

# Summary of Fish Catch Results for English Camp Beach, 2008 and 2009

Skagit River System Cooperative Research Program

December 2012

Beach seine sampling for fish was conducted at English Camp 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*.

English Camp Beach is located within Garrison Bay on the northwest side of San Juan Island within the San Juan Islands (Figure 1). Small net beach seines were used at English Camp Beach after methods described in Skagit System Cooperative Research Department (2003). We made 25 beach seine sets over the two-year study period. Beach seining occurred monthly in March through September in both 2008 and 2009.

The beach seine site within English Camp Beach consisted primarily of mixed fines to gravel substrate, usually without vegetative cover (such as eelgrass, kelp or other macro algae). Average maximum water depth was 0.73 meters deep and average salinity was 31.3 parts per thousand within the area seined. Water temperature varied by month, but ranged from a low of 8.8 °C in March 2008 to a high of 18.4 °C in August 2009. In 2008 water temperatures remained high (17 °C) from July through September, while in 2009 it cooled to around 14.5 °C by the end of the sampling period in September.

We caught a total of 6,881 fish from 15 different species or species groupings over the two-year study period, including one species of juvenile salmon and one species of forage fish (Table 1). The most abundant fish species was Pacific staghorn sculpin with a catch of 4,883 fish, present in 100 % of the beach seine sets. They accounted for 71.0% of the total catch.

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>

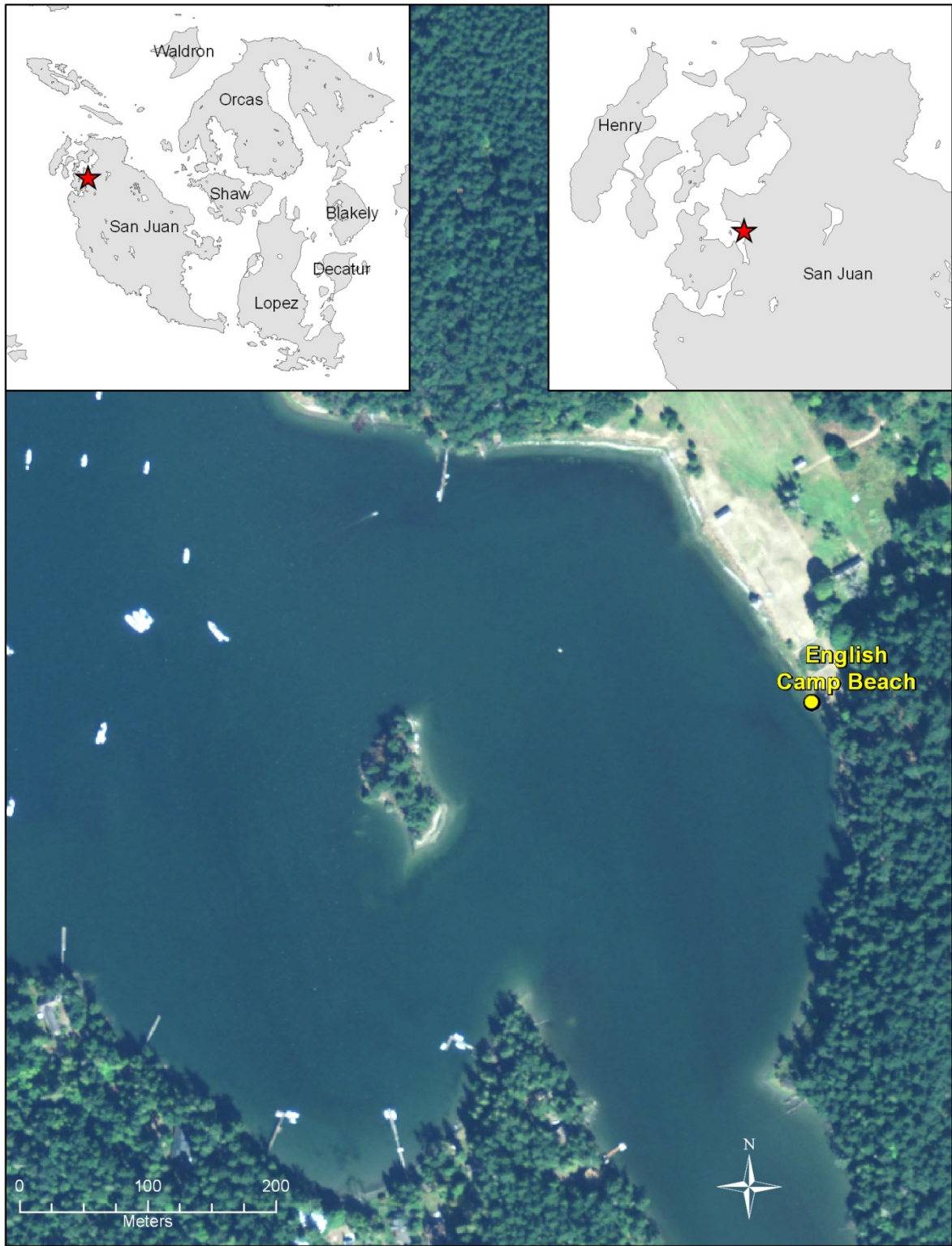


Figure 1. Location of English Camp Beach beach seine site.

Table 1. Fish catch summary for English Camp 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
Flatfish	Pleuronectiformes	Other or unknown flatfish post larval	Unidentified post larval flatfish species	O/U FLAT pl	1	0.04	4.0%
		Other or unknown flatfish	Unidentified flatfish species	O/U FLAT	2	0.08	8.0%
		Platichthys stellatus	Starry flounder	STARRY	4	0.16	12.0%
		Parophrys vetulus	English sole	ENG SOLE	15	0.60	28.0%
Forage fishes	Osmeridae	Hypomesus pretiosus adult body form	Surf smelt, adult body form	SMELT a	1	0.04	4.0%
		Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	61	2.44	4.0%
Greenlings/ lingcod	Hexagrammidae	Hexagrammos spp	Unidentified greenling species	O/U GREEN-LING	1	0.04	4.0%
Gunnels and Pricklebacks	Pholidae	Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	4	0.16	12.0%
	Stichaeidae	Lumpenus sagitta	Snake prickleback	SNAKE	12	0.48	20.0%
Other - marine	Gobiidae	Clevelandia ios	Arrow goby	ARROW GOBI	3	0.12	8.0%
Other - unknown	Unclassified Larval Fish	Larval Fish	Unidentified larval fish	O/U LARVAL FISH	1	0.04	4.0%
Pacific salmon	Salmonidae	Oncorhynchus tshawytscha age 0+ no external mark	Chinook salmon, wild subyearling	CK 0+ nem	1	0.04	4.0%
Sculpins	Cottidae	Clinocottus acuticeps	Sharpnose sculpin	SHARP-NOSE	34	1.36	24.0%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	4883	195.32	100.0%
Sea perches	Embiotocidae	Cymatogaster aggregata	Shiner perch	SHINER	1854	74.16	52.0%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	3	0.12	12.0%
True cods	Gadidae	Other or unknown Cod	Unidentified true cod species	O/U COD	1	0.04	4.0%