



**MONTANA TU'S SUGGESTIONS FOR ANGLERS TO MINIMIZE IMPACTS
ON MONTANA'S FISHERIES DURING LOW FLOW AND
HIGH TEMPERATURE PERIODS**

1. Avoid streams where low flows and high temperatures pose problems to fish. Explore smaller higher-elevation streams and lakes where fish are much less affected by drought. Montana has thousands of stream miles and hundreds of lakes that have good fishing and which are not crowded. Avoid visiting waters that are attracting extra angling pressure because of fishing closures elsewhere. Try not to contribute to more river crowding.
2. If you must fish during these periods, fish in the morning when air and water temperatures are coolest. Avoid fishing in the afternoon and evening when temperatures are highest. Avoid fishing at night. On some rivers, this is when dissolved oxygen levels are the lowest.
3. Avoid direct handling of fish and use extra caution with native species such as cutthroats, grayling and bull trout. Release fish as quick as possible. Resist the temptation to hold fish out of water for photos. Consider just catching a few fish then calling it a day, instead of fishing from morning until night.
4. When streamflows and temperatures become very acute, consider doing something else. Montana has no shortage of alternative outdoor opportunities.
5. Be diligent in following appeals for voluntarily cut backs on angling. Be patient if state biologists don't have definite answers about exactly when and where it's okay to fish when flows are low and temperatures high. These are tough calls. In order to maintain Montana's high quality angling, the fish deserve a conservative approach. Be sure to comply with fishing closures. The angling you give up temporarily today will help preserve angling opportunities for the future.

IF YOU HAVE QUESTIONS ABOUT ANGLING DURING PERIODS OF LOW FLOWS AND HIGH STREAM TEMPERATURES, CONTACT MONTANA TU AT 543-0054 or at mark@montanatuorg.

WHAT WE KNOW ABOUT STREAM TEMPERATURES AND TROUT

1. *In general*, salmonids prefer temperatures in the range of 54 F. to 63 F.
2. *In general*, some species are a little more tolerant of higher temperatures than others; or, in some areas local populations of a particular native species can be more tolerant of higher temperatures than the same species elsewhere. But this occurs only after generations of adaptation (for example, redband trout of the Great Basin are more tolerant of higher temperatures than redband trout found in the upper Columbia basin).
3. *In general*, salmonids can adapt more easily to higher temperatures if the temperature increase occurs gradually. Sudden elevations of temperatures can cause acute fish kills.
4. *In general*, high temperatures might not cause direct mortality. However, it can compound the effect of other stressors, such as disease or energy depletion resulting from competition and catch-and-release angling.
5. Dissolved oxygen can be reduced when water temperatures rise. Depending on water temperatures, ideal dissolved oxygen concentrations for active fish can be around 10 parts per million (ppm) or higher. When levels of dissolved oxygen drop below 6 parts per million, trout become stressed. Feeding, predator avoidance and sustained swimming becomes difficult. Below 4 ppm, trout can die. Dissolved oxygen levels in the Clark Fork at night during the summer have been recorded below 6 ppm.
6. *In general*, depending on species, once temperatures rise above the mid-60s F., trout can start feeling the adverse effects of high temperatures. Feeding will be reduced. Sustained swimming becomes more laborious. The ability to compete with other species for common food sources is reduced once temperatures approach the 70s. Higher temperatures can affect equilibrium. Lethal temperatures, depending on species, range from 74 F to 79 F. However, it's possible for trout to survive at these temperatures if they locate cool thermal refuges, or if these high temperatures are moderated by drops in temperature at night.

There are no hard and fast criteria that definitely determine when it's okay to fish and when it's not. But anglers should be extra-cautious handling trout when water temperatures reach the mid 60s. It's wise to consider avoiding waters where temperatures reach 70 F. or more each day during a sustained period. Watch fish behavior after you release them. If they're sluggish or seem slower to recover than usual, they could be stressed from the effects of high temperatures.