

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

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at Open 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*.

Open Bay Beach is located on the south side of Henry Island within the San Juan Islands (Figure 1). Large net beach seines were used at Open 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 2008 and April through October 2009.

The beach seine site at Open Bay Beach varied from sand to gravel to mixed coarse to cobble substrate. The vegetative cover varied from mixed algae and eelgrass (43% of the time) to detritus (29% of the time) to no vegetative cover (29% of the time). The average maximum water depth was 1.81 meters and the average salinity was 31.2 parts per thousand within the area seined. The water temperature varied by month, ranging from a low of 8.1 °C in March 2008 to a high of 13.9 °C in September 2009.

At Open Bay Beach we caught a total of 3,597 fish from 37 different species or species groupings over the two-year study period, including two species of juvenile salmon and three species of forage fish (Table 1). The most abundant fish species was Pacific staghorn sculpin with a catch of 1,052 fish, present in 92.9% of the beach seine sets. They accounted for 29.2% of the total catch. We kept count of Dungeness crab (218) 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>

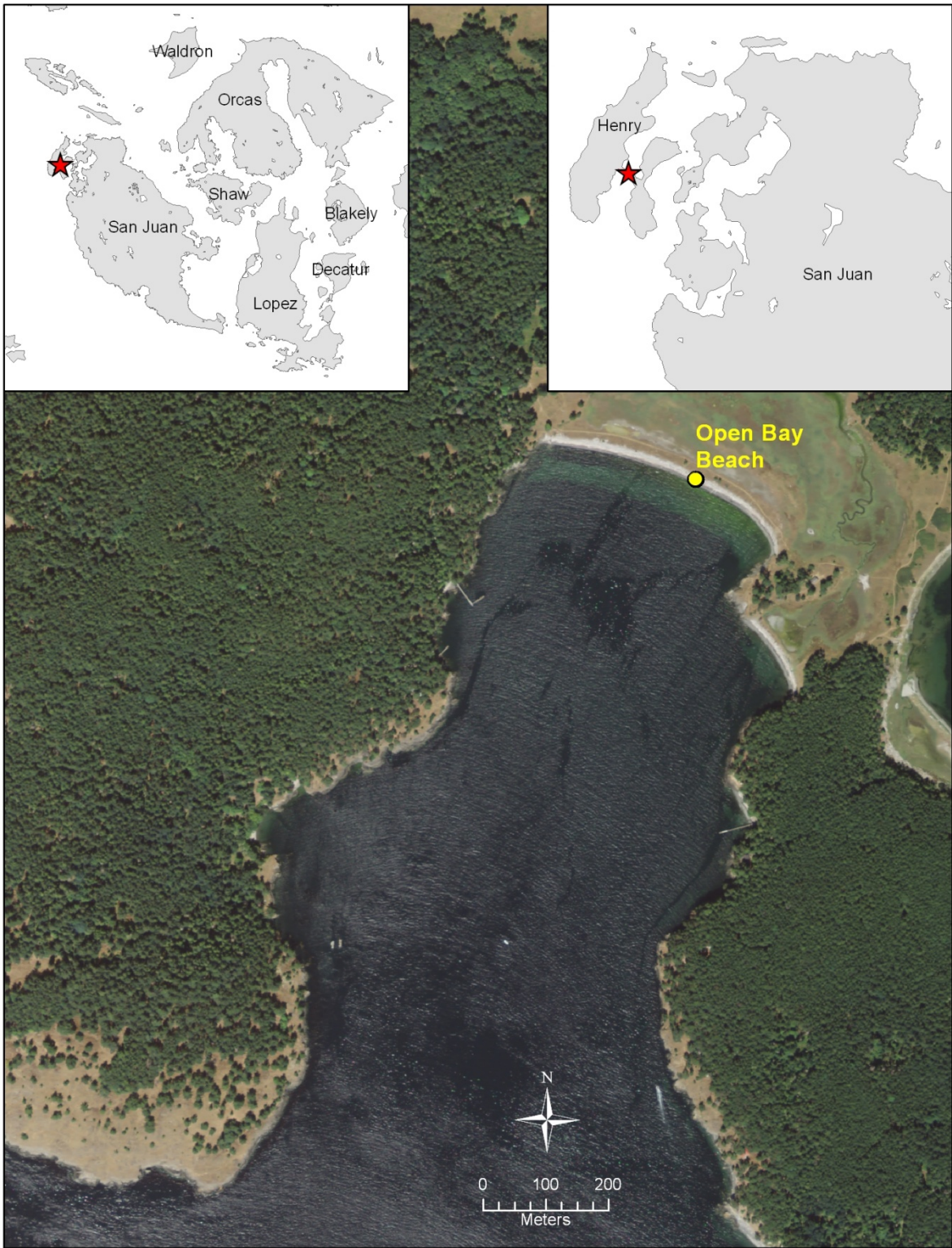


Figure 1. Location of Open Bay Beach beach seine site.

Table 1. Fish catch summary for Open 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 | Cancridae | Cancer magister >6.5" | Dungeness crab, legal size | DUNGI legal | 3 | 0.21 | 7.1% |
| | | Cancer magister <6.5" | Dungeness crab, sublegal size | DUNGI small | 215 | 15.36 | 57.1% |
| Flatfish | Pleuronectiformes | Other or unknown flatfish post larval | Unidentified post larval flatfish species | O/U FLAT pl | 1 | 0.07 | 7.1% |
| | | Other or unknown flatfish | Unidentified flatfish species | O/U FLAT | 453 | 32.36 | 42.9% |
| | | Platichthys stellatus | Starry flounder | STARRY | 11 | 0.79 | 57.1% |
| | | Isopsetta isolepis | Butter sole | BUTTER SOLE | 23 | 1.64 | 14.3% |
| | | Parophrys vetulus | English sole | ENG SOLE | 977 | 69.79 | 71.4% |
| Forage fishes | Ammodytidae | Ammodytes hexapterus adult body form | Pacific sand lance, adult body form | LANCE a | 1 | 0.07 | 7.1% |
| | | Ammodytes hexapterus post larval | Pacific sand lance, post larval juvenile | LANCE pl | 1 | 0.07 | 7.1% |
| | Clupeidae | Clupea pallasii adult body form | Pacific herring, adult body form | HERR a | 92 | 6.57 | 14.3% |
| | Osmeridae | Hypomesus pretiosus post larval | Surf smelt, post larval juvenile | SMELT pl | 1 | 0.07 | 7.1% |
| | | Hypomesus pretiosus adult body form | Surf smelt, adult body form | SMELT a | 34 | 2.43 | 7.1% |
| Greenlings/lingcod | Hexagrammidae | Ophiodon elongatus | Lingcod | LINGCOD | 1 | 0.07 | 7.1% |
| | | Hexagrammos stelleri | Whitespot greenling | WHITESPOT GR | 16 | 1.14 | 28.6% |
| | | Hexagrammos spp | Unidentified greenling species | O/U GREENLING | 124 | 8.86 | 50.0% |
| Gunnels and Pricklebacks | Pholidae | Pholis laeta | Crescent gunnel | CRES GUNL | 32 | 2.29 | 42.9% |
| | | Pholis ornata | Saddleback gunnel | SADLBCK GUNL | 56 | 4.00 | 28.6% |
| | | Unidentified Gunnel Species | Unidentified gunnel species | GUNNEL | 92 | 6.57 | 35.7% |
| | | Apodichthys flavidus | Penpoint gunnel | PENPT GUNL | 114 | 8.14 | 50.0% |
| | Stichaeidae | Lumpenus sagitta | Snake prickleback | SNAKE | 24 | 1.71 | 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 | 6 | 0.43 | 21.4% |
| | Syngnathidae | Syngnathus griseolineatus | Bay pipefish | PIPEFISH | 10 | 0.71 | 50.0% |
| Pacific salmon | Salmonidae | Oncorhynchus gorbuscha age 0+ | Pink salmon, subyearling | PK 0+ | 5 | 0.36 | 7.1% |
| | | Oncorhynchus keta age 0+ | Chum salmon, subyearling | CH 0+ | 12 | 0.86 | 14.3% |

| Assemblage Groupings | Taxonomic group | Genus species, age & mark | Common name | Species abbreviation | Total catch | Catch per set | Frequency in catch |
|----------------------|-----------------|-----------------------------------|--------------------------------|----------------------|-------------|---------------|--------------------|
| Sculpins | Cottidae | Synchirus gilli | Manacled sculpin | MANACLED SCULP | 1 | 0.07 | 7.1% |
| | | Hemilepidotus hemilepidotus | Red Irish lord | RED IRISH LORD | 1 | 0.07 | 7.1% |
| | | Arteidius fenestralis | Padded sculpin | PADD SCULP | 3 | 0.21 | 7.1% |
| | | Clinocottus acuticeps | Sharpnose sculpin | SHARPNOSE | 7 | 0.50 | 28.6% |
| | | Gilbertidia sigalutes | Soft sculpin | SOFT SCULP | 15 | 1.07 | 21.4% |
| | | Myoxocephalus polyacanthocephalus | Great sculpin | GRT SCULP | 21 | 1.50 | 35.7% |
| | | Blepsias cirrhosus | Silverspotted sculpin | SILVER SPOT SC | 31 | 2.21 | 35.7% |
| | | Other or unknown Cottid | Unidentified sculpin species | O/U SCULP | 293 | 20.93 | 35.7% |
| | | Leptocottus armatus | Pacific staghorn sculpin | STAG | 1052 | 75.14 | 92.9% |
| | Hemitripteridae | Nautichthys oculofasciatus | Sailfin sculpin | SAILFIN | 14 | 1.00 | 28.6% |
| | Liparidae | Snailfish spp | Unidentified snailfish species | SNAILFISH | 5 | 0.36 | 28.6% |
| Sea perches | Embiotocidae | Brachyistius frenatus | Kelp perch | KELP PERCH | 1 | 0.07 | 7.1% |
| | | Cymatogaster aggregata | Shiner perch | SHINER | 37 | 2.64 | 21.4% |
| Sticklebacks | Gasterosteidae | Gasterosteus aculeatus | Three spined stickleback | STICKL | 18 | 1.29 | 28.6% |
| True cods | Gadidae | Microgadus proximus | Pacific tomcod | TOMCOD | 2 | 0.14 | 14.3% |
| | | Theragra chalcogramma | Alaska pollock | POLLOCK | 3 | 0.21 | 7.1% |
| | | Other or unknown Cod | Unidentified true cod species | O/U COD | 6 | 0.43 | 7.1% |