

Summary of Fish Catch Results for West Sound N, 2008 and 2009

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at West Sound N 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*.

West Sound N is located on the north end of West Sound on Orcas Island within the San Juan Islands (Figure 1). Large net beach seines were used after methods described in Skagit System Cooperative Research Department (2003). Fifteen sets were made during the two-year study period. Beach seining at West Sound N occurred monthly from March through September 2008 and April through October 2009.

The beach seine site varied from sand to gravel to mixed coarse substrate. The vegetative cover at West Sound N consisted of eelgrass or eelgrass mixed with kelp or algae (73% of the time), or green algae (7% of the time). The site was without vegetative cover within the set area 20% of the time. The average maximum water depth was 2.41 meters; the average salinity 30.0 parts per thousand. The water temperatures varied by month, ranging from an average low of 7.2 °C in April 2009 to a high of 22.2 °C in May 2008.

At West Sound N we caught a total of 5,029 fish from 42 different species or species groupings over the two-year study period, including three species of juvenile salmon and three species of forage fish (Table 1). The most abundant fish species was shiner perch with a catch of 1,683 fish, present in 66.7% of beach seine sets. They accounted for 33.5% of the total catch at this site. We kept count of Dungeness crab (27) 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>

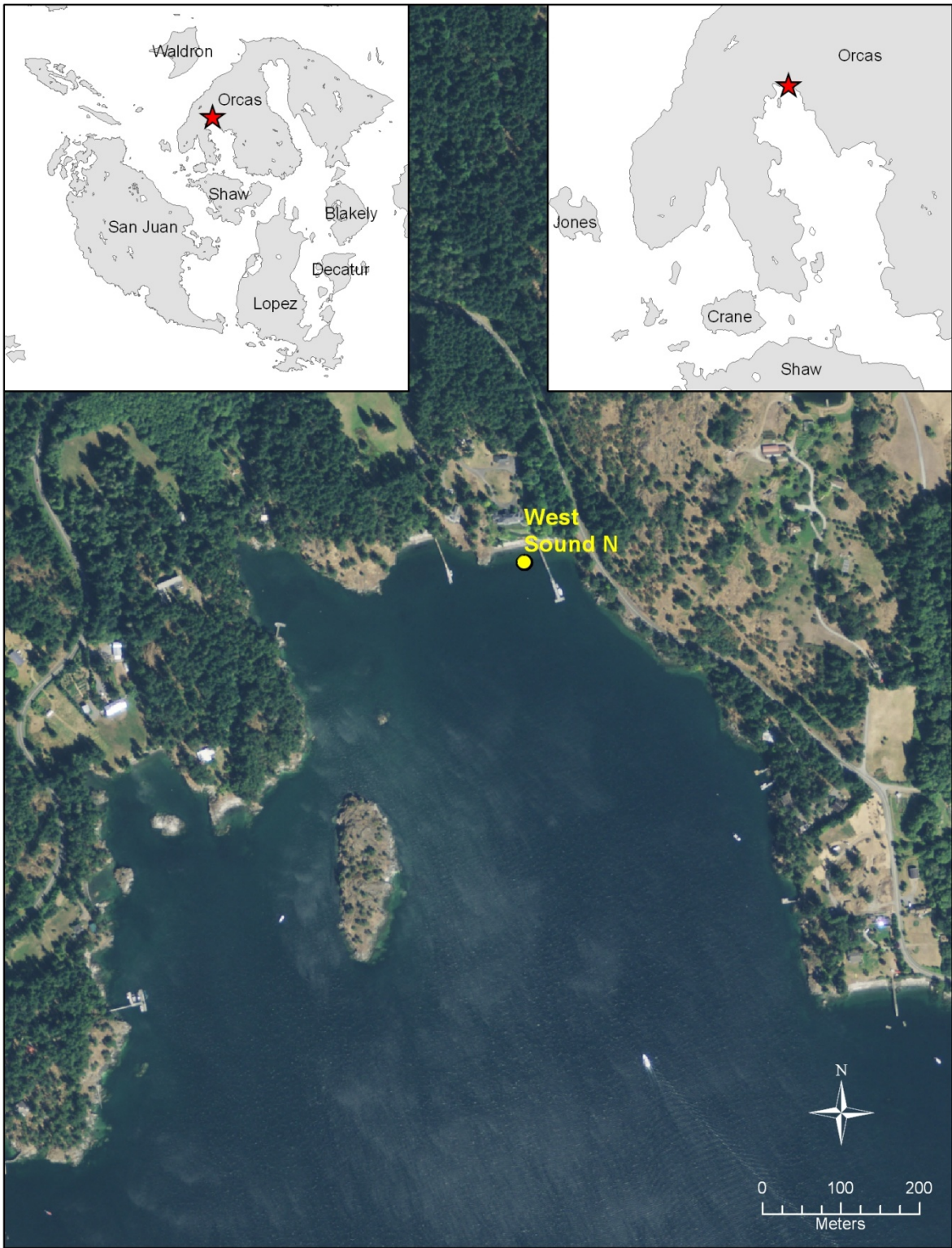


Figure 1. Location of West Sound N beach seine site.

Table 1. Fish catch summary for West Sound N 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	Canceridae	Cancer magister <6.5"	Dungeness crab, sublegal size	DUNGI small	27	1.80	40.0%
	Varunidae	Hemigrapsus nudus	Shore crab	SHORE CRAB	4	0.27	6.7%
Flatfish	Bothidae	Psetichthys melanostictus	Sand sole	SAND SOLE	2	0.13	13.3%
	Pleuronectiformes	Pleuronichthys coenosus	CO sole	CO SOLE	1	0.07	6.7%
		Lepidopsetta bilineata	Rock sole	ROCK SOLE	1	0.07	6.7%
		Parophrys vetulus	English sole	ENG SOLE	3	0.20	13.3%
		Platichthys stellatus	Starry flounder	STARRY	7	0.47	26.7%
		Other or unknown flatfish post larval	Unidentified post larval flatfish species	O/U FLAT pl	3	0.20	6.7%
		Other or unknown flatfish	Unidentified flatfish species	O/U FLAT	11	0.73	26.7%
Forage fishes	Ammodytidae	Ammodytes hexapterus adult body form	Pacific sand lance, adult body form	LANCE a	573	38.20	20.0%
	Clupeidae	Clupea pallasii post larval	Pacific herring, post larval juvenile	HERR pl	1	0.07	6.7%
		Clupea pallasii adult body form	Pacific herring, adult body form	HERR a	51	3.40	6.7%
	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	3	0.20	13.3%
		Hypomesus pretiosus adult body form	Surf smelt, adult body form	SMELT a	8	0.53	6.7%
Greenlings/lingcod	Hexagrammidae	Hexagrammos stelleri	Whitespot greenling	WHITESPOT GR	11	0.73	13.3%
		Ophiodon elongatus	Lingcod	LINGCOD	14	0.93	26.7%
		Hexagrammos spp	Unidentified greenling species	O/U GREENLING	28	1.87	53.3%
Gunnels and Pricklebacks	Pholidae	Pholis ornata	Saddleback gunnel	SADLBCK GUNL	9	0.60	20.0%
		Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	16	1.07	33.3%
		Pholis laeta	Crescent gunnel	CRES GUNL	100	6.67	40.0%
		Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	207	13.80	40.0%
	Stichaeidae	Lumpenus sagitta	Snake prickleback	SNAKE	96	6.40	46.7%
Other - marine	Aulorhynchidae	Aulorhynchus flavidus	Tubesnout	TUBESNT	18	1.20	20.0%
	Batrachoididae	Porichthys notatus	Plainfin midshipman	MIDSHIPMAN	217	14.47	53.3%
	Syngnathidae	Syngnathus griseolineatus	Bay pipefish	PIPEFISH	264	17.60	80.0%

Assemblage Groupings	Taxonomic group	Genus species, age & mark	Common name	Species abbreviation	Total catch	Catch per set	Frequency in catch
Other - unknown	Unclassified Larval Fish	Larval Fish	Unidentified larval fish	O/U LARVAL FISH	1	0.07	6.7%
Pacific salmon	Salmonidae	Oncorhynchus tshawytscha age 0+ no external mark	Chinook salmon, wild subyearling	CK 0+ nem	2	0.13	6.7%
		Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	2	0.13	6.7%
		Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	3	0.20	13.3%
Rockfish	Scorpaenidae	Sebastes maliger	Quillback rockfish	QUILLBACK ROCKFISH	1	0.07	6.7%
Sculpins	Cottidae	Enophrys bison	Buffalo sculpin	BUFF	1	0.07	6.7%
		Gilbertidia sigalutes	Soft sculpin	SOFT SCULP	2	0.13	6.7%
		Hemilepidotus hemilepidotus	Red Irish lord	RED IRISH LORD	3	0.20	6.7%
		Blepsias cirrhosus	Silverspotted sculpin	SILVER SPOT SC	9	0.60	26.7%
		Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	13	0.87	53.3%
		Artedius fenestralis	Padded sculpin	PADD SCULP	17	1.13	20.0%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	97	6.47	86.7%
		Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	159	10.60	73.3%
	Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	165	11.00	73.3%	
	Hemitripterae	Nautichthys oculofasciatus	Sailfin sculpin	SAILFIN	15	1.00	20.0%
Sea perches	Embiotocidae	Rhacochilus vacca	Pile perch	PILE PERCH	1	0.07	6.7%
		Embiotoca lateralis	Striped seaperch	STRIPED	5	0.33	20.0%
		Brachyistius frenatus	Kelp perch	KELP PERCH	29	1.93	26.7%
		Cymatogaster aggregata	Shiner perch	SHINER	1683	112.20	66.7%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	1174	78.27	66.7%
True cods	Gadidae	Other or unknown Cod	Unidentified true cod species	O/U COD	1	0.07	6.7%
		Microgadus proximus	Pacific tomcod	TOMCOD	2	0.13	13.3%