

Summary of Fish Catch Results for Margos Beach and Margos Lagoon , 2008 and 2009

Skagit River System Cooperative Research Program

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Beach seine sampling for fish was conducted at Margos Beach and Margos Lagoon 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*.

Margos Beach and Margos Lagoon are located on the east side of West Sound on Orcas Island within the San Juan Islands (Figure 1). Small net beach seines were used at Margos Beach and Margos Lagoon after methods described in Skagit System Cooperative Research Department (2003). Margos Lagoon sampling site is located inland of Deer Harbor Road and Margos Beach is located on the shore side of that road on the adjacent beach. We made 53 beach seine sets (26 at Margos Beach and 27 at Margos Lagoon) over the two-year study period. Beach seining occurred monthly from March through September in both 2008 and 2009.

The beach seine sites within both Margos Beach and Margos Lagoon varied from mixed fines to gravel to mixed coarse substrate, usually without vegetative cover (such as eelgrass, kelp or other macro algae). Average maximum water depth at Margos Beach was 0.75 meters (m) and 0.98 m at Margos Lagoon. The average salinity at Margos Beach was 23.6 parts per thousand (ppt), while at Margos Lagoon it was 20.3 ppt within the area seined. The water temperature at Margos Beach varied by month, ranging from a low of 7.8 °C in March 2008 to a high of 22.3 °C in July 2009. At Margos Lagoon the water temperature ranged from a low of 6.4 °C in March 2008 to a high of 21.9 °C in August 2009.

At Margos Beach we caught a total of 3,038 fish from 13 different species or species groupings over the two-year study period, including two species of forage fish (Table 1). Juvenile salmon were not caught at this site. The most abundant fish species was shiner perch with a catch of 2,412 fish, present in 50.0% of the beach seine sets. They accounted for 79.4% of the total catch.

At Margos Lagoon we caught a total of 1,515 fish from 9 different species or species groupings over the two-year study period, including one species of forage fish (Table 2). Juvenile salmon were not caught at this site. The most abundant fish species was shiner perch with a catch of 1,404 fish, present in 22.2% of the beach seine sets. They accounted for 92.7% 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>

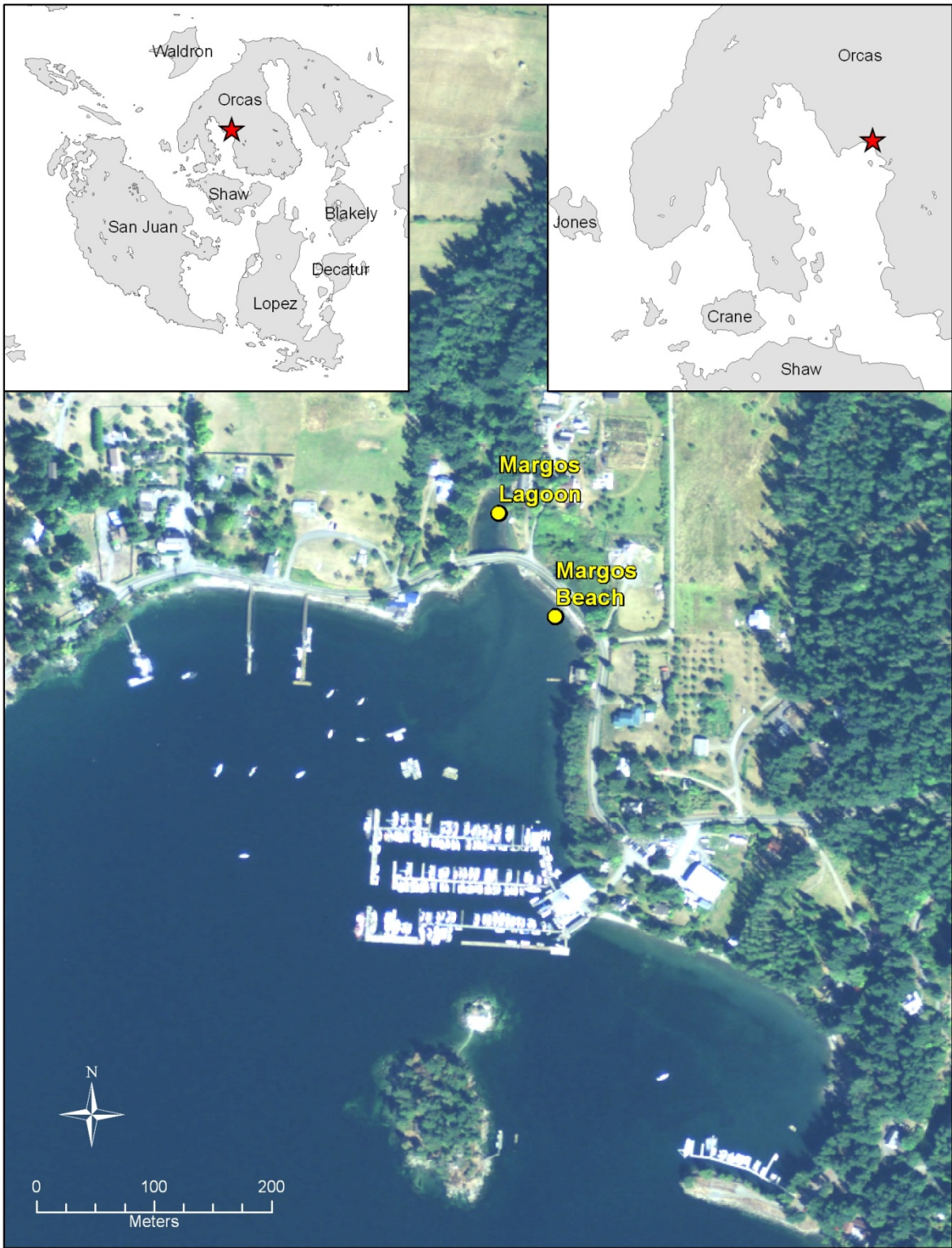


Figure 1. Location of Margos Beach and Margos Lagoon beach seine sites.

Table 1. Fish catch summary for Margos 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	Unidentified flatfish species	O/U FLAT	1	0.04	3.8%
		Parophrys vetulus	English sole	ENG SOLE	4	0.15	11.5%
		Platichthys stellatus	Starry flounder	STARRY	29	1.12	46.2%
Forage fishes	Clupeidae	Clupea pallasii adult body form	Pacific herring, adult body form	HERR a	1	0.04	3.8%
	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	8	0.31	11.5%
		Hypomesus pretiosus adult body form	Surf smelt, adult body form	SMELT a	35	1.35	7.7%
Gunnels and Pricklebacks	Pholidae	Pholis ornata	Saddleback gunnel	SADLBCK GUNL	1	0.04	3.8%
Other - marine	Gobiidae	Clevelandia ios	Arrow goby	ARROW GOBI	50	1.92	34.6%
	Syngnathidae	Syngnathus griseolineatus	Bay pipefish	PIPEFISH	2	0.08	7.7%
Sculpins	Cottidae	Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	14	0.54	19.2%
		Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	46	1.77	42.3%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	422	16.23	80.8%
Sea perches	Embiotocidae	Cymatogaster aggregata	Shiner perch	SHINER	2,412	92.77	50.0%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	13	0.50	23.1%

Table 2. Fish catch summary for Margos Lagoon 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	0.11	11.1%
		Platichthys stellatus	Starry flounder	STARRY	5	0.56	44.4%
Forage fishes	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	7	0.78	22.2%
Gunnels and Pricklebacks	Pholidae	Pholis ornata	Saddleback gunnel	SADLBCK GUNL	1	0.11	11.1%
Other - marine	Gobiidae	Clevelandia ios	Arrow goby	ARROW GOBI	1	0.11	11.1%
Sculpins	Cottidae	Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	2	0.22	22.2%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	13	1.44	44.4%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	81	9.00	66.7%
Sea perches	Embiotocidae	Cymatogaster aggregata	Shiner perch	SHINER	1,404	156.00	22.2%