

Abstract

Fishing regulations for brown trout were changed from a 12-inch minimum to a slotted size limit. The slotted limit allowed harvest of trout between 8 and 12 inches and over 16 inches. Abundance of brown trout smaller than 8 inches decreased by 8%, abundance of 8- to 12-inch brown trout decreased by 32%, and abundance of brown trout over 12 inches decreased by 47%. Growth rate did not change significantly. Annual fishing mortality rate between ages 2 and 3 increased from near zero to about 30%, and this reduced the number of fish surviving to older ages and larger sizes. However, unfavorable changes in environmental conditions contributed to decreases in abundance also. Total numerical harvest of brown trout increased nearly five times but consisted of smaller fish. Fishing pressure probably increased somewhat, but the increase in harvest was due primarily to the change in size limits. Voluntary release of legal-sized trout appeared to increase independent of our regulations. We concluded that the greatest effect of the slotted limit was in reshaping man's use of the trout populations. Biological effects were comparatively unimportant except for their influence on satisfying desires of different factions within the angling community.