Summary of Fish Catch Results for False Bay, 2008 and 2009

Skagit River System Cooperative Research Program

December 2012

Beach seine sampling for fish was conducted at False 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*.

False Bay is located on the southwest side of San Juan Island within the San Juan Islands (Figure 1). Sampling at False Bay was conducted at three sites: False Bay Beach, False Bay Delta and False Bay Creek. Small net beach seines were used at all three sites after methods described in Skagit System Cooperative Research Department (2003). We made a total of 66 beach seine sets over the two-year study period. Beach seining occurred monthly March through September in both 2008 and 2009.

The substrate within the beach seine site at False Bay Beach consisted primarily of sand; False Bay Delta varied from sand to mixed coarse; False Bay Creek consisted of mud. All set locations at all three sites were usually without vegetative cover (such as eelgrass, kelp or other macro algae). Average maximum water depth was 0.32 meters deep at False Bay Beach, 0.19 meters at False Bay Delta, and 1.03 meters at False Bay Creek. The average salinity within the area seined was 28.6 parts per thousand (ppt) at False Bay Beach, 21.9 ppt at False Bay Delta, and 2.0 ppt at False Bay Creek. Water temperature varied by month, but ranged from a low occurring in March 2008 to a high occurring in July 2009 at all three locations. The low and high water temperatures were 7.6 - 26.3 °C at False Bay Beach, 7.5 – 28.1 °C at False Bay Delta, and 7.2 – 26.0 °C at False Bay Creek.

At False Bay Beach we caught a total of 389 fish from 6 different species or species groupings over the two-year study period, including one species of juvenile salmon and one species of forage fish (Table 1). The most abundant fish species was Pacific staghorn sculpin with a catch of 319 fish, present in 84.6% of the beach seine sets.

At False Bay Delta we caught a total of 651 fish from 5 different species or species groupings over the two-year study period, including one species of juvenile salmon. Forage fish were not caught (Table 2). The most abundant fish species was Pacific staghorn sculpin with a catch of 638 fish, present in 88.5% of the beach seine sets.

At False Bay Creek we caught a total of 3,329 fish from 3 different species or species groupings over the two-year study period, including one species of juvenile salmon. Forage fish were not caught (Table 3). The most abundant fish species was threespine stickleback with a catch of 3,235 fish, present in 71.4% of the beach seine sets.

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

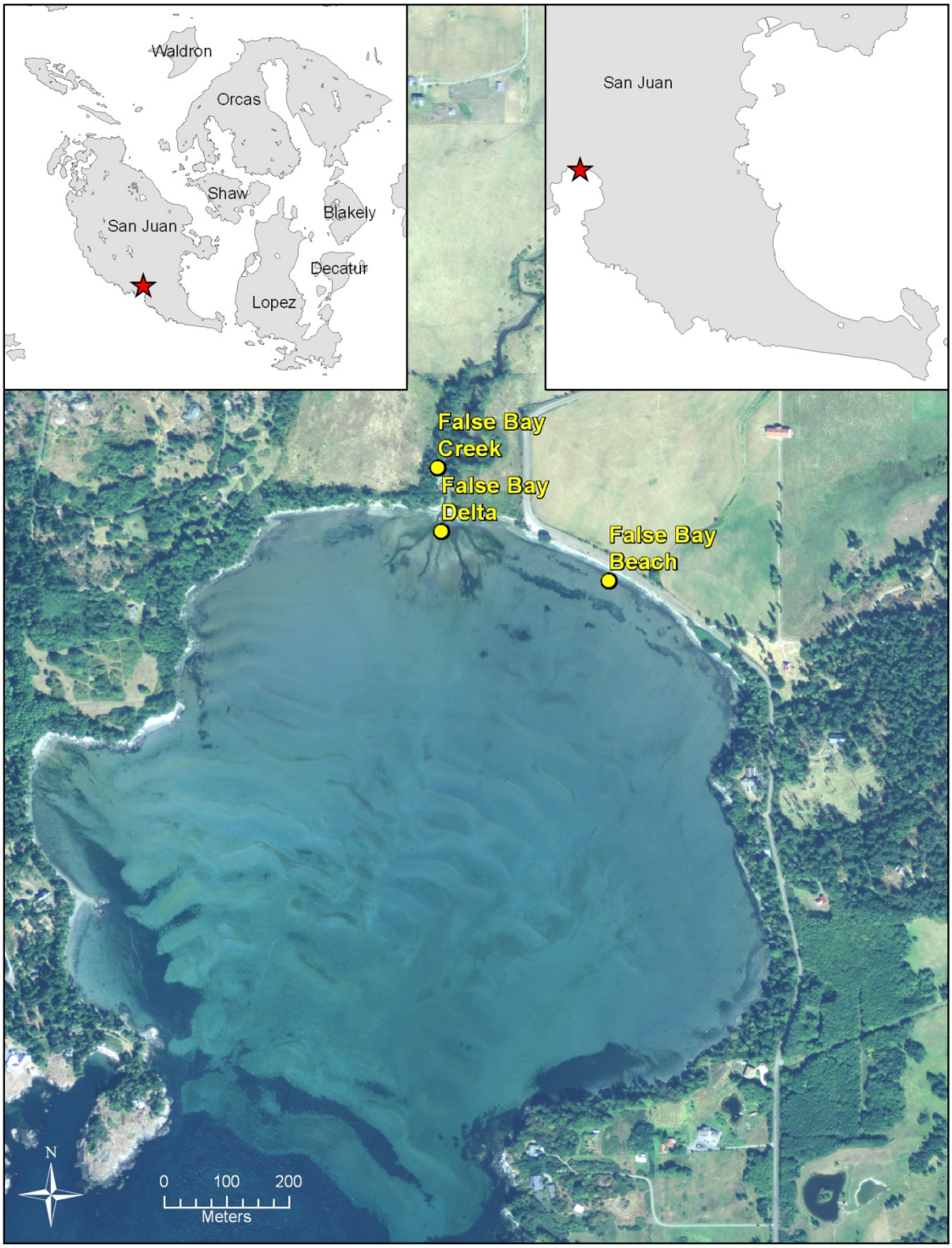

Figure 1. Location of False Bay beach seine sites.

Table 1. Fish catch summary for False 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
Flatfish	Pleuronectiformes	Platichthys stellatus	Starry flounder	STARRY	2	0.08	7.7%
Forage fishes	Osmeridae	Hypomesus pretiosus post larval	Surf smelt, post larval juvenile	SMELT pl	6	0.23	3.8%
Other - marine	Gobiidae	Clevelandia ios	Arrow goby	ARROW GOBI	60	2.31	23.1%
	Syngnathidae	Syngnathus griseolineatus	Bay pipefish	PIPEFISH	1	0.04	3.8%
Pacific salmon	Salmonidae	Oncorhynchus gorbuscha age 0+	Pink salmon, subyearling	PK 0+	1	0.04	3.8%
Sculpins	Cottidae	Leptocottus armatus	Pacific staghorn sculpin	STAG	319	12.27	84.6%

Table 2. Fish catch summary for False Bay Delta 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
Flatfish	Pleuronectiformes	Platichthys stellatus	Starry flounder	STARRY	1	0.04	3.8%
Other - marine	Gobiidae	Clevelandia ios	Arrow goby	ARROW GOBI	7	0.27	11.5%
Pacific salmon	Salmonidae	Oncorhynchus keta age 0+	Chum salmon, subyearling	CH 0+	3	0.12	3.8%
Sculpins	Cottidae	Leptocottus armatus	Pacific staghorn sculpin	STAG	638	24.54	88.5%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	2	0.08	7.7%

Table 3. Fish catch summary for False Bay Creek 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
Pacific salmon	Salmonidae	Oncorhynchus tshawytscha age 0+ no external mark	Chinook salmon, wild subyearling	CK 0+ nem	3	0.21	14.3%
Sculpins	Cottidae	Leptocottus armatus	Pacific staghorn sculpin	STAG	91	6.50	57.1%
Sticklebacks	Gasterosteidae	Gasterosteus aculeatus	Three spined stickleback	STICKL	3235	231.07	71.4%