Fish Barrier Design In Northcentral Montana

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Genetically unaltered westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) in north central Montana (Missouri River Drainage) currently occupy less than 3% of their historical habitat. Declines in westslope cutthroat trout abundance and range in north central Montana are primarily attributable to hybridization with introduced rainbow trout Oncorhynchus mykiss and competition with introduced brook trout (*Salvelinus fontinalis*). In many instances protection and short term restoration of extant stocks of westslope cutthroat requires immediate suppression of brook trout and construction of fish barriers. Barrier construction has been a process of adapting various designs, which either use height or current velocity to block fish, to site conditions. Construction methods have included blasting and chipping out native bedrock, pouring concrete, anchoring of native materials, use of gabions, and installation of perched culverts. Design and funding considerations will be discussed along with advantages and difficulties associated with each barrier method. Responses of westslope cutthroat populations to blockage and removal of non-native brook trout using electrofishing has been uniformly positive and in some cases dramatic.