

Fisheries Monitoring in Lower Mainstem Russian River Tributaries and Estuary

Introduction

In September 2008, the National Marine Fisheries Service issued the Russian River Biological Opinion, which requires the Sonoma County Water Agency (Water Agency) to improve conditions for coho salmon, steelhead and Chinook salmon in the Russian River. The Biological Opinion requires the Water Agency to increase monitoring of coho and steelhead juveniles and smolts in the river and tributaries. (The term “smolt” refers to the life cycle stage when salmon and steelhead migrate to the ocean and the term “juvenile” refers to stages prior to migrating to the ocean.) Dutch Bill Creek and Austin Creek are both important habitat for coho and steelhead. Fish from these tributaries, as well as from the many other tributaries to the Russian River, may also take advantage of the estuary to enhance their growth before entering the ocean. Because land along both creeks (and most of the river and estuary) is privately owned, the cooperation of willing landowners is critical to monitoring efforts.

The following is a summary of the Sonoma County Water Agency’s 2010 monitoring efforts in Dutch Bill Creek, Austin Creek and the upstream portion of the Russian River estuary.

Steelhead juvenile



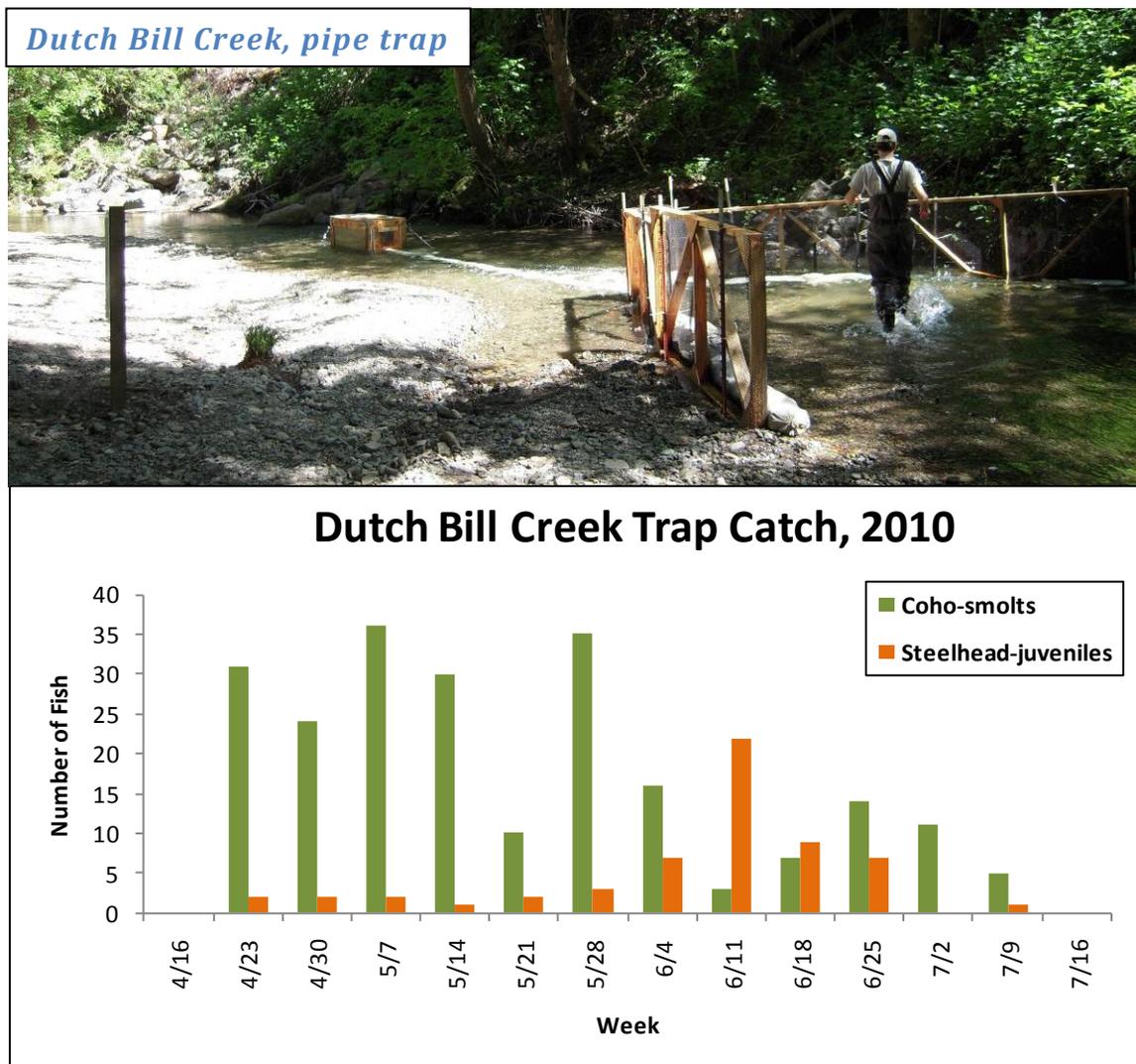
Coho salmon smolt



Dutch Bill Creek

On April 20, 2010, the Water Agency began operating a combination pipe trap and fish weir in Dutch Bill Creek adjacent to the park in downtown Monte Rio (0.2 miles upstream of the creek mouth) to monitor young steelhead and coho salmon as they made their way downstream. A pipe trap uses mesh weir panels to direct stream flow and fish through a plastic pipe and into a live-well. Once fish enter the live-well, water pressure through the pipe discourages them from swimming upstream and out of the live-well. The trap was tended each day at which time all fish were removed, measured, examined for tags and marks, and released downstream. Trapping operations were concluded on July 13, 2010 when water levels became too low and there was no longer contiguous flow between the mouth of Dutch Bill Creek and the Russian River.

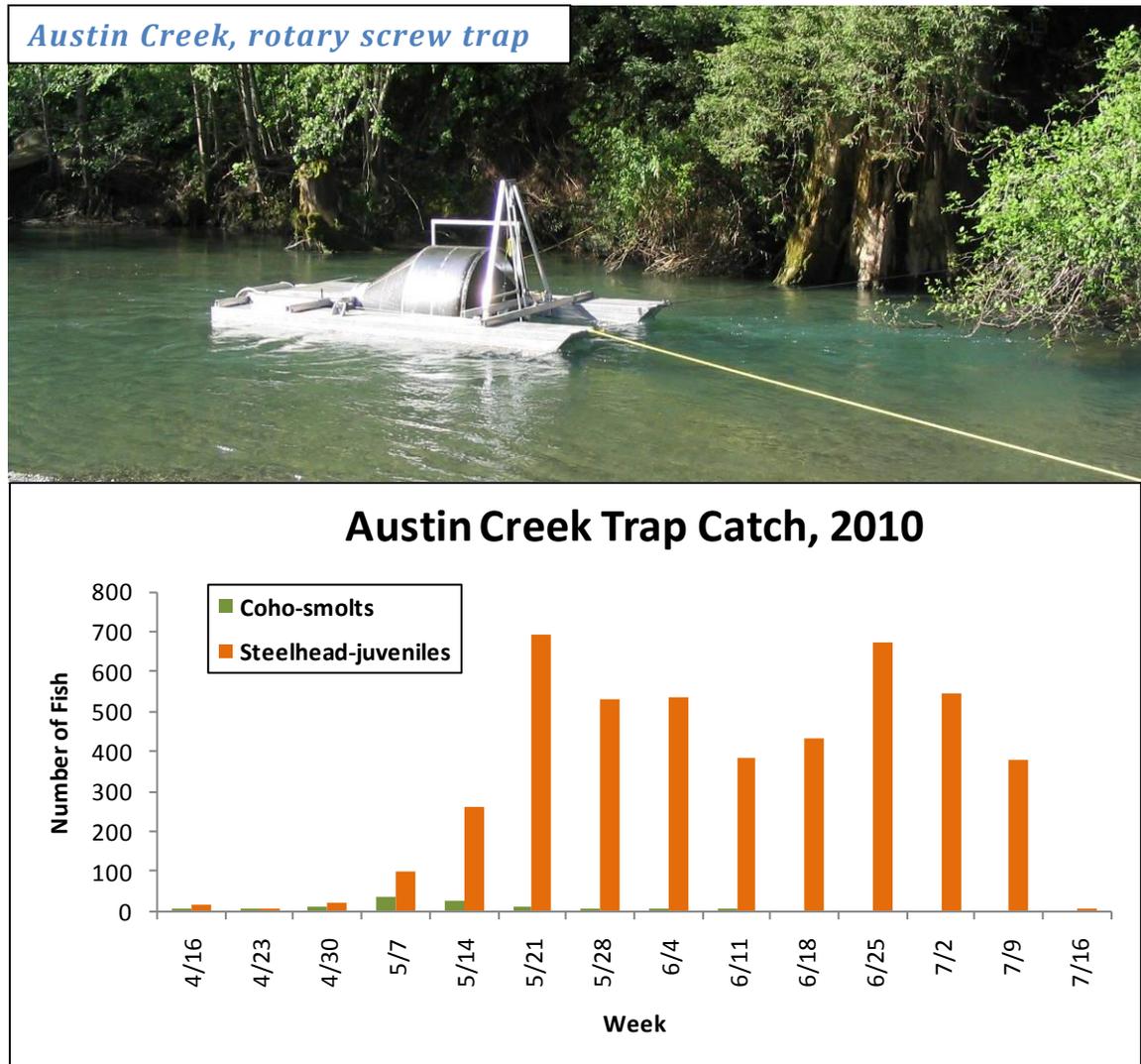
Over the course of the 2010 trapping season, 63 steelhead juveniles and smolts and 224 coho salmon smolts were captured. All of the coho salmon were stocked into Dutch Bill Creek in fall, 2009 as part of a multi-agency effort to recover coho populations to the Russian River (see <http://groups.ucanr.org/RRCSBP/>). Coho smolts averaged about 5 inches while steelhead ranged in size from 1-inch newly hatched juveniles to 10-inch smolts.



Austin Creek

On April 15, 2010 the Water Agency began operating a rotary screw trap in Austin Creek just upstream of the steel bridge (0.7 miles upstream of the creek mouth) to monitor young steelhead and coho as they made their way downstream. A rotary screw trap uses stream flow to turn a cone-shaped metal drum to capture and retain fish in a live-well. The trap was tended each morning at which time all fish were removed, measured, examined for tags and marks, and released downstream. Trapping operations were concluded on July 19, 2010 when there was no longer contiguous surface flow between the mouth of Austin Creek and the Russian River.

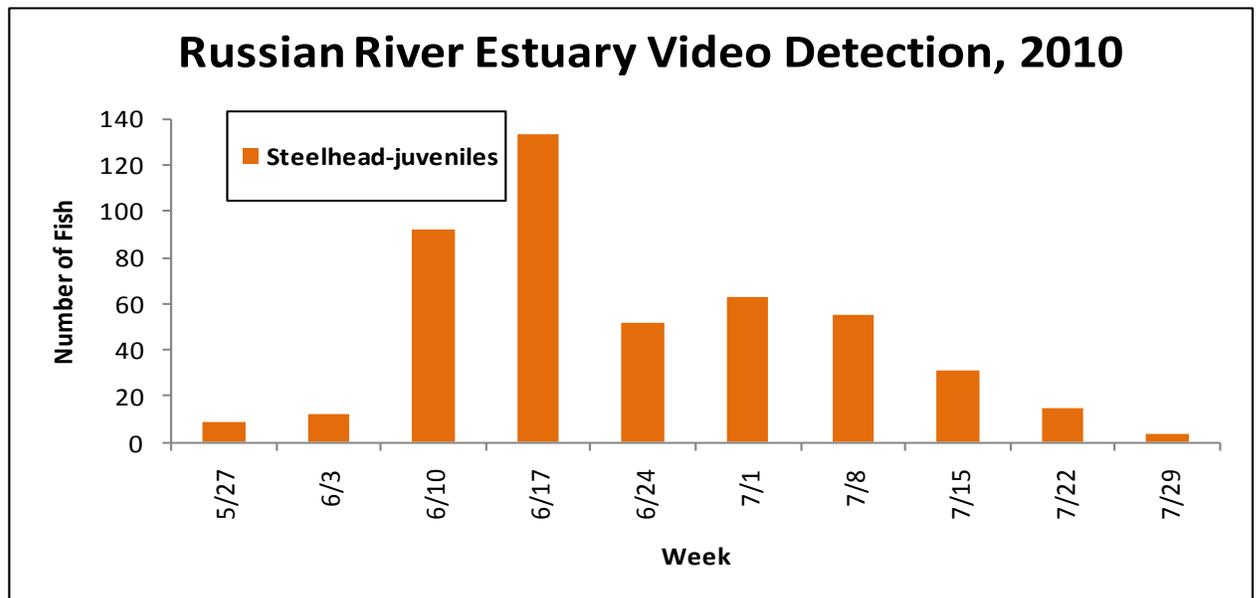
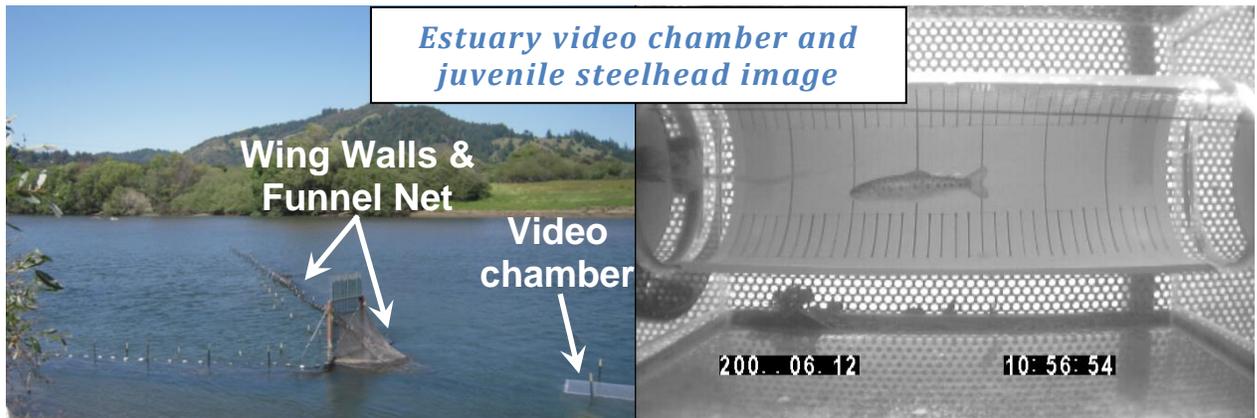
Over the course of the 2010 trapping season, 4,876 steelhead juveniles and smolts as well as 102 coho smolts were captured. All of the coho salmon were stocked into tributaries of Austin Creek in fall 2009 as part of a multi-agency effort to recover coho populations to the Russian River (see <http://groups.ucanr.org/RRCSCBP/>). Coho smolts averaged about 5 inches while steelhead ranged in size from 1-inch newly hatched juveniles to 10-inch smolts.



Russian River Estuary

On May 27, 2010 the Water Agency began operating an underwater video camera near the upstream end of the Russian River estuary between Austin Creek and Moscow Bridge (6.5 miles upstream of the mouth of the river) to monitor young steelhead as they made their way downstream into the estuary. The video camera recorded footage 24 hours per day through July 31. Although fish were not physically captured or handled, we were able to estimate their size by means of a ruler that served as a background as fish swam by.

Over the course of the 2010 season, 464 steelhead juveniles and smolts were recorded as they made their way into the estuary. Steelhead ranged in size from 1-inch newly hatched juveniles to 10-inch smolts.



For more information on the Water Agency's fisheries monitoring program, visit www.sonomacountywater.org/fisheries.