

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

Skagit River System Cooperative Research Program

December 2012

Beach seine sampling for fish was conducted at Glenwood 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*.

Glenwood Cove is located on the northeast side of East Sound on Orcas Island within the San Juan Islands (Figure 1). Small net beach seines were used at Glenwood Cove after methods described in Skagit System Cooperative Research Department (2003). We made 26 beach seine sets over the two-year study period. Beach seining occurred monthly March through September in both 2008 and 2009.

The beach seine site within Glenwood Cove consisted primarily of gravel to mixed coarse substrate, usually without vegetative cover (such as eelgrass, kelp or other macro algae). Average maximum water depth was 0.84 meters and average salinity was 25.0 parts per thousand within the area seined. Water temperature varied by month, but ranged from a low of 6.9 °C in March 2009 to a high of 18.0 °C in July 2008. In 2008 it cooled to around 12.9 °C by the end of the sampling period in September, while in 2009 water temperatures remained high (15.3 °C – 16.5 °C) from July through September.

We caught a total of 2,625 fish from 17 different species or species groupings over the two-year study period, including two species of juvenile salmon and one species of forage fish (Table 1). The most abundant fish species was sharpnose sculpin with a catch of 1,495 fish, present in 84.6 % of the beach seine sets. They accounted for 57.0% 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>

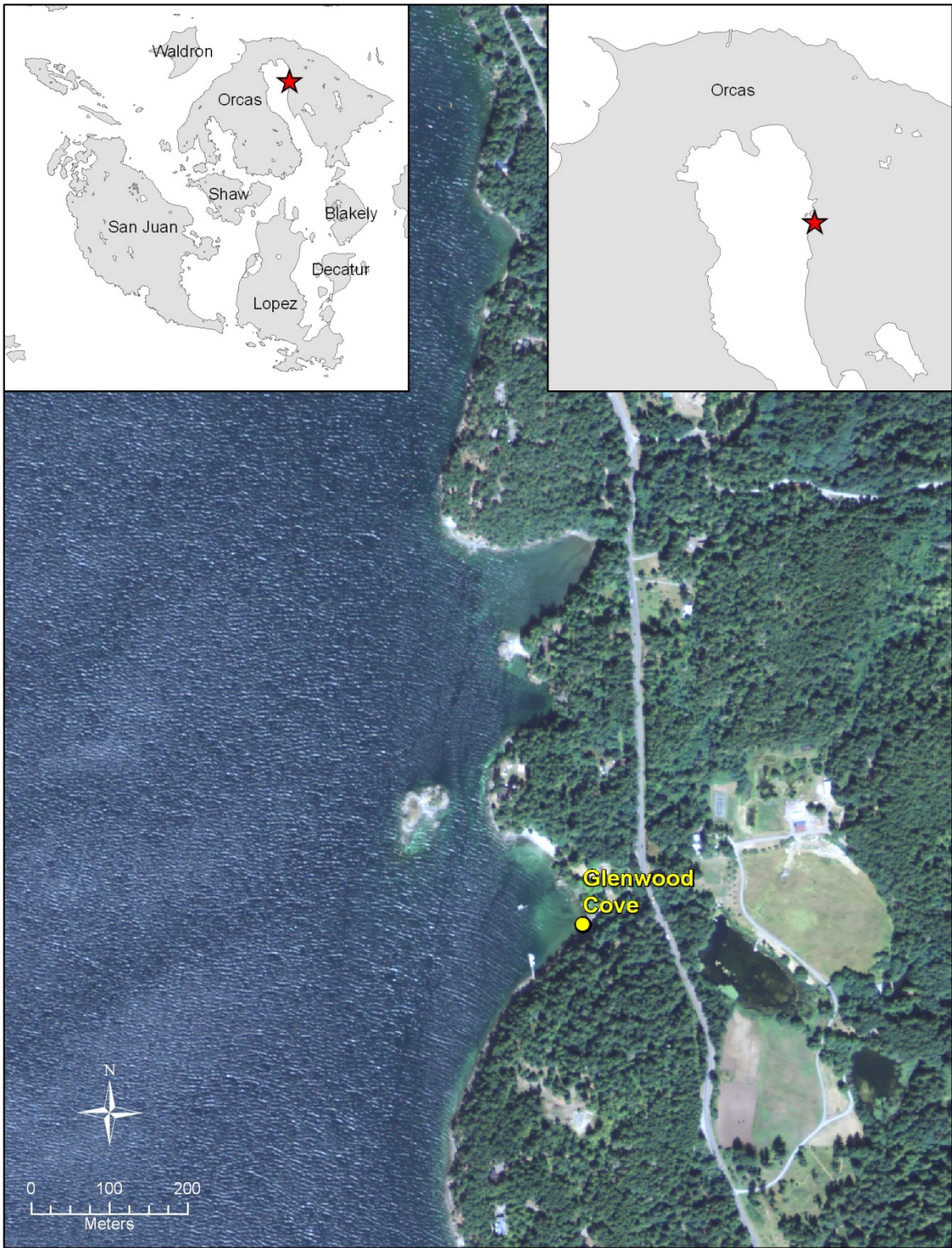


Figure 1. Location of Glenwood Cove beach seine site.

Table 1. Fish catch summary for Glenwood 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
Flatfish	Pleuronectiformes	Parophrys vetulus	English sole	ENG SOLE	2	0.08	3.8%
		Other or unknown flatfish	Unidentified flatfish species	O/U FLAT	2	0.08	3.8%
Forage fishes	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	1	0.04	3.8%
Greenlings/lingcod	Hexagrammidae	Hexagrammos spp	Unidentified greenling species	O/U GREENLING	13	0.50	19.2%
Gunnels and Pricklebacks	Pholidae	Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	1	0.04	3.8%
		Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	1	0.04	3.8%
		Pholis laeta	Crescent gunnel	CRES GUNL	5	0.19	7.7%
Other - marine	Gobiidae	Clevelandia ios	Arrow goby	ARROW GOBI	1	0.04	3.8%
Pacific salmon	Salmonidae	Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	1	0.04	3.8%
		Oncorhynchus tshawytscha age 0+ no external mark	Chinook salmon, wild subyearling	CK 0+ nem	6	0.23	7.7%
		Oncorhynchus tshawytscha age 0+ external mark	Chinook salmon, hatchery marked subyearling	CK 0+ em	103	3.96	15.4%
Sculpins	Cottidae	Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	1	0.04	3.8%
		Enophrys bison	Buffalo sculpin	BUFF	3	0.12	11.5%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	127	4.88	61.5%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	454	17.46	26.9%
		Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	1495	57.50	84.6%
Sea perches	Embiotocidae	Cymatogaster aggregata	Shiner perch	SHINER	405	15.58	30.8%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	4	0.15	11.5%