



## Tenderfoot Creek Hatchery Chinook Conservation Program

Tenderfoot Creek Hatchery was built in 1981 primarily to enhance Chinook salmon stocks in the Squamish River watershed. Chinook stocks had declined since the 1960's, from an estimated thirty-five thousand fish to just one - two thousand in the early 1980's. In 1987, the Porteau Chinook program was initiated to help the recovery of the Squamish Chinook stocks, in addition to benefitting various recreational, first nations, and commercial fisheries. As a result of this program the tidal sport fishery in Howe Sound was re-opened in the mid 1990's after being seasonally closed for 25 years. The original adult brood stock for this program was caught in bays near Porteau cove and contained Chinook sub-stocks from the Squamish watershed.

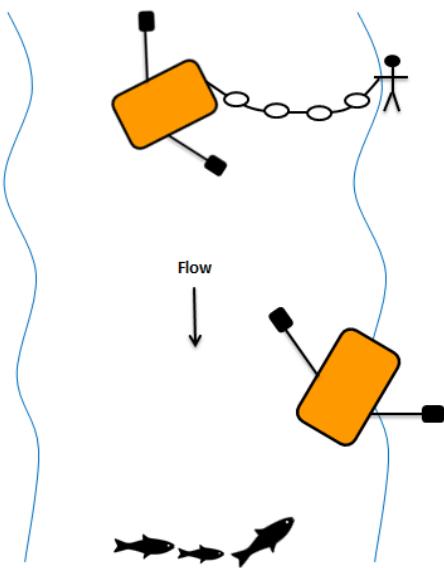
Tenderfoot's Chinook program had an overhaul in 2014, and all returning adults, brood stock, are caught via tangle nets or set nets in the Cheakamus, Mamquam, Ashlu, Shovelnose, and Elaho river systems. This program change was implemented due to an increasing conservational concern regarding Chinook salmon population numbers in the surrounding area. With this new river-type program staff utilize rafts, and field techniques to capture brood stock that are then transferred to the hatchery grounds as illustrated below. In addition to these methods, targets have usually been met by a combination of brood angling via rod and reel by volunteer anglers in the local community. The fishing commences early July and continues periodically until the brood objectives have been met, usually ending mid September. Fishing typically improves as the season progresses with the most fish being caught at the beginning of August until early September.

Once the Chinook brood stock are transferred to the hatchery, the spawning process begins with eggs being fertilized, and then cared for in incubation containers. The young Chinook will hatch in these containers, emerge, and begin feeding as fry in early spring. The fry are fed, and reared for 5 months before being tagged, marked, and released into their designated stream. A portion of the Chinook fry will be held at Tenderfoot hatchery for over 1.5 years and will be released the following spring as a smolt. The Chinook salmon that are cared for in the hatchery setting receives substantially higher survival than their counterparts in the wild. The hatchery setting limits environmental impacts such as flooding events, predation, lack of nutrition, and any sort of disturbance that would inhibit survival. The entire program produces over 120,000 Chinook smolts, and 100,000 Chinook fry that will be released back into their natal rivers each spring.

Tenderfoot's brood capture process:

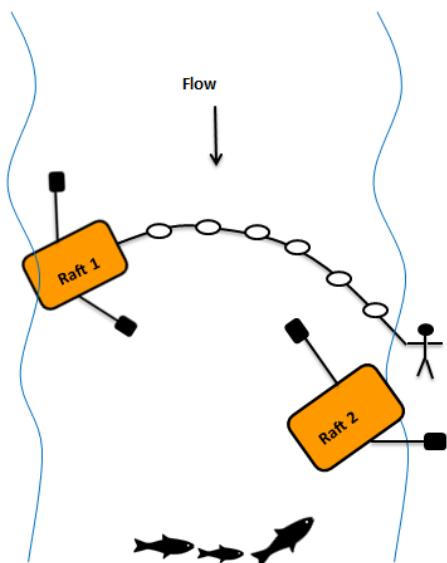
Step 1 – Raft 1 holds 2 people; 1 crew member on the oars and another handling the net. The set commences with raft 1 rowing to the opposite shore. A second crew member in the raft must feather out the net with the corks upstream, leads downstream, as the raft moves across the river. A third crew member provides tension from the opposite shoreline and walks downstream at the same speed as the raft.

Step 1-



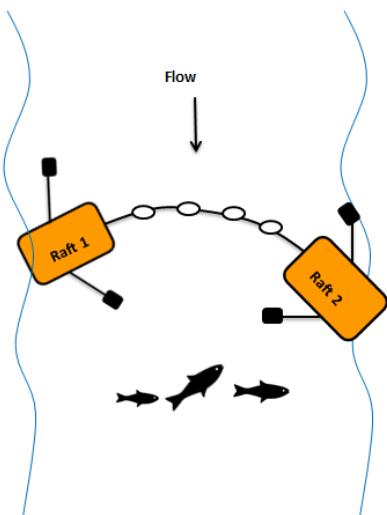
Step 2- Raft 1 and the crew member on shore must work together to release the full length of the tangle net. Tension must be kept on the net so any snags can be pulled out quickly. When the on shore crew member reaches raft 2 they must jump in.

Step 2-



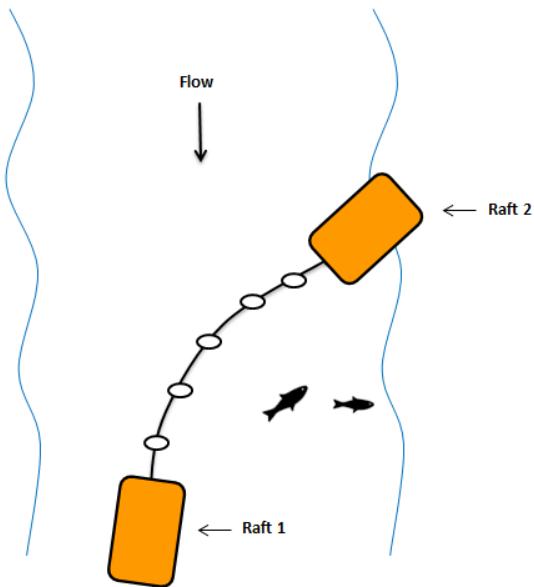
Step 3 – By step 3 all 4 staff are in the rafts. Each raft has one crew member on the oars, and one in the front of the boat holding the line attached to the net. Both rafts attempt to keep an even pace through the duration of the run. Staff holding the net must keep a close watch for snags. A snag is generally indicated when a portion of the cork line is pulled underwater. As this point crew should give the net a strong pull in an attempt to free it before the snag gets worse.

Step 3-



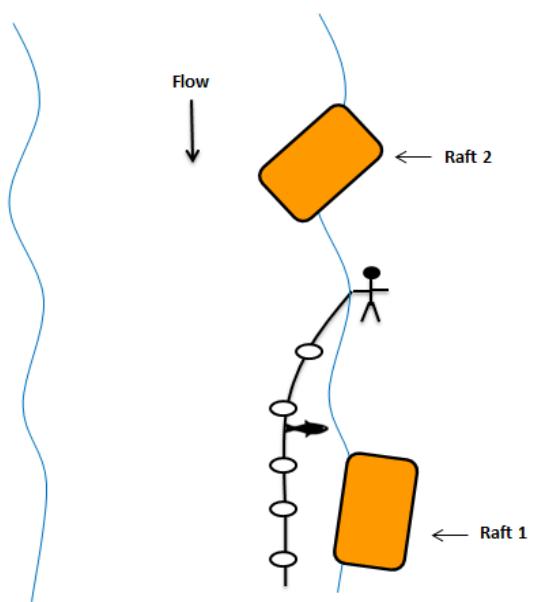
Step 4 –Near the tail out, raft 1 will start to row back across the river. At the same time, raft 2 will find a safe spot for a crew member to jump out and anchor the net.

Step 4 -



Step 5 – Now that an anchor has been established, both rafts can let go of the net and be tied off securely. The full weight of the tangle net is now on the anchor person. All crew members must work to assist the anchor person as quick as possible by helping with the anchor, and by pulling the bottom end of the net into shallower water. Once the net has rested in slower/shallower water the crew may begin untangling fish from the net and safely transport the Chinook salmon brood to the fish hatchery.

Step 5 -



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