

USE OF IN-STREAM PIT-TAG DETECTORS TO MONITOR BULL TROUT POPULATIONS IN WASHINGTON AND MONTANA

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We installed in-stream PIT-tag detectors in the Tucannon River, Washington, and in Trail Creek, Montana, to monitor population demographics and life history characteristics of bull trout (*Salvelinus confluentus*). The Tucannon River project is funded by the U.S. Army Corps of Engineers and managed by the USDA Fish and Wildlife Service, and the Trail Creek project is funded by the Bonneville Power Administration and Montana Fish, Wildlife and Parks. Biomark Inc. developed a weir antenna design because it may be less susceptible than pass-through antennas of being displaced by debris or high flow events. Weir antennas were installed at both sites, while flat plate and pass-through antennas were also installed in the Tucannon River. The flat plate “log” antennas are approximately 3 m long, the pass-through antennas openings measure 1-by-6 m, and the weir antennas are each 2 m wide. In Trail Creek, we implanted 300 juveniles upstream of the antenna during fall 2005, and 295 fish were tagged in the Tucannon River. As of January 2006, ten PIT-tagged bull trout were detected passing downstream over the Trail Creek detector system, and 12 bull trout released in the Tucannon River were detected. Future work will assess detection efficiencies of adult spawners and potential design modifications. These data will be used to help fisheries biologists to more precisely monitor population trends, identify recovery and extinction thresholds for conservation and recovery programs, and examine effects of recovery and restoration activities.