

## Summary of Fish Catch Results for Shady Cove, 2008 and 2009

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at Shady 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*.

Shady Cove is located on the east side of San Juan Island within the San Juan Islands (Figure 1). Small net beach seines were used after methods described in Skagit System Cooperative Research Department (2003). Twenty sets were made during the two-year study period. Beach seining at Shady Cove occurred monthly March through September in both 2008 and 2009.

The beach seine site varied from gravel to mixed coarse to cobble substrate. The vegetative cover was mixed algae or eelgrass and kelp (40% of the time) or was without vegetative cover within the set area (60% of the time). The average maximum water depth was 1.06 meters and the average salinity within the area seined was 31.9 parts per thousand. The water temperatures varied by month, ranging from a low of 8.0 °C in March 2008 to a high of 12.2 °C in June 2008. The temperatures were similar in both years, the monthly averages varying by less than one degree Celsius between years.

At Shady Cove we caught 1,151 fish from 26 different species or species groupings over the two-year study period, including two species of juvenile salmon and one species of forage fish (Table 1). The most abundant fish species was subyearling chum salmon with a catch of 950 fish, present in 15.0% of beach seine sets. They accounted for 82.5% of the total catch at this site.

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>.

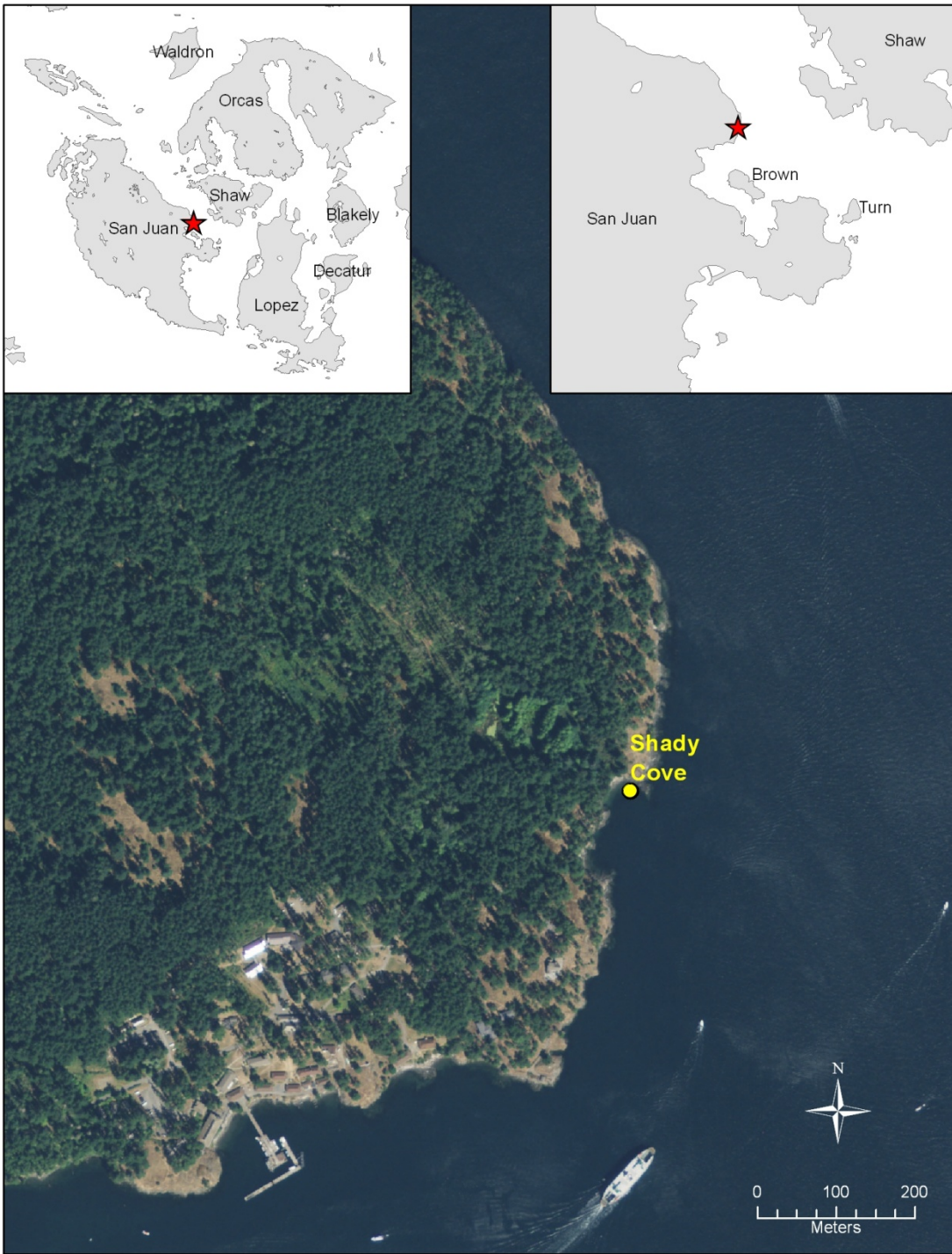


Figure 1. Location of Shady Cove beach seine site.

Table 1. Fish catch summary for Shady Cove beach seining, 2008 and 2009.

Assemblage Groupings	Taxonomic group	Genus species, age & mark	Common name	Species abbreviation	Total catch	Catch per set	Frequency in catch
Flatfish	Pleuronectiformes	Parophrys vetulus	English sole	ENG SOLE	1	0.05	5.0%
		Platichthys stellatus	Starry flounder	STARRY	2	0.10	5.0%
Forage fishes	Ammodytidae	Ammodytes hexapterus adult body form	Pacific sand lance, adult body form	LANCE a	1	0.05	5.0%
Greenlings/ lingcod	Hexagrammidae	Hexagrammos decagrammus	Kelp greenling	KELP GRNLNG	1	0.05	5.0%
		Hexagrammos spp	Unidentified greenling species	O/U GREENLING	1	0.05	5.0%
		Ophiodon elongatus	Lingcod	LINGCOD	2	0.10	10.0%
		Hexagrammos stelleri	Whitespot greenling	WHITESPOT GR	4	0.20	20.0%
Gunnels and Pricklebacks	Pholidae	Pholis ornata	Saddleback gunnel	SADLBCK GUNL	3	0.15	5.0%
		Pholis laeta	Crescent gunnel	CRES GUNL	4	0.20	10.0%
		Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	7	0.35	15.0%
		Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	26	1.30	20.0%
Other - marine	Agonidae	Other or unknown Agonid	Unidentified poacher species	O/U POACHER	1	0.05	5.0%
Pacific salmon	Salmonidae	Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	61	3.05	10.0%
		Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	950	47.50	15.0%
Sculpins	Cottidae	Blepsias cirrhosus	Silverspotted sculpin	SILVER SPOT SC	1	0.05	5.0%
		Enophrys bison	Buffalo sculpin	BUFF	2	0.10	10.0%
		Artedius fenestralis	Padded sculpin	PADD SCULP	5	0.25	10.0%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	7	0.35	20.0%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	17	0.85	15.0%
		Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	17	0.85	55.0%
		Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	24	1.20	40.0%
	Hemitripteridae	Nautichthys oculo-fasciatus	Sailfin sculpin	SAILFIN	6	0.30	10.0%
	Liparidae	Snailfish spp	Unidentified snailfish species	SNAILFISH	1	0.05	5.0%
Sea perches	Embiotocidae	Cymatogaster aggregata	Shiner perch	SHINER	1	0.05	5.0%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	2	0.10	10.0%
True cods	Gadidae	Other or unknown Cod	Unidentified true cod species	O/U COD	4	0.20	10.0%