

# Summary of Fish Catch Results for Indian Cove, 2009

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at Indian Cove as part of Washington State's Salmon Recovery Funding Board Project # 07-1863 N: *WRIA2 Habitat Based Assessment of Juvenile Salmon*, also locally known as the *Big Picture Project*.

Indian Cove is located on the east side of Shaw Island within the San Juan Islands (Figure 1). Large and small net beach seines were used after methods described in Skagit System Cooperative Research Department (2003). Sixteen sets (1 large and 15 small net) were made during the one-year study period. Beach seining at Indian Cove occurred monthly from April through September 2009.

The beach seine site was primarily sand substrate. The vegetative cover within the set area was detritus 19% of the time, eelgrass 13% of the time, and without vegetative cover 68% of the time. The average maximum water depth was 0.95 meters; the average salinity within the area seined was 28.9 parts per thousand. The water temperature varied by month, ranging from an average low of 9.2 °C in May to a high of 13.5 °C in August.

At Indian Cove we caught a total of 370 fish from 6 different species or species groupings over the one-year study period, including one species of juvenile salmon (Table 1). Forage fish were not caught. The most abundant fish species was Pacific staghorn sculpin with a catch of 325 fish, present in 94.1% of beach seine sets. They accounted for 87.8% of the total catch at this site. We kept count of Dungeness crab (13) caught by seines, as this species is of commercial and recreational interest.

Please refer to Beamer and Fresh (2012) for more information regarding timing, abundance, and habitat selection of focal fish species for the Big Picture Project. The focal species are: Chinook salmon, chum salmon, pink salmon, Pacific herring, surf smelt, Pacific sand lance, and hexagrammids (greenlings and lingcod).

## References

Beamer, EM and KL Fresh. 2012. Juvenile Salmon and Forage Fish Presence and Abundance in Shoreline Habitats of the San Juan Islands, 2008-2009: Map Applications for selected fish species. Report to San Juan County Department of Community Development and Planning and San Juan County Marine Resources Committee. Friday Harbor, WA.

Skagit System Cooperative Research Department. 2003. Estuarine fish sampling methods. Skagit River System Cooperative. LaConner, WA. Available: <http://www.skagitcoop.org/documents>



Figure 1. Location of Indian Cove beach seine site.

Table 1. Fish catch summary for Indian Cove beach seining, 2009.

Assemblage Groupings	Taxonomic group	Genus species, age & mark	Common name	Species abbreviation	Total catch	Catch per set	Frequency in catch
Crabs and shrimp	Canceridae	Cancer magister <6.5"	Dungeness crab, sublegal size	DUNGI small	13	0.76	5.9%
Flatfish	Pleuronectiformes	Platichthys stellatus	Starry flounder	STARRY	9	0.53	29.4%
		Parophrys vetulus	English sole	ENG SOLE	30	1.76	11.8%
Gunnels and Pricklebacks	Pholidae	Pholis ornata	Saddleback gunnel	SADLBCK GUNL	2	0.12	5.9%
Pacific salmon	Salmonidae	Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	2	0.12	11.8%
Sculpins	Cottidae	Leptocottus armatus	Pacific staghorn sculpin	STAG	325	19.12	94.1%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	2	0.12	5.9%