

# Summary of Fish Catch Results for Mosquito Pass Spit, 2008 and 2009

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at Mosquito Pass Spit 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*.

Mosquito Pass Spit is located on the east side of Henry Island within the San Juan Islands (Figure 1). Small net beach seines were used at Mosquito Pass Spit 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 from March through September in both 2008 and 2009.

The beach seine site at Mosquito Pass Spit varied from sand to gravel to mixed coarse substrate, usually without vegetative cover (such as eelgrass, kelp or other macro algae). The average maximum water depth was 0.82 meters and the average salinity was 31.6 parts per thousand. The surface water temperature varied by month, and ranged from a low of 8.1 °C in April 2008 to a high of 16.0 °C in June 2009.

At Mosquito Pass Spit we caught a total of 940 fish from 22 different species or species groupings over the two-year study period, including two species of juvenile salmon. Forage fish were not caught (Table 1). The most abundant fish species was Pacific staghorn sculpin with a catch of 526 fish, present in 92.3% of beach seine sets. They accounted for 56.0% 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 Mosquito Pass Spit beach seine site.

Table 1. Fish catch summary for Mosquito Pass Spit 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 magister <6.5"	Dungeness crab, sublegal size	DUNGI small	2	0.08	3.8%
Flatfish	Pleuronectiformes	Other or unknown flatfish post larval	Unidentified post larval flatfish species	O/U FLAT pl	1	0.04	3.8%
		Other or unknown flatfish	Unidentified flatfish species	O/U FLAT	8	0.31	15.4%
		Isopsetta isolepis	Butter sole	BUTTER SOLE	5	0.19	7.7%
		Platichthys stellatus	Starry flounder	STARRY	14	0.54	26.9%
		Parophrys vetulus	English sole	ENG SOLE	34	1.31	26.9%
Greenlings/lingcod	Hexagrammidae	Hexagrammos spp	Unidentified greenling species	O/U GREENLING	14	0.54	7.7%
Gunnels and Pricklebacks	Pholidae	Pholis laeta	Crescent gunnel	CRES GUNL	1	0.04	3.8%
		Pholis ornata	Saddleback gunnel	SADLBCK GUNL	7	0.27	15.4%
		Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	15	0.58	15.4%
		Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	42	1.62	26.9%
	Stichaeidae	Lumpenus sagitta	Snake prickleback	SNAKE	11	0.42	3.8%
Pacific salmon	Salmonidae	Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	6	0.23	11.5%
		Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	11	0.42	3.8%
Sculpins	Cottidae	Enophrys bison	Buffalo sculpin	BUFF	1	0.04	3.8%
		Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	47	1.81	15.4%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	56	2.15	26.9%
		Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	65	2.50	34.6%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	526	20.23	92.3%
	Liparidae	Snailfish spp	Unidentified snailfish species	SNAILFISH	6	0.23	3.8%
Sea perches	Embiotocidae	Cymatogaster aggregata	Shiner perch	SHINER	55	2.12	7.7%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	9	0.35	30.8%

Assemblage Groupings	Taxonomic group	Genus species, age & mark	Common name	Species abbreviation	Total catch	Catch per set	Frequency in catch
True cods	Gadidae	Other or unknown Cod	Unidentified true cod species	O/U COD	1	0.04	3.8%
		Microgadus proximus	Pacific tomcod	TOMCOD	5	0.19	7.7%