

Summary of Fish Catch Results for Open Bay Beach, 2008 and 2009

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at Open Bay Beach 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*.

Open Bay Beach is located on the south side of Henry Island within the San Juan Islands (Figure 1). Large net beach seines were used at Open Bay Beach after methods described in Skagit System Cooperative Research Department (2003). We made 14 beach seine sets over the two-year study period. Beach seining occurred monthly March through September 2008 and April through October 2009.

The beach seine site at Open Bay Beach varied from sand to gravel to mixed coarse to cobble substrate. The vegetative cover varied from mixed algae and eelgrass (43% of the time) to detritus (29% of the time) to no vegetative cover (29% of the time). The average maximum water depth was 1.81 meters and the average salinity was 31.2 parts per thousand within the area seined. The water temperature varied by month, ranging from a low of 8.1 °C in March 2008 to a high of 13.9 °C in September 2009.

At Open Bay Beach we caught a total of 3,597 fish from 37 different species or species groupings over the two-year study period, including two species of juvenile salmon and three species of forage fish (Table 1). The most abundant fish species was Pacific staghorn sculpin with a catch of 1,052 fish, present in 92.9% of the beach seine sets. They accounted for 29.2% of the total catch. We kept count of Dungeness crab (218) 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>

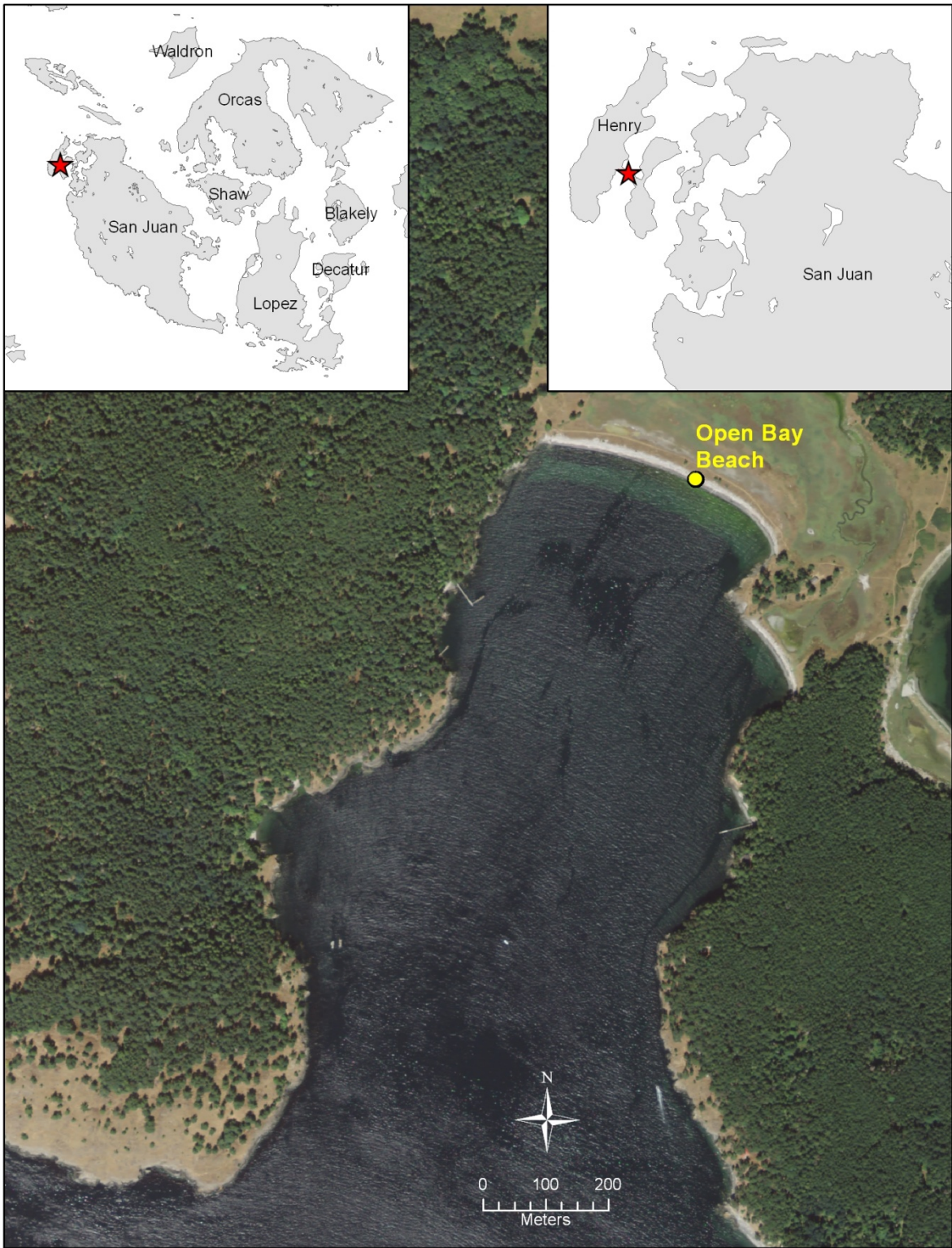


Figure 1. Location of Open Bay Beach beach seine site.

Table 1. Fish catch summary for Open Bay Beach 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
Crabs and shrimp	Cancridae	Cancer magister >6.5"	Dungeness crab, legal size	DUNGI legal	3	0.21	7.1%
		Cancer magister <6.5"	Dungeness crab, sublegal size	DUNGI small	215	15.36	57.1%
Flatfish	Pleuronectiformes	Other or unknown flatfish post larval	Unidentified post larval flatfish species	O/U FLAT pl	1	0.07	7.1%
		Other or unknown flatfish	Unidentified flatfish species	O/U FLAT	453	32.36	42.9%
		Platichthys stellatus	Starry flounder	STARRY	11	0.79	57.1%
		Isopsetta isolepis	Butter sole	BUTTER SOLE	23	1.64	14.3%
		Parophrys vetulus	English sole	ENG SOLE	977	69.79	71.4%
Forage fishes	Ammodytidae	Ammodytes hexapterus adult body form	Pacific sand lance, adult body form	LANCE a	1	0.07	7.1%
		Ammodytes hexapterus post larval	Pacific sand lance, post larval juvenile	LANCE pl	1	0.07	7.1%
	Clupeidae	Clupea pallasii adult body form	Pacific herring, adult body form	HERR a	92	6.57	14.3%
	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	1	0.07	7.1%
		Hypomesus pretiosus adult body form	Surf smelt, adult body form	SMELT a	34	2.43	7.1%
Greenlings/lingcod	Hexagrammidae	Ophiodon elongatus	Lingcod	LINGCOD	1	0.07	7.1%
		Hexagrammos stelleri	Whitespot greenling	WHITESPOT GR	16	1.14	28.6%
		Hexagrammos spp	Unidentified greenling species	O/U GREENLING	124	8.86	50.0%
Gunnels and Pricklebacks	Pholidae	Pholis laeta	Crescent gunnel	CRES GUNL	32	2.29	42.9%
		Pholis ornata	Saddleback gunnel	SADLBCK GUNL	56	4.00	28.6%
		Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	92	6.57	35.7%
		Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	114	8.14	50.0%
	Stichaeidae	Lumpenus sagitta	Snake prickleback	SNAKE	24	1.71	21.4%
Other - marine	Agonidae	Other or unknown Agonid	Unidentified poacher species	O/U POACHER	1	0.07	7.1%
	Aulorhynchidae	Aulorhynchus flavidus	Tubesnout	TUBESNT	6	0.43	21.4%
	Syngnathidae	Syngnathus griseolineatus	Bay pipefish	PIPEFISH	10	0.71	50.0%
Pacific salmon	Salmonidae	Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	5	0.36	7.1%
		Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	12	0.86	14.3%

Assemblage Groupings	Taxonomic group	Genus species, age & mark	Common name	Species abbreviation	Total catch	Catch per set	Frequency in catch
Sculpins	Cottidae	Synchirus gilli	Manacled sculpin	MANACLED SCULP	1	0.07	7.1%
		Hemilepidotus hemilepidotus	Red Irish lord	RED IRISH LORD	1	0.07	7.1%
		Arteidius fenestralis	Padded sculpin	PADD SCULP	3	0.21	7.1%
		Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	7	0.50	28.6%
		Gilbertidia sigalutes	Soft sculpin	SOFT SCULP	15	1.07	21.4%
		Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	21	1.50	35.7%
		Blepsias cirrhosus	Silverspotted sculpin	SILVER SPOT SC	31	2.21	35.7%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	293	20.93	35.7%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	1052	75.14	92.9%
	Hemitripteridae	Nautichthys oculofasciatus	Sailfin sculpin	SAILFIN	14	1.00	28.6%
	Liparidae	Snailfish spp	Unidentified snailfish species	SNAILFISH	5	0.36	28.6%
Sea perches	Embiotocidae	Brachyistius frenatus	Kelp perch	KELP PERCH	1	0.07	7.1%
		Cymatogaster aggregata	Shiner perch	SHINER	37	2.64	21.4%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	18	1.29	28.6%
True cods	Gadidae	Microgadus proximus	Pacific tomcod	TOMCOD	2	0.14	14.3%
		Theragra chalcogramma	Alaska pollock	POLLOCK	3	0.21	7.1%
		Other or unknown Cod	Unidentified true cod species	O/U COD	6	0.43	7.1%