

Summary of Fish Catch Results for Eagle Cove, 2008 and 2009

Skagit River System Cooperative Research Program

December 2012

Beach seine sampling for fish was conducted at Eagle Cove 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*.

Eagle Cove is located on the south side of San Juan Island within the San Juan Islands (Figure 1). Large and small net beach seines were used at Eagle Cove after methods described in Skagit System Cooperative Research Department (2003). We made 14 (12 large net and 2 small net) beach seine sets over the two-year study period. Beach seining occurred monthly April through September in 2008 and April through October in 2009.

The beach seine site within Eagle Cove consisted of sand substrate without vegetative cover (such as eelgrass, kelp or other macro algae). Average maximum water depth was 1.09 meters deep and average salinity was 31.7 parts per thousand within the area seined. Water temperature varied by month, but ranged from a low of 8.2 °C in March 2009 to a high of 14.1 °C in August 2009.

We caught a total of 934 fish from 15 different species or species groupings over the two-year study period, including two species of juvenile salmon and two species of forage fish (Table 1). The most abundant fish species was subyearling pink salmon with a catch of 354 fish, present in 14.3 % of the beach seine sets. They accounted for 37.9% of the total catch. We kept count of Dungeness crab (27) 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 Eagle Cove beach seine site.

Table 1. Fish catch summary for Eagle Cove 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	Cancriidae	Cancer magister <6.5"	Dungeness crab, sublegal size	DUNGI small	27	1.93	14.3%
Flatfish	Bothidae	Psettichthys melanostictus	Sand sole	SAND SOLE	5	0.36	14.3%
	Pleuronectiformes	Other or unknown flatfish	Unidentified flatfish species	O/U FLAT	9	0.64	21.4%
		Platichthys stellatus	Starry flounder	STARRY	11	0.79	35.7%
		Parophrys vetulus	English sole	ENG SOLE	42	3.00	64.3%
		Other or unknown flatfish post larval	Unidentified post larval flatfish species	O/U FLAT pl	56	4.00	14.3%
Forage fishes	Ammodytidae	Ammodytes hexapterus adult body form	Pacific sand lance, adult body form	LANCE a	1	0.07	7.1%
		Ammodytes hexapterus post larval	Pacific sand lance, post larval juvenile	LANCE pl	127	9.07	7.1%
	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	52	3.71	14.3%
Gunnels and Pricklebacks	Pholidae	Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	1	0.07	7.1%
		Pholis laeta	Crescent gunnel	CRES GUNL	2	0.14	7.1%
Pacific salmon	Salmonidae	Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	13	0.93	21.4%
		Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	354	25.29	14.3%
Sculpins	Cottidae	Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	3	0.21	7.1%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	231	16.50	71.4%
	Hemipteridae	Nautichthys oculofasciatus	Sailfin sculpin	SAILFIN	1	0.07	7.1%
Sea perches	Embiotocidae	Cymatogaster aggregata	Shiner perch	SHINER	15	1.07	7.1%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	11	0.79	7.1%