Efficacy Of Fish Screens On Irrigation Diversion Canals At Skalkaho Creek, Montana[AFS]

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Post-spawn adult and downstream migrant juvenile westslope cutthroat trout are entrained, become trapped, and die in the seven irrigation canals on Skalkaho Creek, a tributary of the Bitterroot River. We quantified entrainment rates into the canals using telemetry and trapping before (2003) and after (2004) installation of fish screens at three of the canals (Highline, Ward, and Hughes). No telemetered adults were entrained in 2003, because most were residents and did not migrate past the canals. Fifteen telemetered adults were entrained in 2004; three were entrained, bypassed, and entrained again further downstream. Nine telemetered adults were entrained at screened canals and all nine were successfully bypassed. Five telemetered age-1 juveniles were entrained at the Highline ditch in 2003; three were entrained there in 2004, but only one was bypassed. We estimated that 33,722 age-0 westslope cutthroat trout (95% CI, 12,044-161,799) moved downstream from 16 July to 20 September in 2003; 8964 (95% CI, 2840-72,141) or about 27 percent were entrained at the Highline ditch. In 2004 all three screens bypassed 7840 fish of which 6041 were westslope cutthroat trout. Fish screens effectively precluded entrainment and effectively bypassed adult, age-1 juvenile, and age-0 westslope cutthroat trout. Fish screens offer an effective management tool to eliminate entrainment of westslope cutthroat trout at Skalkaho Creek.