

STATUS OF WESTSLOPE CUTTHROAT TROUT IN THE UNITED STATES: 2002^{AFS}

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The distribution and abundance of westslope cutthroat trout (*Oncorhynchus clarki lewisi*; WCT) have reportedly declined from historical levels over part or all of their historical range. For the U.S. range of WCT we used existing information provided by 112 fisheries professionals applied through a consistent methodology to assess the extent of their historical range, their current distribution, including genetic status, and evaluated the foreseeable risks to 539 populations designated as “conservation populations” by

management agencies. We estimated that WCT historically occupied about 56,500 miles of habitat within the U.S. WCT currently occupy an estimated 33,500 miles of historically occupied habitats (59%). Genetic testing has been completed across about 6100 miles of habitat (18% of occupied habitats), but sample sizes were variable and sample sizes of 25 fish or more (a sample size that likely would detect as little as 1-percent levels of introgression with a 95% level of confidence) made up only 30 percent of the samples. WCT with no evidence of genetic introgression currently occupied about 3400 miles (10%) of currently occupied habitats. Another 1000 miles of currently occupied habitats (3%) contained WCT that were probably part of a mixed stock where the WCT were not introgressed. We suggest that even though genetic sampling was nonrandom, sampling likely occurred more frequently in WCT populations that appeared non-introgressed, some, if not much, of the habitat currently occupied by WCT that has not been genetically tested likely support populations that are not introgressed. Much of the habitat currently occupied by WCT was located in designated parks (2%), wilderness areas (19%), and roadless areas (40%), and almost 70 percent of habitats currently occupied lie within federally managed lands. A total of 563 separate WCT populations currently occupying 24,450 miles of habitat were designated as "conservation populations". These conservation populations were spread throughout the historical range, occurring in 67 of 70 hydrologic units historically occupied by WCT. Most of these conservation populations were believed to be "isolets" (457 or 81%); however, metapopulations occupied much more of the habitat (21,600 miles or 88%). Of the 563 designated conservation populations, 339 (60%) had at least some component that was genetically unaltered and 172 (30%) consisted entirely of stream segments that were genetically unaltered. In general, more of the isolet populations were at higher risk due to temporal variability, population size, and isolation risk than metapopulations, but were at less risk from genetic and disease factors than metapopulations. These data and population designations suggest that two different conservation management strategies are needed and being implemented to conserve WCT. One strategy concentrates on preventing introgression, disease and competition risks by isolation and the other concentrates on preserving metapopulation function and multiple life histories by connecting occupied habitats.