

# Summary of Fish Catch Results for Olga, 2008 and 2009

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at Olga 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*.

Olga is located on the southeast side of East Sound on Orcas Island within the San Juan Islands (Figure 1). Large and small net beach seines were used at Olga after methods described in Skagit System Cooperative Research Department (2003). We made 15 beach seine sets (11 large net and 4 small net sets) over the two-year study period. Beach seining occurred monthly April through September 2008 and March through October 2009.

The beach seine site at Olga varied from sand to gravel to mixed coarse to cobble substrate, usually without any vegetative cover (80% of the time). Average maximum water depth was 2.16 meters and average salinity was 30.6 parts per thousand within the area seined. The water temperature varied by month, ranging from a low of 7.1 °C in March 2009 to a high of 18.1 °C in July 2009. By the end of the sampling period in each year, the water temperatures cooled to 12.3 °C and 12.5 °C in September 2008 and October 2009, respectively.

At Olga we caught a total of 2,034 fish from 35 different species or species groupings over the two-year study period, including three species of juvenile salmon and three species of forage fish (Table 1). The most abundant fish species was shiner perch with a catch of 1,041 fish, present in 60.0% of beach seine sets. They accounted for 51.2% 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 Olga beach seine site.

Table 1. Fish catch summary for Olga 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	Varunidae	Hemigrapsus nudus	Shore crab	SHORE CRAB	1	0.07	6.7%
Forage fishes	Ammodytidae	Ammodytes hexapterus adult body form	Pacific sand lance, adult body form	LANCE a	149	9.93	6.7%
	Clupeidae	Clupea pallasii adult body form	Pacific herring, adult body form	HERR a	93	6.20	33.3%
	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	1	0.07	6.7%
		Hypomesus pretiosus adult body form	Surf smelt, adult body form	SMELT a	3	0.20	13.3%
Greenlings/lingcod	Hexagrammidae	Hexagrammos stelleri	Whitespot greenling	WHITESPOT GR	25	1.67	26.7%
		Hexagrammos spp	Unidentified greenling species	O/U GREENLING	30	2.00	33.3%
		Ophiodon elongatus	Lingcod	LINGCOD	274	18.27	20.0%
Gunnels and Pricklebacks	Pholidae	Pholis ornata	Saddleback gunnel	SADLBCK GUNL	1	0.07	6.7%
		Apodichthys flavidus	Penpoint gunnel	PENPT GUNL	16	1.07	33.3%
		Unidentified Gunnel Species	Unidentified gunnel species	GUNNEL	19	1.27	26.7%
		Pholis laeta	Crescent gunnel	CRES GUNL	31	2.07	33.3%
	Stichaeidae	Lumpenus sagitta	Snake prickleback	SNAKE	8	0.53	20.0%
Other - marine	Agonidae	Other or unknown Agonid	Unidentified poacher species	O/U POACHER	2	0.13	13.3%
	Cyclopteridae	Eumicrotremus orbis	Pacific spiny lumpsucker	LUMP	1	0.07	6.7%
	Syngnathidae	Syngnathus griseolineatus	Bay pipefish	PIPEFISH	2	0.13	13.3%
Pacific salmon	Salmonidae	Oncorhynchus tshawytscha age 0+ no external mark	Chinook salmon, wild subyearling	CK 0+ nem	3	0.20	13.3%
		Oncorhynchus tshawytscha age 0+ external mark	Chinook salmon, hatchery marked subyearling	CK 0+ em	11	0.73	33.3%
		Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	2	0.13	13.3%
		Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	3	0.20	6.7%
Rockfish	Scorpaenidae	Other or unknown Scorpaenids	Unidentified rockfish species	O/U ROCKFISH	3	0.20	13.3%
Sculpins	Cottidae	Artedius corallinus	Coralline sculpin	CORALLINE SCULP	1	0.07	6.7%
		Enophrys bison	Buffalo sculpin	BUFF	2	0.13	13.3%
		Blepsias cirrhosus	Silverspotted sculpin	SILVER SPOT SC	4	0.27	20.0%
		Leptocottus armatus	Pacific staghorn sculpin	STAG	5	0.33	20.0%
		Artedius fenestralis	Padded sculpin	PADD SCULP	6	0.40	20.0%
		Myoxocephalus polyacanthocephalus	Great sculpin	GRT SCULP	9	0.60	33.3%

Assemblage Groupings	Taxonomic group	Genus species, age & mark	Common name	Species abbreviation	Total catch	Catch per set	Frequency in catch
Sculpins	Cottidae	<i>Gilbertidia sigalutes</i>	Soft sculpin	SOFT SCULP	10	0.67	6.7%
		Other or unknown Cottid	Unidentified sculpin species	O/U SCULP	24	1.60	33.3%
		<i>Clinocottus acuticeps</i>	Sharpnose sculpin	SHARPNOSE	153	10.20	73.3%
	Hemitripteridae	<i>Nautichthys oculofasciatus</i>	Sailfin sculpin	SAILFIN	1	0.07	6.7%
Sea perches	Embiotocidae	<i>Rhacochilus vacca</i>	Pile perch	PILE PERCH	1	0.07	6.7%
		<i>Embiotoca lateralis</i>	Striped seaperch	STRIPED	11	0.73	20.0%
		<i>Brachyistius frenatus</i>	Kelp perch	KELP PERCH	14	0.93	33.3%
		<i>Cymatogaster aggregata</i>	Shiner perch	SHINER	1041	69.40	60.0%
Sticklebacks	Gasterosteidae	<i>Gasterosteus aculeatus</i>	Three spined stickleback	STICKL	43	2.87	13.3%
True cods	Gadidae	Other or unknown Cod	Unidentified true cod species	O/U COD	1	0.07	6.7%
		<i>Microgadus proximus</i>	Pacific tomcod	TOMCOD	31	2.07	33.3%