

Summary of Fish Catch Results for Mail Bay, 2008 and 2009

Skagit River System Cooperative Research Program

December 2012

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

Mail Bay is located on the east side of Waldron Island within the San Juan Islands (Figure 1). Large net beach seines were primarily used at Mail Bay (along with two small net beach seine sets) after methods described in Skagit System Cooperative Research Department (2003). We made 14 beach seine sets over the two-year study period. Beach seining occurred monthly from April through September in 2008 and March through October in 2009.

The beach seine site within Mail Bay consisted of sand substrate, usually without vegetative cover (such as eelgrass, kelp or other macro algae). Average maximum water depth was 1.45 meters deep and average salinity was 28.0 parts per thousand within the area seined. Water temperature varied by month, but ranged from a low of 7.7 °C in March 2009 to a high of 15.3 °C in July 2008. After the summer highs, water temperatures cooled by the end of the seining season to 12.1 °C in 2008 and 10.8 °C in 2009.

We caught a total of 24,328 fish from 26 different species or species groupings over the two-year study period, including four species of juvenile salmon and two species of forage fish (Table 1). The most abundant fish species was subyearling chum salmon with a total catch of 13,034 fish, present in 31.3 % of the beach seine sets. We kept count of Dungeness crab (36) 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>

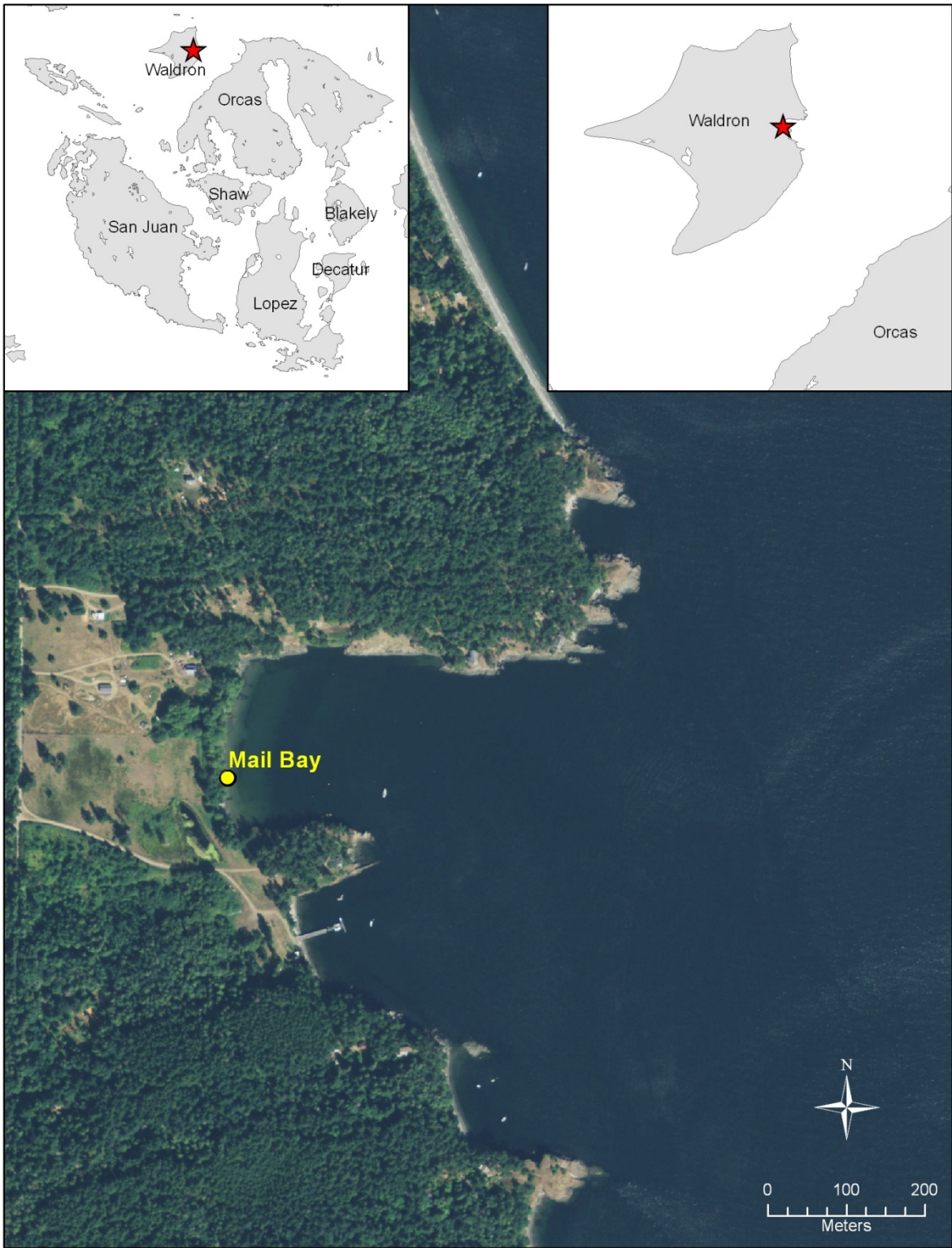


Figure 1. Location of Mail Bay beach seine site.

Table 1. Fish catch summary for Mail Bay 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	36	2.25	31.3%
Flatfish	Pleuronectiformes	Platichthys stellatus	Starry flounder	STARRY	104	6.50	68.8%
		Other or unknown flatfish	Unidentified flatfish species	O/U FLAT	357	22.31	6.3%
		Other or unknown flatfish post larval	Unidentified post larval flatfish species	O/U FLAT pl	1484	92.75	12.5%
		Parophrys vetulus	English sole	ENG SOLE	1850	115.63	75.0%
Forage fishes	Ammodytidae	Ammodytes hexapterus adult body form	Pacific sand lance, adult body form	LANCE a	27	1.69	18.8%
	Clupeidae	Clupea pallasii adult body form	Pacific herring, adult body form	HERR a	1	0.06	6.3%
Greenlings/lingcod	Hexagrammidae	Hexagrammos spp	Unidentified greenling species	O/U GREEN-LING	70	4.38	12.5%
Gunnels and Pricklebacks	Pholidae	Pholis ornata	Saddleback gunnel	SADLBCK GUNL	3	0.19	18.8%
		Pholis laeta	Crescent gunnel	CRES GUNL	6	0.38	12.5%
		Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	66	4.13	31.3%
	Stichaeidae	Lumpenus sagitta	Snake prickleback	SNAKE	4	0.25	6.3%
Other - marine	Agonidae	Agonus acipenserinus	Sturgeon poacher	STUR POACHER	2	0.13	6.3%
	Syngnathidae	Syngnathus griseolineatus	Bay pipefish	PIPEFISH	1	0.06	6.3%
Pacific salmon	Salmonidae	Oncorhynchus tshawytscha age 0+ no external mark	Chinook salmon, wild subyearling	CK 0+ nem	22	1.38	18.8%
		Oncorhynchus kisutch age 0+	Coho salmon, subyearling	CO 0+	2	0.13	6.3%
		Oncorhynchus kisutch age 1+ no external mark	Coho salmon, wild yearling	CO 1+ nem	1	0.06	6.3%
		Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	13034	814.63	31.3%
		Oncorhynchus gorbuscha 0+	Pink salmon, subyearling	PK 0+	375	23.44	12.5%
Sculpins	Cottidae	Clinocottus acuticeps	Sharpnose sculpin	SHARP-NOSE	1	0.06	6.3%
		Enophrys bison	Buffalo sculpin	BUFF	2	0.13	6.3%
		Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	2	0.13	12.5%
		Artedius fenestralis	Padded sculpin	PADD SCULP	2	0.13	12.5%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	365	22.81	37.5%

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		Leptocottus armatus	Pacific staghorn sculpin	STAG	2992	187.00	87.5%
Sea perches	Embiotocidae	Embiotoca lateralis	Striped seaperch	STRIPED	1	0.06	6.3%
		Cymatogaster aggregata	Shiner perch	SHINER	3549	221.81	56.3%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	4	0.25	6.3%
True cods	Gadidae	Gadus macrocephalus	Pacific cod	PACIFIC COD	1	0.06	6.3%