has now passed and he doesn't expect to see an appreciable increase in the numbers.

"We have a target of 130,000 fish in the Little Qualicum River and currently we estimate about 35,000 fish in the river," he says. "This is getting late. We are past the peak, so we will be getting more fish in, but we don't expect to see an appreciable increase in that number."

The Big Qualicum River, he adds,

has a target of 100,000 fish and about 41,000 have come through.

"The escapement is well below what we would like to see."

Although there was a 60,000-fish opening in Johnstone Strait for Chum salmon this year, Currie says it's difficult to determine what impact it had on the two river systems, as there is no way of telling where the fish are headed. He notes as well the Fraser River run had approximately two million fish.

Grant Ladouceur is the manager of Qualicum First Nations Fisheries, which runs the Big Qualicum Fish Hatchery. On Wednesday he reported only about half the target for Chum had come into the river, with the peak well past.

He says it's difficult to say why numbers are so low.

"The pattern for Chum survival over the past 10 years has been fairly unpredictable," he says. "We've seen record high and low returns."

The hatchery, he notes, deals mostly with Chinook and Coho salmon, as well as Cutthroat trout, with Chum spawning in the river. However, some

fish are stripped of their eggs for other management programs.

Ladouceur says about 4,000 fish were given out to First Nations residents for the Excess Surplus Salmon Requirements (ESSR) program, but this was done when it looked like returns would be high.

"There was a very small number of ESSR distribution at the early part of the run," he says.

"It looked as though our numbers were going to be right up there ... and we were getting signals that the run was fairly healthy. At the end of the day we came up short."

Although the average ESSR distribution is about 20,000 fish, only about 4,000 fish were given out before the program was closed down due to the disappointing returns, he says.

Qualicum First Nation chief Kim Recalma-Clutesi says she's deeply disappointed with the returns.

"I'm sad and upset the river has such low returns," she says. "These low runs impact on us a great deal ... We can't react as if this is some kind of commodity, because it's not. For us, it's a responsibility."

Articles from Parksville/Qualicum Beach paper "The News" Vol. 23, No. 96, December 2, 2005.

Appendix E

**PSF financial report.
(Englishman River)**

FUNDING PARTNERSHIPS

OTHER CONTRIBUTORS

Please list other cash funding, donated supplies or services and in-kind support that was provided for the project from business & industry, consultants, engineers, trucking, etc.

Source	Amount	Purpose
Volunteer labour (37 days @ \$80/day)	\$3000	Carcass distribution
HCTF	\$3250	Project coordinator, vehicle rental
DFO In-Kind labour	\$500	Carcass distribution co-ordination
BC Hydro (BCRP)	\$3000	Carcass distribution on the Ash River
BC Hydro Donation	\$2500	Vehicle rental, equipment repairs

Please list anticipated funders that did not contribute, and reason for rejection if known

Section E STATEMENT OF EXPENDITURES

Please provide a detailed financial statement of PSF grant expenditures only
 Attach original receipts and invoices to this Final Report (PSF expenditures only)

INVOICE/RECEIPT/COMPANY	PSF CSP	OTHER SOURCES	IN-KIND (in \$)
Transportation/Equipment/	\$519	\$2500	\$
Payment of Services	\$728.14	\$9250	\$500
Overhead	\$163.71	\$	
Other/Insurance	\$12.15	\$	
A TOTAL PSF CSP EXPENDITURES	\$1423.00		
B TOTAL OTHER		\$11750	
C TOTAL IN-KIND			\$500
D TOTAL PROJECT COST A+B+C			\$13673.00
E PSF CSP GRANT	\$1423.00		
LESS TOTAL PSF CSP EXPENDITURES A	\$1423.00		
OUTSTANDING GRANT TO BE RETURNED TO PSF	\$0.00		