

Summary of Fish Catch Results for Griffin Bay Beach, 2008 and 2009

Skagit River System Cooperative Research Program

December 2012

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

Griffin Bay Beach is located on the southeast side of San Juan Island within the San Juan Islands (Figure 1). Small net beach seines were used at Griffin Bay Beach 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 March through September in 2008 (except in June), and monthly April through October in 2009.

The beach seine site within Griffin Bay Beach consisted primarily of sand to mixed coarse with cobble substrate, usually with eelgrass and algae mixture (50% of the time) or without vegetative cover (36% of the time). Average maximum water depth was 1.43 meters deep and average salinity was 31.3 parts per thousand within the area seined. Water temperatures varied by month, but ranged from a low of 7.9 °C in March 2008 to a high of 15.8 °C in May 2009.

We caught a total of 1,608 fish from 28 different species or species groupings over the two-year study period, including two species of juvenile salmon and two species of forage fish (Table 1). The most abundant fish species was sharpnose sculpin with a catch of 306 fish, present in 71.4 % of the beach seine sets. We kept count of Dungeness crab (6) 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 Griffin Bay Beach beach seine site.

Table 1. Fish catch summary for Griffin Bay 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
Crabs and shrimp	Cancriidae	Cancer magister <6.5"	Dungeness crab, sublegal size	DUNGI small	6	0.43	21.4%
Flatfish	Pleuronectiformes	Platichthys stellatus	Starry flounder	STARRY	20	1.43	35.7%
		Parophrys vetulus	English sole	ENG SOLE	31	2.21	35.7%
Forage fishes	Ammodytidae	Ammodytes hexapterus post larval	Pacific sand lance, post larval juvenile	LANCE pl	2	0.14	7.1%
		Ammodytes hexapterus adult body form	Pacific sand lance, adult body form	LANCE a	10	0.71	21.4%
	Osmeridae	Hypomesus pretiosus adult body form	Surf smelt, adult body form	SMELT a	27	1.93	7.1%
		Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	51	3.64	7.1%
Greenlings/lingcod	Hexagrammidae	Hexagrammos stelleri	Whitespot greenling	WHITESPOT GR	10	0.71	21.4%
		Hexagrammos spp	Unidentified greenling species	O/U GREENLING	29	2.07	35.7%
Gunnels and Pricklebacks	Pholidae	Pholis laeta	Crescent gunnel	CRES GUNL	30	2.14	35.7%
		Pholis ornata	Saddleback gunnel	SADLBCK GUNL	135	9.64	35.7%
		Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	148	10.57	14.3%
		Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	250	17.86	35.7%
	Stichaeidae	Lumpenus sagitta	Snake prickleback	SNAKE	17	1.21	21.4%
Other - marine	Agonidae	Other or unknown Agonid	Unidentified poacher species	O/U POACHER	1	0.07	7.1%
	Aulorhynchidae	Aulorhynchus flavidus	Tubesnout	TUBESNT	9	0.64	14.3%
	Syngnathidae	Syngnathus griseolineatus	Bay pipefish	PIPEFISH	25	1.79	35.7%
Pacific salmon	Salmonidae	Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	5	0.36	14.3%
		Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	5	0.36	7.1%
Sculpins	Cottidae	Blepsias cirrhosus	Silverspotted sculpin	SILVER SPOT SC	3	0.21	7.1%
		Gilbertidia sigalutes	Soft sculpin	SOFT SCULP	6	0.43	14.3%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	28	2.00	21.4%
		Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	75	5.36	64.3%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	286	20.43	71.4%
		Clinocottus acuticeps	Sharpnose sculpin	SHARPNOSE	306	21.86	71.4%
	Liparidae	Snailfish spp	Unidentified snailfish species	SNAILFISH	1	0.07	7.1%

Assemblage Groupings	Taxonomic group	Genus species, age & mark	Common name	Species abbreviation	Total catch	Catch per set	Frequency in catch
Sea perches	Embiotocidae	Embiotoca lateralis	Striped seaperch	STRIPED	2	0.14	14.3%
		Cymatogaster aggregata	Shiner perch	SHINER	30	2.14	35.7%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	47	3.36	50.0%
True cods	Gadidae	Microgadus proximus	Pacific tomcod	TOMCOD	3	0.21	14.3%
		Other or unknown Cod	Unidentified true cod species	O/U COD	16	1.14	14.3%