

Comparison of PIT tag detection rates in adult salmon and steelhead with various handheld units and antennas

Dan Rawding WDFW

The Washington Department of Fish and Wildlife (WDFW) and the Pacific States Marine Fisheries Commission (PSMFC), with funding from the Bonneville Power Administration (BPA), implemented PIT tag monitoring for mainstem Columbia River fisheries in 2010. One purpose of this monitoring program was to develop estimates of the number of PIT tags sampled in fisheries. To expand the number of PIT tags sampled into the total number of PIT tags intercepted in the fishery requires a number of assumptions and estimates, including an estimate of the PIT tag detection rate by the samplers. Since there was no data available on this rate and its variability, a study was conducted to evaluate PIT tag detection rates using a variety of handheld detection units, along with a 24-inch square pass through antenna and a flat plate antenna. Pre-spawning adult hatchery Chinook salmon, coho salmon, and summer steelhead were sampled for length and sex, tagged in the peritoneal cavity or dorsal sinus, and returned to a hatchery raceway. After a minimum of 7 days all salmon and steelhead were sacrificed and sampled using the protocols developed for mainstem fishery sampling. Data were analyzed to examine possible differences in detection rates caused by factors such as species, sex, length, tag location, sampler, and detection unit. Preliminary results of this study will be presented.