

Summary of Fish Catch Results for Decatur Is Beach SE, 2008 and 2009

Skagit River System Cooperative Research Program

December 2012

Beach seine sampling for fish was conducted at Decatur Is Beach SE 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*.

Decatur Is Beach SE is located on the south side of the spit at the south end of Decatur Island within the San Juan Islands (Figure 1). Large net beach seines were used at Decatur Is Beach SE after methods described in Skagit System Cooperative Research Department (2003). We made 12 beach seine sets over the two-year study period. Beach seining occurred in April, July, August and September of 2008, and monthly from March through October in 2009.

The beach seine site within Decatur Is Beach SE consisted of gravel to mixed coarse substrate. Vegetative cover consisted of a mixture of eelgrass, kelp or other macro algae (58% of the time) or was without any cover (42% of the time). Average maximum water depth was 2.13 meters deep and average salinity was 30.9 parts per thousand within the area seined. Water temperature varied by month, but ranged from a low of 7.7 °C in March 2009 to a high of 13.0 °C in September 2008.

We caught a total of 1,751 fish from 43 different species or species groupings over the two-year study period, including four species of juvenile salmon and three species of forage fish (Table 1). The most abundant fish species was Pacific sand lance with a catch of 712 fish, present in 41.7 % of the beach seine sets. They accounted for 40.7% of the total catch at this site. We kept count of Dungeness crab (53) 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>

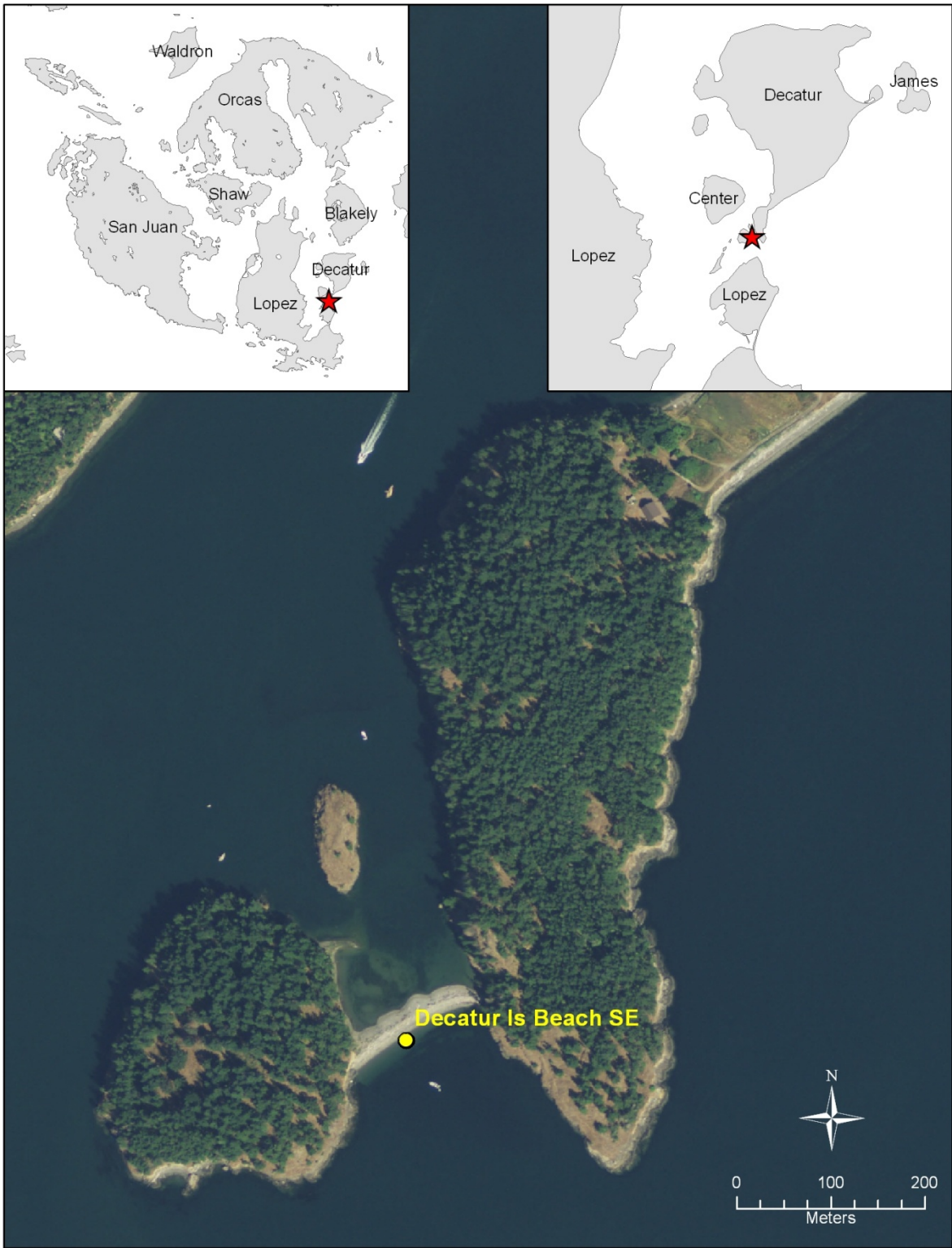


Figure 1. Location of Decatur Is Beach SE beach seine site.

Table 1. Fish catch summary for Decatur Is Beach SE 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	53	4.42	75.0%
Flatfish	Pleuronectiformes	Platichthys stellatus	Starry flounder	STARRY	1	0.08	8.3%
		Other or unknown flatfish	Unidentified flatfish species	O/U FLAT	3	0.25	8.3%
		Isopsetta isolepis	Butter sole	BUTTER SOLE	6	0.50	16.7%
		Lepidopsetta bilineata	Rock sole	ROCK SOLE	6	0.50	8.3%
		Parophrys vetulus	English sole	ENG SOLE	20	1.67	50.0%
Forage fishes	Ammodytidae	Ammodytes hexapterus adult body form	Pacific sand lance, adult body form	LANCE a	712	59.33	41.7%
	Clupeidae	Clupea pallasii post larval	Pacific herring, post larval juvenile	HERR pl	1	0.08	8.3%
		Clupea pallasii adult body form	Pacific herring, adult body form	HERR a	9	0.75	16.7%
	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	1	0.08	8.3%
		Hypomesus pretiosus adult body form	Surf smelt, adult body form	SMELT a	55	4.58	16.7%
Greenlings/lingcod	Hexagrammidae	Hexagrammos lagocephalus	Rock greenling	ROCK GREEN-LING	6	0.50	8.3%
		Hexagrammos decagrammus	Kelp greenling	KELP GRNLNG	8	0.67	16.7%
		Ophiodon elongatus	Lingcod	LINGCOD	8	0.67	16.7%
		Hexagrammos stelleri	Whitespot greenling	WHITE-SPOT GR	26	2.17	41.7%
		Hexagrammos spp	Unidentified greenling species	O/U GREEN-LING	29	2.42	33.3%
Gunnels and Pricklebacks	Pholidae	Pholis ornata	Saddleback gunnel	SADLBCK GUNL	4	0.33	25.0%
		Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	5	0.42	25.0%
		Pholis laeta	Crescent gunnel	CRES GUNL	88	7.33	41.7%
		Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	110	9.17	41.7%
	Stichaeidae	Xiphister atropurpureus	Black prickleback	BLK PRICKLE	1	0.08	8.3%
Other - marine	Aulorhynchidae	Aulorhynchus flavidus	Tubesnout	TUBESNT	4	0.33	8.3%
	Cyclopteridae	Eumicrotremus orbis	Pacific spiny lumpsucker	LUMP	1	0.08	8.3%
	Syngnathidae	Syngnathus griseolineatus	Bay pipefish	PIPEFISH	3	0.25	16.7%
Pacific salmon	Salmonidae	Oncorhynchus tshawytscha age 0+ no external mark	Chinook salmon, wild subyearling	CK 0+ nem	16	1.33	16.7%
		Oncorhynchus tshawytscha age 0+ external mark	Chinook salmon, hatchery marked subyearling	CK 0+ em	11	0.92	8.3%

Assemblage Groupings	Taxonomic group	Genus species, age & mark	Common name	Species abbreviation	Total catch	Catch per set	Frequency in catch
		Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	10	0.83	8.3%
		Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	31	2.58	25.0%
		Oncorhynchus kisutch age 1+ no external mark	Coho salmon, wild yearling	CO 1+ nem	3	0.25	16.7%
Rockfish	Scorpaenidae	Sebastes maliger	Quillback rockfish	QUILL-BACK ROCKFISH	1	0.08	8.3%
Sculpins	Cottidae	Hemilepidotus spinosus	Brown Irish lord	BROWN IR LORD	1	0.08	8.3%
		Icelinus borealis	Northern sculpin	NORTH SCULP	1	0.08	8.3%
		Artedius corallinus	Coralline sculpin	CORAL-LINE SCULP	2	0.17	8.3%
		Clinocottus acuticeps	Sharpnose sculpin	SHARP-NOSE	8	0.67	41.7%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	8	0.67	33.3%
		Artedius fenestralis	Padded sculpin	PADD SCULP	16	1.33	25.0%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	17	1.42	25.0%
		Hemilepidotus hemilepidotus	Red Irish lord	RED IRISH LORD	23	1.92	25.0%
		Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	27	2.25	50.0%
		Blepsias cirrhosus	Silverspotted sculpin	SILVER SPOT SC	37	3.08	41.7%
	Enophrys bison	Buffalo sculpin	BUFF	51	4.25	58.3%	
	Hemitripterae	Nautichthys oculofasciatus	Sailfin sculpin	SAILFIN	1	0.08	8.3%
	Liparidae	Snailfish spp	Unidentified snailfish species	SNAILFISH	4	0.33	16.7%
Sea perches	Embiotocidae	Cymatogaster aggregata	Shiner perch	SHINER	7	0.58	16.7%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	25	2.08	41.7%
True cods	Gadidae	Microgadus proximus	Pacific tomcod	TOMCOD	6	0.50	8.3%
		Theragra chalcogramma	Alaska pollock	POLLOCK	338	28.17	8.3%