

Summary of Fish Catch Results for Spencer Spit NE, Spencer Spit NW, Spencer Spit SE and Spencer Spit SW, 2008 and 2009

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at Spencer Spit NE, Spencer Spit NW, Spencer Spit SE, and Spencer Spit SW 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*.

Spencer Spit is located on the northeast side Lopez Island within the San Juan Islands (Figure 1). Four sites around the perimeter (two on each side of the spit) were sampled, using large and small net beach seines after methods described in Skagit System Cooperative Research Department (2003). We made 46 beach seine sets over the two-year study period. Beach seining occurred monthly March through September 2008 and March through October 2009. The catch and environmental data is combined for all four sites and reported below.

The beach seine sites at Spencer Spit varied from sand to gravel to mixed coarse substrate, without vegetative 67% of the time, and with a mixture of green or brown algae or eelgrass 30% of the time. Average maximum water depth varied from 0.34 meters (m) at Spencer Spit NW to 6.62 m at Spencer Spit NE, averaging 2.39 m for all sites combined. The average salinity was 29.8 parts per thousand for all sites combined. Water temperatures varied by month, ranging from a low of 8.0 °C in March 2008 to a high of 17.4 °C in August 2009.

At Spencer Spit we caught a total of 3,722 fish from 29 different species or species groupings over the two-year study period, including one species of juvenile salmon and two species of forage fish (Table 1). The most abundant fish species was shiner perch with a catch of 1,694 fish, present in 34.8% of sets, accounting for 45.5% of the total catch. We kept count of Dungeness crab (179) 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>.

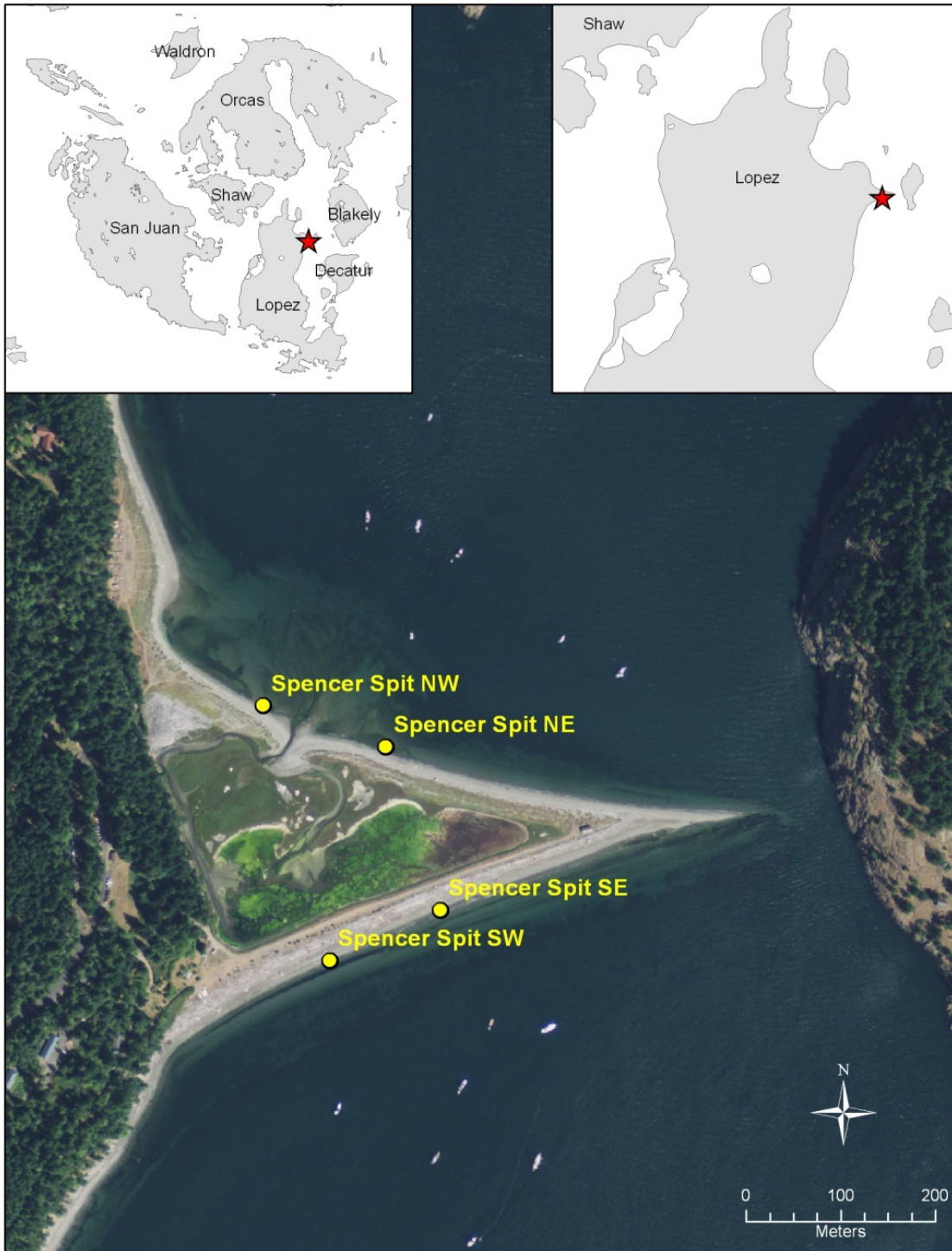


Figure 1. Location of Spencer Spit NE, Spencer Spit NW, Spencer Spit SE and Spencer Spit SW beach seine sites.

Table 1. Fish catch summary for Spencer Spit 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, sublegal size	DUNGI small	179	3.89	17.4%
Flatfish	Pleuronectiformes	Other or unknown flatfish post larval	Unidentified post larval flatfish species	O/U FLAT pl	4	0.09	2.2%
		Isopsetta isolepis	Butter sole	BUTTER SOLE	21	0.46	4.3%
		Platichthys stellatus	Starry flounder	STARRY	66	1.43	39.1%
		Other or unknown flatfish	Unidentified flatfish species	O/U FLAT	109	2.37	19.6%
		Parophrys vetulus	English sole	ENG SOLE	182	3.96	30.4%
Forage fishes	Ammodytidae	Ammodytes hexapterus post larval	Pacific sand lance, post larval juvenile	LANCE pl	1	0.02	2.2%
	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	2	0.04	4.3%
		Hypomesus pretiosus adult body form	Surf smelt, adult body form	SMELT a	3	0.07	4.3%
Greenlings/lingcod	Hexagrammidae	Hexagrammos stelleri	Whitespot greenling	WHITESPOT GR	6	0.13	2.2%
	Hexagrammidae	Hexagrammos spp	Unidentified greenling species	O/U GREENLING	8	0.17	6.5%
	Pholidae	Pholis laeta	Crescent gunnel	CRES GUNL	3	0.07	4.3%
Gunnels and Pricklebacks	Pholidae	Pholis ornata	Saddleback gunnel	SADLBCK GUNL	43	0.93	13.0%
	Pholidae	Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	64	1.39	6.5%
	Pholidae	Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	164	3.57	26.1%
	Stichaeidae	Lumpenus sagitta	Snake prickleback	SNAKE	369	8.02	15.2%
Other - marine	Agonidae	Other or unknown Agonid	Unidentified poacher species	O/U POACHER	1	0.02	2.2%
	Aulorhynchidae	Aulorhynchus flavidus	Tubesnout	TUBESNT	1	0.02	2.2%
	Syngnathidae	Syngnathus griseolineatus	Bay pipefish	PIPEFISH	2	0.04	4.3%
Pacific salmon	Salmonidae	Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	1	0.02	2.2%
Sculpins	Cottidae	Gilbertidia sigalutes	Soft sculpin	SOFT SCULP	1	0.02	2.2%
		Enophrys bison	Buffalo sculpin	BUFF	5	0.11	6.5%
		Blepsias cirrhosus	Silverspotted sculpin	SILVER SPOT SC	6	0.13	4.3%

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Sculpins	Cottidae	Artedius fenestralis	Padded sculpin	PADD SCULP	13	0.28	6.5%
		Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	19	0.41	17.4%
		Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	26	0.57	19.6%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	118	2.57	21.7%
	Leptocottus armatus	Pacific staghorn sculpin	STAG	740	16.09	91.3%	
	Hemitripterae	Nautichthys oculofasciatus	Sailfin sculpin	SAILFIN	1	0.02	2.2%
Sea perches	Embiotocidae	Cymatogaster aggregata	Shiner perch	SHINER	1694	36.83	34.8%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	48	1.04	45.7%
True cods	Gadidae	Microgadus proximus	Pacific tomcod	TOMCOD	1	0.02	2.2%