Summary of Fish Catch Results for Mud Bay, 2009

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at Mud 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*.

Mud Bay is located on the southeast side of Lopez Island within the San Juan Islands (Figure 1). Large and small net beach seines were used after methods described in Skagit System Cooperative Research Department (2003). Twelve sets (7 large and 5 small net sets) were made during the one-year study period. Beach seining at Mud Bay occurred in April and then monthly from June through October 2009.

The beach seine site varied from mixed fines to gravel to mixed coarse substrate, usually without any vegetative cover within the set area (such such as eelgrass, kelp or other macro algae). The average maximum water depth was 1.73 meters; the average salinity within the area seined was 28.7 parts per thousand. The water temperature varied by month, ranging from an average low of 11.1 °C in April to a high of 17.2 °C in July. By the end of the sampling period in October the water temperature had cooled down to 12.2 °C.

At Mud Bay we caught a total of 5,032 fish from 20 different species or species groupings over the one-year study period, including one species of juvenile salmon and three species of forage fish (Table 1). The most abundant fish species was shiner perch with a catch of 2,881 fish, present in 58.3% of beach seine sets. They accounted for 57.3% of the total catch at this site. We kept count of Dungeness crab (76) and red rock crab (2) 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

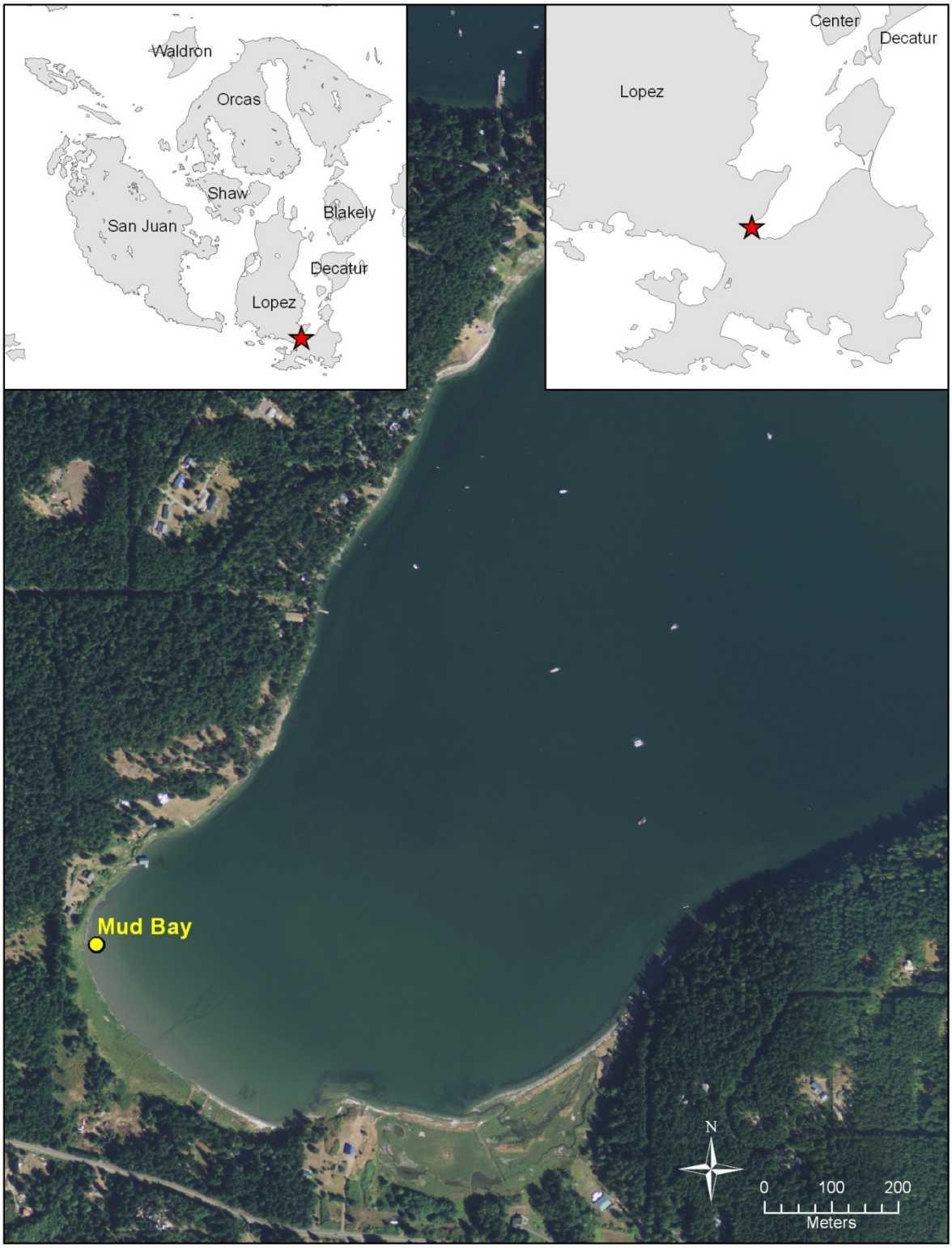

Figure 1. Location of Mud Bay beach seine site.

Table 1. Fish catch summary for Mud Bay beach seining, 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	2	0.17	8.3%
		Cancer magister >6.5"	Dungeness crab, legal size	DUNGI legal	4	0.33	25.0%
		Cancer magister <6.5"	Dungeness crab, sublegal size	DUNGI small	72	6.00	58.3%
Flatfish	Pleuronecti-formes	Platichthys stellatus	Starry flounder	STARRY	30	2.50	58.3%
		Parophrys vetulus	English sole	ENG SOLE	74	6.17	66.7%
Forage fishes	Ammodytidae	Ammodytes hexapterus adult body form	Pacific sand lance, adult body form	LANCE a	53	4.42	25.0%
	Clupeidae	Clupea pallasii adult body form	Pacific herring, adult body form	HERR a	101	8.42	25.0%
	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	55	4.58	41.7%
		Hypomesus pretiosus adult body form	Surf smelt, adult body form	SMELT a	218	18.17	33.3%
Greenlings/ lingcod	Hexagrammidae	Hexagrammos stelleri	Whitespot greenling	WHITESPOT GR	3	0.25	16.7%
Gunnels and Pricklebacks	Pholidae	Pholis laeta	Crescent gunnel	CRES GUNL	3	0.25	16.7%
	Pholidae	Pholis ornata	Saddleback gunnel	SADLBCK GUNL	7	0.58	41.7%
	Stichaeidae	Lumpenus sagitta	Snake prickleback	SNAKE	1402	116.83	58.3%
Other - marine	Aulorhynchidae	Aulorhynchus flavidus	Tubesnout	TUBESNT	11	0.92	25.0%
Other - marine	Syngnathidae	Syngnathus griseolineatus	Bay pipefish	PIPEFISH	2	0.17	16.7%
Pacific salmon	Salmonidae	Oncorhynchus tshawytscha age 0+ external mark	Chinook salmon, hatchery marked subyearling	CK 0+ em	1	0.08	8.3%
		Oncorhynchus tshawytscha age 0+ no external mark	Chinook salmon, wild subyearling	CK 0+ nem	1	0.08	8.3%
Sculpins	Cottidae	Artedius fenestralis	Padded sculpin	PADD SCULP	1	0.08	8.3%
		Gilbertidia sigalutes	Soft sculpin	SOFT SCULP	1	0.08	8.3%
		Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	2	0.17	16.7%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	2	0.17	16.7%
		Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	5	0.42	16.7%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	159	13.25	100.0%

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Sea perches	Embiotocidae	Cymatogaster aggregata	Shiner perch	SHINER	2881	240.08	58.3%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	20	1.67	41.7%