

Memorandum

From: Jason Shappart, Fisheries Scientist

Date: November 30, 2007

Re: Swantown Lake Fish Presence Survey Results



Per our agreement for professional environmental consulting services, Meridian Environmental fish biologists obtained a Scientific Collection Permit (Permit # 07-370) from Washington Department of Fish and Wildlife and conducted a fish presence survey of Swantown Lake and the ditched-stream on your property that flows into Swantown Lake. This memo presents the methods and results of the fish presence survey.

Fish Survey Methods and Results:

Meridian Environmental fish biologists conducted a one-day survey of the lake and ditched-stream on November 29, 2007. The initial survey plan was to electrofish the stream and survey the lake using tangle nets and seine nets. Fish sampling was conducted by trained professionals. George Gilmour (B.A. Biology, Fisheries and Aquatic Ecology, University of Vermont, 1989), Jason Shappart, (B.S. Fisheries Science, Oregon State University, 1996) and Alex Lowe, (B.S. Aquatic and Fisheries Sciences, University of Washington, 2006) conducted the fish presence survey.

There was very little water in the ditched-stream, which was only present in the lower few hundred feet of the channel. The water in the lower ditched-stream channel was lake water backed up into the ditch. The lake water is highly saline, and therefore electrofishing was not possible (i.e. electrofishing equipment does not work in highly saline water).

Meridian fish biologists deployed one variable mesh tangle net in the lake in one location (approximately mid-lake). The net was deployed for approximately 3.5 hours. The floating tangle net was 125 feet long and six feet deep, with five panels of variable mesh ranging in size from 1 to 2.5 inches (stretch mesh) in half-inch increments (plus one 1.25 inch stretch mesh panel). Maximum water depth in the lake was approximately 4 feet; the depth at the tangle net zone ranged from about 2 to 3 feet. No fish were caught in the tangle net.

Meridian fish biologists conducted approximately 10 seine net hauls along the Swantown Lake eastern shoreline (see attached photos) and along the outlet channel adjacent to West Beach Road. The seine net was 100 feet long and six feet deep with 1/4 inch mesh. More than 100 three-spine stickleback (*Gasterosteus aculeatus*) were captured during each seine net haul (see attached photos). Two Pacific staghorn sculpin (*Leptocottus armatus*) were captured in

Swantown Lake (see attached photos). Saltwater shrimp (amphipods) were also captured in Swantown Lake. This fish survey demonstrates that Swantown Lake is occupied by at least two fish species. Please note that this study was only an attempt to quickly determine fish presence and was not designed to prove fish absence, nor was this study designed as a full fish population or species census of Swantown Lake. A full species census would require considerably more survey effort. It is likely that additional saltwater tolerant fish species also inhabit Swantown Lake that were not captured due to the relatively brief/limited survey effort of this study.



Photo 1. Seine netting in Swantown Lake.



Photo 2. Bringing in seine net on Swantown Lake.



Photo 3. Three-spine stickleback captured in Swantown Lake using seine net.



Photo 4. Three-spine stickleback captured in Swantown Lake using seine net.



Photo 5. Pacific staghorn sculpin captured in Swantown Lake using seine net.