

# Summary of Fish Catch Results for Spencer Spit Lagoon E and Spencer Spit Lagoon W, 2008 and 2009

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at Spencer Spit Lagoon E and Spencer Spit Lagoon W 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 Lagoon is located on the northeast side Lopez Island within the San Juan Islands (Figure 1). Two sites (Spencer Spit Lagoon E and W) were sampled on the same day within the lagoon using small net beach seines after methods described in Skagit System Cooperative Research Department (2003). We made 22 beach seine sets over the two-year study period, occurring monthly March through August 2008 (except in July) and April through September 2009. The catch and environmental data is combined for the two sites and reported below.

The beach seine sites within Spencer Spit Lagoon varied from mud to mixed fines to sand substrate, without vegetative cover 59% of the time, and with green algae 27% of the time. Average maximum water depth was 0.22 meters; the average salinity was 29.5 parts per thousand within the area seined. The water temperature varied by month, ranging from a low of 6.6 °C in March 2008 to a high of 22.4 °C in August 2009.

At Spencer Spit Lagoon we caught a total of 2,340 fish from 7 different species or species groupings over the two-year study period (Table 1). Juvenile salmon and forage fish were not caught at this site. The most abundant fish species was three-spined stickleback with a catch of 1,533 fish, present in 77.3% of beach seine sets. They accounted for 65.5% 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>

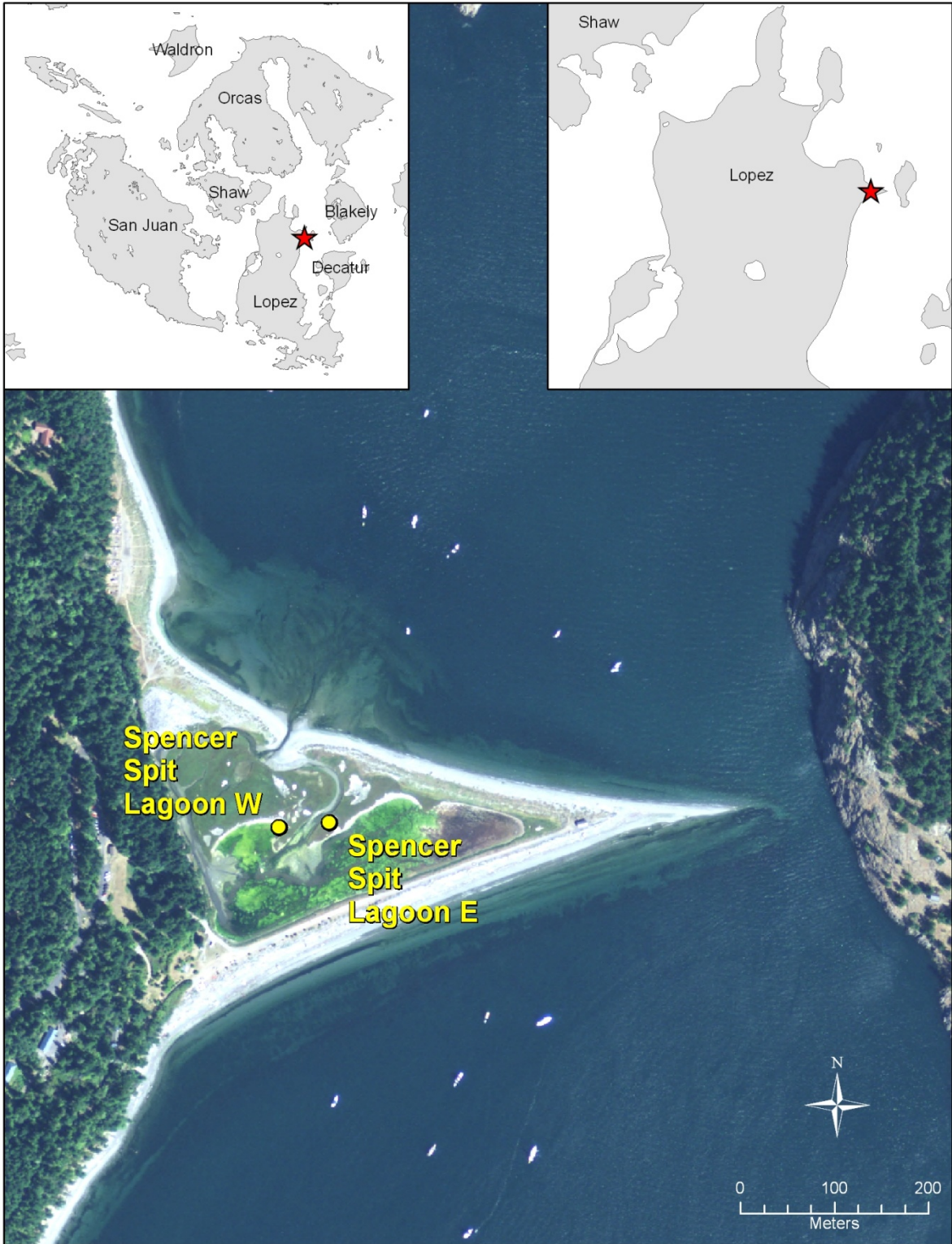


Table 1. Fish catch summary for Spencer Spit Lagoon E and W beach seining, 2008 and 2009.

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	Unidentified flatfish species	O/U FLAT	1	0.05	4.5%
		Platichthys stellatus	Starry flounder	STARRY	1	0.05	4.5%
Other - marine	Gobiidae	Clevelandia ios	Arrow goby	ARROW GOBI	4	0.18	13.6%
Sculpins	Cottidae	Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	1	0.05	4.5%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	2	0.09	4.5%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	798	36.27	90.9%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	1533	69.68	77.3%