Performance of Westslope Cutthroat Trout Released into the Upper Cherry Creek Drainage Using Remote Stream Incubators

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A major effort to conserve westslope cutthroat (*Oncorhynchus clarkii lewisi*; WCT) is underway throughout Montana. One of the larger WCT conservation projects is onging in the Cherry Creek drainage of the Madison River. About 105 km of stream and a mountain lake are being treated with piscicides to remove nonnative trout, and WCT are being introduced into the drainage using remote stream incubators (RSIs). We are evaluating the relative success of different wild and hatchery stocks of WCT released into Cherry Creek. Here, we report on survival, abundance, growth, condition, and dispersal of WCT in the upper Cherry Creek drainage during the first three years of releases. Two streams of similar size, upper Cherry Creek and Cherry Lake Creek, meet to form main Cherry Creek. Cherry Lake Creek is colder than upper Cherry Creek (average August temperature about 3˚C colder).Known numbers of WCT embryos were placed into RSIs at two sites in upper Cherry Creek during 2006 and 2007, one site in Cherry Lake Creek during 2006 and 2007, one site in Pika Creek (a tributary to Cherry Lake Creek) during 2008, and in an un-named spring-fed tributary to main Cherry Creek just below the mouth of Cherry Lake Creek during 2008. Fry that hatched in each RSI were captured and counted prior to release. Population abundances were estimated by single and multiple-pass electrofishing in 100-m sample sections located systematically throughout the upper reaches of the drainage. Estimated survivals from egg to fry, fry to age-1, age-1 to age-2, and age-2 to age-3 ranged from 13 to 80 percent, 7 to 80 percent, 21 to 100 percent, and 100 percent, respectively. Survivals in the colder stream, Cherry Lake Creek, were lower than in the warmer stream. Over 3500 WCT occupied the upper Cherry Creek drainage by 2009. Fish dispersed short distances upstream and long distances downstream, but downstream dispersal appeared relatively discrete, with WCT filling available habitat near RSIs before occupying reaches further downstream. Early growth of WCT was much slower in colder streams, but by age-3 little difference existed among streams. Conversely, condition factors of WCT were slightly lower in upper Cherry Creek (averaging 0.88 to 0.95) than in Cherry Lake Creek (0.92 to 1.11). The introduction of WCT in upper Cherry Creek has been successful to date; however, natural reproduction by introduced WCT has not yet occurred, but is expected to occur next year.