

Summary of Fish Catch Results for Hunter Bay Cove, 2008 and 2009

Skagit River System Cooperative Research Program

December 2012

Beach seine sampling for fish was conducted at Hunter Bay 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*.

Hunter Bay Cove is located on the east side of Lopez Island within the San Juan Islands (Figure 1). Large and small net beach seines were used at Hunter Bay Cove after methods described in Skagit System Cooperative Research Department (2003). We made 22 (1 large net and 21 small net) beach seine sets over the two-year study period. Beach seining occurred monthly March through September in both years (except for July 2008).

The beach seine site within Hunter Bay Cove consisted primarily of mixed fines to mixed coarse with cobble substrate, usually without vegetative cover (such as eelgrass, kelp or other macro algae). Average maximum water depth was 0.61 meters deep and average salinity was 30.0 parts per thousand within the area seined. Water temperature varied by month, but ranged from a low of 5.3 °C in April 2008 to a high of 15.5 °C in June of 2008.

We caught a total of 2,423 fish from 21 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 adult Pacific herring with a catch of 1,383 fish, present in 4.5 % of the beach seine sets. They were all caught in one set on May 15, 2009. We kept count of Dungeness crab (23) and red rock crab (5) caught by seines, as these species are 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 Hunter Bay Cove beach seine site.

Table 1. Fish catch summary for Hunter Bay 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	Cancridae	Cancer productus	Red rock crab	RED ROCK CRAB	5	0.23	4.5%
		Cancer magister <6.5"	Dungeness crab, sublegal size	DUNGI small	23	1.05	22.7%
	Varunidae	Hemigrapsus nudus	Shore crab	SHORE CRAB	1	0.05	4.5%
Flatfish	Pleuronectiformes	Other or unknown flatfish post larval	Unidentified post larval flatfish species	O/U FLAT pl	1	0.05	4.5%
		Platichthys stellatus	Starry flounder	STARRY	1	0.05	4.5%
		Other or unknown flatfish	Unidentified flatfish species	O/U FLAT	10	0.45	9.1%
		Parophrys vetulus	English sole	ENG SOLE	64	2.91	31.8%
Forage fishes	Clupeidae	Clupea pallasii adult body form	Pacific herring, adult body form	HERR a	1383	62.86	4.5%
	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	73	3.32	9.1%
Greenlings/lingcod	Hexagrammidae	Hexagrammos spp	Unidentified greenling species	O/U GREENLING	2	0.09	9.1%
Gunnels and Pricklebacks	Pholidae	Pholis laeta	Crescent gunnel	CRES GUNL	2	0.09	4.5%
		Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	2	0.09	9.1%
		Pholis ornata	Saddleback gunnel	SADLBCK GUNL	5	0.23	13.6%
		Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	6	0.27	13.6%
	Stichaeidae	Lumpenus sagitta	Snake prickleback	SNAKE	66	3.00	22.7%
Other - marine	Aulorhynchidae	Aulorhynchus flavidus	Tubesnout	TUBESNT	2	0.09	4.5%
Pacific salmon	Salmonidae	Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	14	0.64	9.1%
		Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	114	5.18	9.1%
Sculpins	Cottidae	Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	9	0.41	22.7%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	162	7.36	27.3%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	197	8.95	72.7%
		Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	232	10.55	45.5%
Sea perches	Embiotocidae	Cymatogaster aggregata	Shiner perch	SHINER	29	1.32	18.2%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	48	2.18	27.3%
True cods	Gadidae	Other or unknown Cod	Unidentified true cod	O/U COD	1	0.05	4.5%

