

Summary of Fish Catch Results for Wilson Beach, 2008 and 2009

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at Wilson 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*.

Wilson Beach is located on the east side of Orcas 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). Fifteen sets (14 large and 1 small) were made during the two-year study period. Beach seining at Wilson Beach occurred monthly from April through September 2008 and March through October 2009.

The beach seine sites varied from sand to gravel to mixed coarse and cobble substrate. The vegetative cover at Wilson Beach consisted of eelgrass or eelgrass mixed with kelp or algae 27% of the time, mixed algae 27% of the time, and was without vegetative cover 46% of the time. The average maximum water depth was 3.35 meters; the average salinity within the area seined was 30.1 parts per thousand. The water temperatures varied by month, ranging from an average low of 7.4 °C in March 2009 to a high of 15.7 °C in July 2008.

At Wilson Beach we caught a total of 7,758 fish from 38 different species or species groupings over the two-year study period, including five species of juvenile salmon and two species of forage fish (Table 1). The most abundant fish species was Alaska pollock with a catch of 2,195 fish, present in 20.0% of beach seine sets. All but four of the pollock were caught in one set made on June 8, 2009. Alaska pollock accounted for 28.3% 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>

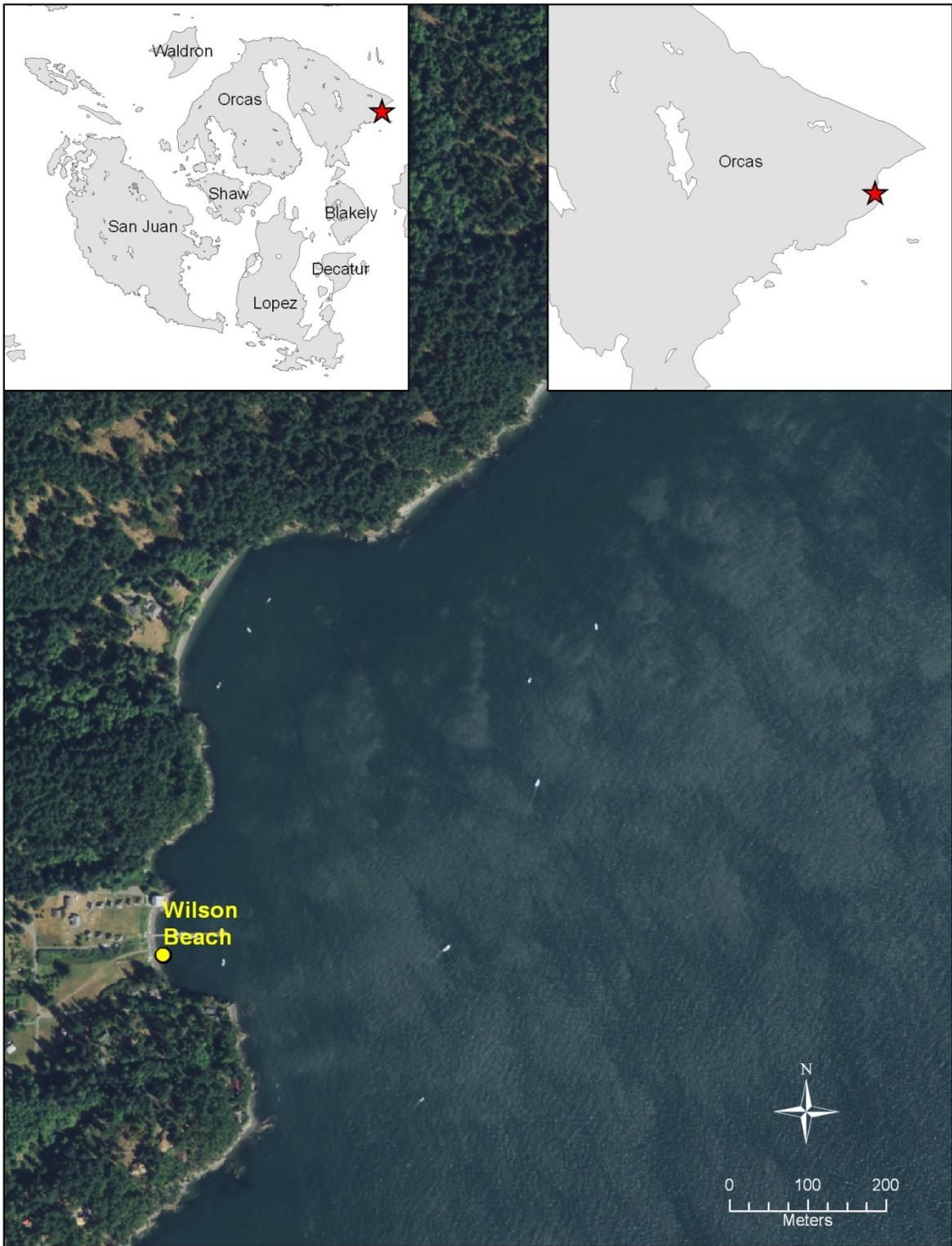


Figure 1. Location of Wilson Beach beach seine site.

Table 1. Fish catch summary for Wilson 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
Forage fishes	Ammodytidae	Ammodytes hexapterus adult body form	Pacific sand lance, adult body form	LANCE a	118	7.87	26.7%
	Clupeidae	Clupea pallasii adult body form	Pacific herring, adult body form	HERR a	1309	87.27	26.7%
Greenlings/lingcod	Hexagrammidae	Hexagrammos decagrammus	Kelp greenling	KELP GRNLNG	14	0.93	20.0%
		Ophiodon elongatus	Lingcod	LINGCOD	37	2.47	13.3%
		Hexagrammos stelleri	Whitespot greenling	WHITESPOT GR	50	3.33	46.7%
		Hexagrammos spp	Unidentified greenling species	O/U GREENLING	93	6.20	46.7%
Gunnels and Pricklebacks	Pholidae	Pholis ornata	Saddleback gunnel	SADLBCK GUNL	12	0.80	20.0%
		Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	31	2.07	33.3%
		Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	32	2.13	60.0%
		Pholis laeta	Crescent gunnel	CRES GUNL	38	2.53	26.7%
	Stichaeidae	Xiphister atropurpureus	Black prickleback	BLK PRICKLE	1	0.07	6.7%
		Lumpenus sagitta	Snake prickleback	SNAKE	7	0.47	20.0%
Other - marine	Aulorhynchidae	Aulorhynchus flavidus	Tubesnout	TUBESNT	6	0.40	6.7%
	Trichodontidae	Trichodon trichodon	Pacific sandfish	SANDFISH	3	0.20	6.7%
Other - unknown	Unclassified Larval Fish	Larval Fish	Unidentified larval fish	O/U LARVAL FISH	8	0.53	6.7%
Pacific salmon	Salmonidae	Oncorhynchus tshawytscha age 0+ no external mark	Chinook salmon, wild subyearling	CK 0+ nem	41	2.73	40.0%
		Oncorhynchus tshawytscha age 0+ external mark	Chinook salmon, hatchery marked subyearling	CK 0+ em	14	0.93	33.3%
		Oncorhynchus tshawytscha age 1+ no external mark	Chinook salmon, wild yearling	CK 1+ nem	2	0.13	6.7%
		Oncorhynchus kisutch age 1+ external mark	Coho salmon, hatchery marked yearling	CO 1+ em	2	0.13	6.7%
		Oncorhynchus kisutch age 1+ no external mark	Coho salmon, wild yearling	CO 1+ nem	13	0.87	13.3%
		Oncorhynchus nerka age 0+	Sockeye salmon, subyearling	SOCK 0+	47	3.13	6.7%
		Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	1249	83.27	20.0%

Assemblage Groupings	Taxonomic group	Genus species, age & mark	Common name	Species abbreviation	Total catch	Catch per set	Frequency in catch
		Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	1727	115.13	53.3%
		Oncorhynchus keta adult	Chum salmon, adult	CH ADULT	1	0.07	6.7%
Rockfish	Scorpaenidae	Other or unknown Scorpaenids	Unidentified rockfish species	O/U ROCKFISH	5	0.33	6.7%
Sculpins	Cottidae	Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	1	0.07	6.7%
		Hemilepidotus hemilepidotus	Red Irish lord	RED IRISH LORD	2	0.13	6.7%
		Artedius corallinus	Coralline sculpin	CORALLINE SCULP	3	0.20	6.7%
		Enophrys bison	Buffalo sculpin	BUFF	15	1.00	53.3%
		Blepsias cirrhosus	Silverspotted sculpin	SILVER SPOT SC	15	1.00	26.7%
		Artedius fenestralis	Padded sculpin	PADD SCULP	19	1.27	40.0%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	21	1.40	53.3%
		Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	64	4.27	73.3%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	231	15.40	46.7%
		Hemitripteridae	Nautichthys oculofasciatus	Sailfin sculpin	SAILFIN	14	0.93
Sea perches	Embiotocidae	Embiotoca lateralis	Striped seaperch	STRIPED	2	0.13	6.7%
		Brachyistius frenatus	Kelp perch	KELP PERCH	4	0.27	6.7%
		Cymatogaster aggregata	Shiner perch	SHINER	203	13.53	53.3%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	31	2.07	20.0%
True cods	Gadidae	Other or unknown Cod	Unidentified true cod species	O/U COD	12	0.80	20.0%
		Microgadus proximus	Pacific tomcod	TOMCOD	66	4.40	20.0%
		Theragra chalcogramma	Alaska pollock	POLLOCK	2195	146.33	20.0%