EFFICACY OF SPECIAL REGULATIONS ON THE BIG HOLE RIVER [AFS]

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Three Big Hole River study sections, southwest Montana, were analyzed to determine the efficacy of a special regulation in increasing numbers of larger brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*) over the 1981 - 1996 period. The regulation requires the release of trout in the 13 - 22 inch range and restricts the method to the use of artificials. Boat-mounted mobile anode electrofishing sampling was conducted annually in March in two study sections to determine brown trout populations. Rainbow trout sampling was conducted in September in three study sections. Population estimates were determined by log - likelihood analysis of mark - recapture data. Brown trout density and standing crop fluctuated in the control section but exhibited increasing trends under special regulation. Thirteen inch and larger and 18 inch and larger brown trout were higher in the special regulation section. Brown trout data suggest that the "slot limit" was effective in increasing the percentage of the standing crop accounted for by both 13 inch and larger and 18 inch and larger fish. Rainbow trout densities and standing crops fluctuated with recruitment in all three sections. Numbers of 13 inch and larger rainbow trout exhibited increasing trends within all three sections. Sixteen inch and larger rainbow trout attained the highest densities and increase in the control section. Data suggest that the "slot limit" was ineffective in increasing the percentage of the standing crop accounted for by the 13 inch and larger or 16 inch and larger rainbow trout.