

Stock Assessment

- Juvenile Steelhead Density Assessment
- Adult Steelhead Snorkel Survey Summary
- Salmon River Index Stream (Langley)

Juvenile Steelhead Density Assessment

In 2002, juvenile steelhead population estimates were conducted for 55 sites on 9 priority steelhead streams tributary to the Burrard Inlet, Lower Fraser, Boundary Bay, Fraser Valley (and Sunshine Coast 2003). So far in 2003 juvenile steelhead population estimates have been conducted for 40 sites on 10 Region 2 streams. Steelhead fry densities, adjusted by HSI curves for depth/velocity conditions within sampling sites, provide an indication of recruitment success by spawning steelhead. Adjusted densities are compared to model predictions of maximum biomass for juvenile steelhead (by size/age) for the watershed in question. The percentage of steelhead carrying capacity occupied by fish is then calculated for each site and averaged for all sites (Figure 1). Reports are currently being produced and will be available on this website (pdf format) in the near future.

Adult Steelhead Snorkel Survey Summary

For the 2003 Brood year (2002 SST & 2003 WST), adult assessments were conducted by snorkel surveying priority winter (18) and summer steelhead (5) streams. In total, 50 snorkel surveys were conducted on approximately 375 kilometres of stream. As was the case with juvenile surveys, many of these streams, particularly those in more remote areas, had little or no previous information on their steelhead populations. Snorkel counts produce instantaneous relative abundance estimates, which can be compared to other assessment data to determine stock conservation status. For the 2004 brood year only 4 summer snorkel surveys have been conducted on Lower Mainland Rivers thus far. This is due in part to the record low water conditions for the summer of 2003. When water conditions improve, an additional 6 to 8 SST snorkel surveys will be conducted on priority Region 2 streams. Reports are currently being produced and will be available on this website (pdf format) in the near future.

Salmon River Index Stream (Langley)

The Salmon River in Langley is being developed as a steelhead index stream. The Keogh River has been invaluable in evaluating recovery techniques and tracking trends in steelhead survival in a typical coastal stream. The need for index streams representing other areas of the Georgia Basin is recognized and the Salmon was selected to represent Lower Fraser tributaries (Figure 3). Data collection will involve population parameters only (restoration structures and nutrient enrichment will not be conducted or evaluated as at the Keogh). The Salmon was chosen as an index stream because it has a fair population of wild steelhead and there is an opportunity to partner with DFO who operates three counting fences on the river. DFO has enumerated out migrating steelhead and coho smolts for at least five years.

In the future there is the potential to develop other index streams such as Cheakamus, Seymour, Coquitlam, Alouette, Chilliwack and Coquihalla Rivers. These streams would be chosen to represent geographic areas of the region and because of the potential to partner, for both data collection and restoration activities, with other agencies (e.g. DFO, BC Hydro, GVRD) and stream stewardship groups. Data collection will be somewhat less rigorous than on the Salmon River but will involve both juvenile and adult monitoring.

Juvenile Steelhead Density Assessment

GGB Steelhead Recovery Plan - Electrofishing Summary

Juvenile Electrofishing Sites Completed To Date

System	Mainstem Sites	Tributary Sites	Total Sites	Mainstem Sites	Tributary Sites	Total Sites
	2002			2003		
Chapman	n/a	n/a	n/a	5	0	5
Squamish ¹	0	10	10	6	11 ⁵	17
Capilano ²	4	2	6	4	0	4
Lynn	5	0	5	2	0	2
Seymour	8	0	8	7	0	7
Little Campbell	4	0	4	n/a	n/a	0
Serpentine	n/a	n/a	n/a	5	0	5
Salmon	n/a	n/a	n/a	4	2 ⁶	6
Upper Pitt ³	4	2	6	2	8 ⁷	10
Norish	4	0	4	n/a	n/a	0
Chilliwack	n/a	n/a	n/a	9	2 ⁸	11
Silverhope ⁴	7	1	8	n/a	n/a	0
Coquihalla	4	0	4	8	0	8
Totals	40	15	55	52	23	75

Proposed for summer/fall 2003. Yet to be completed.

Tributaries assessed (2002):

- ¹ Ashlu (3), Brohm (2), Highfalls (1), Mashiter (2), and Shovelnose (2)
- ² Brothers Creek (2)
- ³ Blue Creek (1), Fish Hatchery Creek (1)
- ⁴ Yola Creek (1)

Tributaries assessed / to be assessed (2003):

- ⁵ Repeat of 2002
- ⁶ Coghlan Creek (2)
- ⁷ Site reconnaissance required
- ⁸ Slesse Creek (2)

Sept 11/2003

Figure 1. 2002/03 Juvenile steelhead electrofishing site assessment summary

Adult Steelhead Snorkel Survey Summary

GGB Steelhead Recovery Plan - Snorkel Survey Summary

Adult summer and winter run steelhead snorkel surveys

	2003 Brood Year		2004 Brood Year	
	SST (Summer 2002) # of surveys completed	WST (Spring 2003) # of surveys completed	SST (Summer 2003) # of surveys completed / to be completed*	WST (Spring 2004) # of surveys to be completed
Sunshine/Mainland Coast				
Phillips	-	2	1	2
Orford	-	1	-	1
Quatam	-	2	-	2
Brem	-	1	1**	1
Lang	-	-	-	1
Vancouver	-	-	-	1
Tzoonie	-	-	-	1
Chapman	-	2	-	2
Rainy	-	-	-	1
Squamish System				
Cheakamus	-	*	-	-
Mamquam	-	3	-	3
North Shore/Burrard				
Capilano	-	1	1**	-
Lynn	1	4	-	3
Seymour	1	2	2***	3
Lower Fraser/Boundary				
Coquitlam	-	3	-	3
Alouette	-	2	-	3
Kanaka	-	3	-	3
Upper Pitt	-	-	-	3
Fraser Valley				
Norrish	-	3	-	3
Chilliwack	-	3	-	3
Chehalis	1	2	2***	3
Big Silver	-	2	-	3
Lower Silverhope	-	4	-	3
Upper Silverhope	1	3	2***	-
Lower Coquihalla	-	2	-	3
Upper Coquihalla	1	-	2***	-
Totals	5	45	11	51

* These surveys are under a separate WLAP/BC Hydro Project

** These surveys are proposed for the summer of 2003, but will only commence when river conditions are deemed suitable.

*** One of the two proposed summer surveys has currently been completed. An additional survey will commence when river conditions are suitable.

Figure 2. 2002/03/04 Adult steelhead snorkel survey summary

Salmon River Index Stream (Langley)

**Salmon River Index Stream (Langley)
Total Number of Steelhead Smolts (1998-2003)
(Salmon River at Rawlison Cres.)**

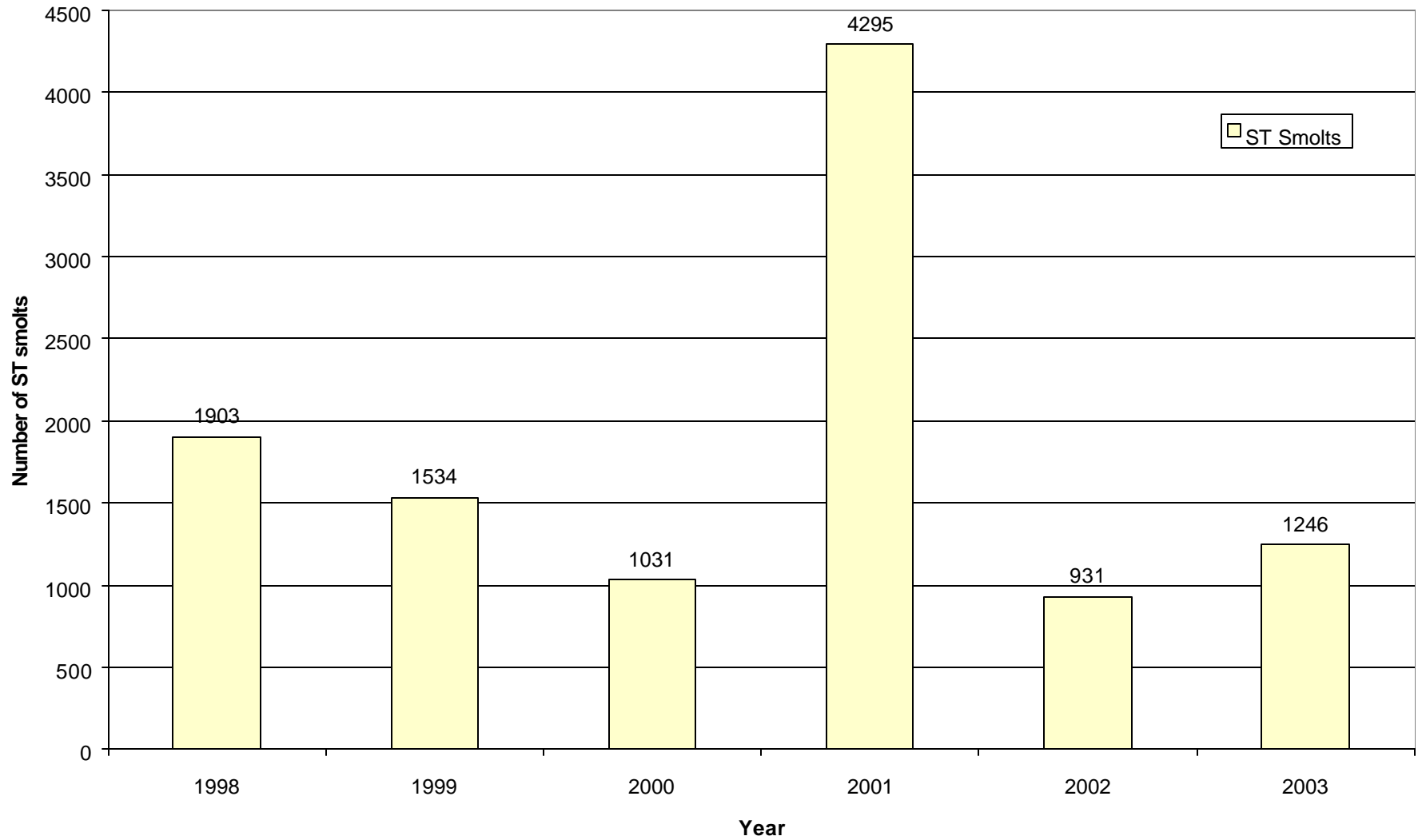


Figure 3. Total number of steelhead smolts at the Salmon River counting fence (Langley), 1998-2003.