

# Summary of Fish Catch Results for Rocky Bay, 2008 and 2009

Skagit River System Cooperative Research Program

January 2013

Beach seine sampling for fish was conducted at Rocky 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*.

Rocky Bay is located along San Juan Channel on the northeast side of San Juan Island within the San Juan Islands (Figure 1). Small net beach seines were used at Rocky Bay after methods described in Skagit System Cooperative Research Department (2003). We made 24 beach seine sets over the two-year study period. Beach seining occurred monthly March through September in both 2008 and 2009.

The beach seine site at Rocky Bay varied from gravel to mixed coarse substrate. The dominant vegetative cover varied from green, brown or mixed algae (38% of the time) to kelp (8% of the time); there was no vegetative cover 54% of the time. The average maximum water depth was 0.82 meters and the average salinity was 28.7 parts per thousand within the area seined. The water temperature varied by month, ranging from a low of 7.6 °C in March 2008 to a high of 13.8 °C in May 2009. At the end of the sampling period in September both years, the water temperature was around 12 °C.

At Rocky Bay we caught a total of 1,844 fish from 23 different species or species groupings over the two-year study period, including three species of juvenile salmon and one species of forage fish (Table 1). The most abundant fish species was subyearling chum salmon with a catch of 637 fish, present in 41.7% of the beach seine sets. They accounted for 34.5% 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>

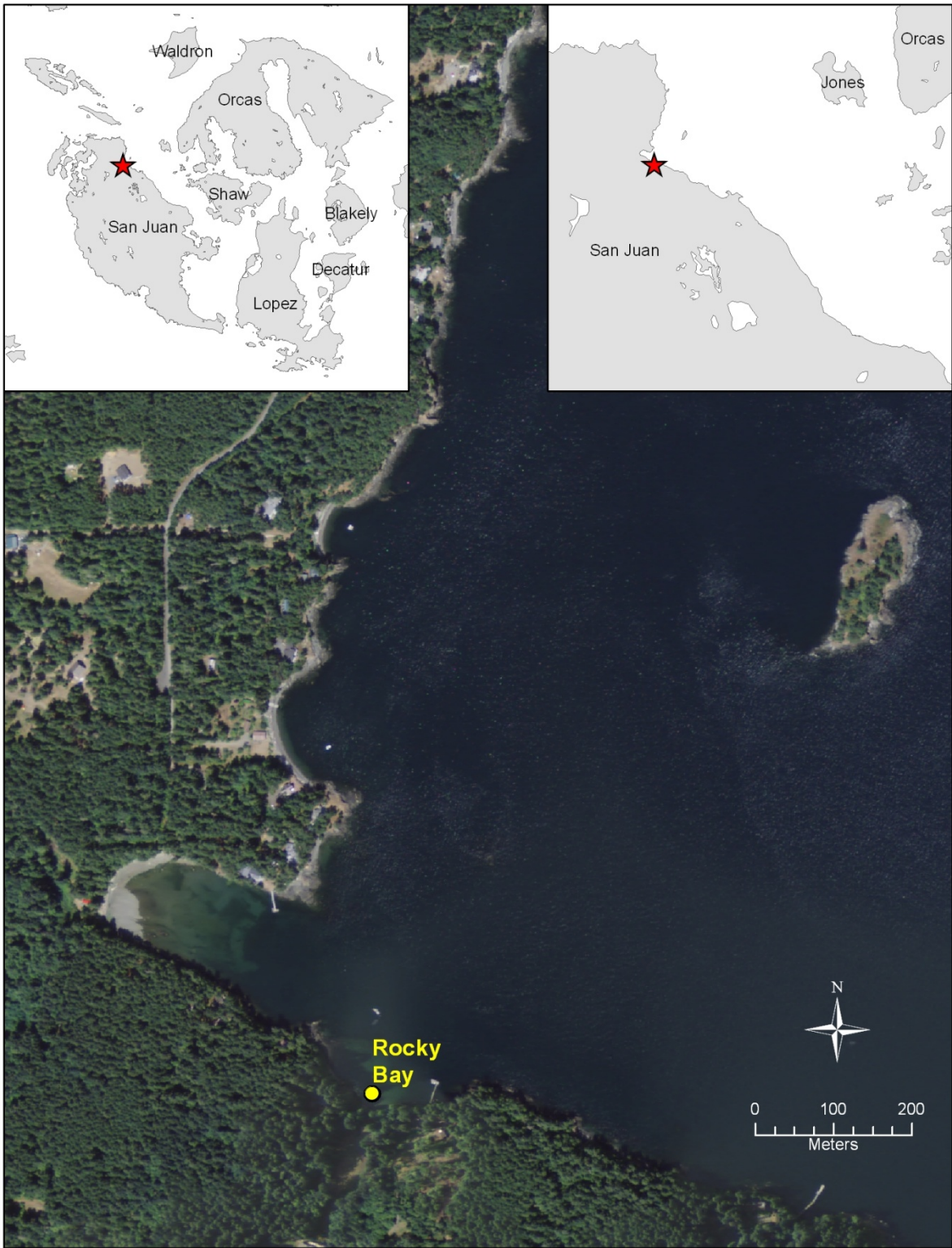


Figure 1. Location of Rocky Bay beach seine site.

Table 1. Fish catch summary for Rocky Bay 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 |
|--------------------------|-----------------|--|----------------------------------|----------------------|-------------|---------------|--------------------|
| Forage fishes            | Osmeridae       | Hypomesus pretiosus adult body form              | Surf smelt, adult body form      | SMELT a              | 1           | 0.04          | 4.2%               |
| Greenlings/<br>lingcod   | Hexagrammidae   | Ophiodon elongatus                               | Lingcod                          | LINGCOD              | 3           | 0.13          | 12.5%              |
|                          |                 | Hexagrammos stelleri                             | Whitespot greenling              | WHITESPOT GR         | 14          | 0.58          | 20.8%              |
|                          |                 | Hexagrammos spp                                  | Unidentified greenling species   | O/U GREENLING        | 30          | 1.25          | 16.7%              |
| Gunnels and Pricklebacks | Pholidae        | Pholis laeta                                     | Crescent gunnel                  | CRES GUNL            | 9           | 0.38          | 12.5%              |
|                          |                 | Unidentified Gunnel Species                      | Unidentified gunnel species      | GUNNEL               | 24          | 1.00          | 20.8%              |
|                          |                 | Apodichthys flavidus                             | Penpoint gunnel                  | PENPT GUNL           | 25          | 1.04          | 33.3%              |
|                          |                 | Pholis ornata                                    | Saddleback gunnel                | SADLBCK GUNL         | 28          | 1.17          | 54.2%              |
|                          | Stichaeidae     | Lumpenus sagitta                                 | Snake prickleback                | SNAKE                | 2           | 0.08          | 4.2%               |
| Pacific salmon           | Salmonidae      | Oncorhynchus tshawytscha age 0+ no external mark | Chinook salmon, wild subyearling | CK 0+ nem            | 1           | 0.04          | 4.2%               |
|                          |                 | Oncorhynchus gorbuscha age 0+                    | Pink salmon, subyearling         | PK 0+                | 573         | 23.88         | 20.8%              |
|                          |                 | Oncorhynchus keta age 0+                         | Chum salmon, subyearling         | CH 0+                | 637         | 26.54         | 41.7%              |
| Sculpins                 | Cottidae        | Blepsias cirrhosus                               | Silverspotted sculpin            | SILVER SPOT SC       | 1           | 0.04          | 4.2%               |
|                          |                 | Enophrys bison                                   | Buffalo sculpin                  | BUFF                 | 3           | 0.13          | 4.2%               |
|                          |                 | Artedius fenestralis                             | Padded sculpin                   | PADD SCULP           | 6           | 0.25          | 20.8%              |
|                          |                 | Leptocottus armatus                              | Pacific staghorn sculpin         | STAG                 | 20          | 0.83          | 25.0%              |
|                          |                 | Myoxocephalus polyacanthocephalus                | Great sculpin                    | GRT SCULP            | 39          | 1.63          | 45.8%              |
|                          |                 | Clinocottus acuticeps                            | Sharpnose sculpin                | SHARPNOSE            | 186         | 7.75          | 70.8%              |
|                          |                 | Other or unknown Cottid                          | Unidentified sculpin species     | O/U SCULP            | 225         | 9.38          | 20.8%              |
| Sea perches              | Embiotocidae    | Brachyistius frenatus                            | Kelp perch                       | KELP PERCH           | 1           | 0.04          | 4.2%               |
| True cods                | Gadidae         | Theragra chalcogramma                            | Alaska pollock                   | POLLOCK              | 2           | 0.08          | 4.2%               |
|                          |                 | Microgadus proximus                              | Pacific tomcod                   | TOMCOD               | 6           | 0.25          | 8.3%               |
|                          |                 | Other or unknown Cod                             | Unidentified true cod species    | O/U COD              | 8           | 0.33          | 8.3%               |