



## **CATCH AND RELEASE: LIVING TO FIGHT AGAIN**

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With the growth in catch-and-release angling, it is a common belief that fish that are released will “live to fight again another day.” It can also be heard in tournament angling circles that “bass are too valuable to keep.” All of this is based on the assumption that released fish survive. However, a high release mortality (death rate) can limit the effectiveness of largemouth bass harvest regulations, especially in areas with high catch rates.

In the month of August, Texas Parks and Wildlife (TPW) biologists conducted a release mortality study on largemouth bass in Lake Umphrey, a small private lake in east Texas. Two trips were made by four teams, with two anglers per team. Each team used a different bait type: treble hook lures, plastic worms fished “Carolina rigged,” live carp under a cork, and live carp on the bottom. Each team fished until it had 30 bass over 14 inches long.

The hooking location was recorded for all fish before they were tagged and placed in the boats’ aerated live wells. If the fish was bleeding, it was also noted. For deep-hooked fish, the anglers were given the option of cutting the line and leaving the hook in place, instead of removing the hook. No fish were held in boat live wells longer than 15 minutes before being transferred to a 20-foot deep floating nylon mesh cage. There, the fish were held for 72 hours before release.

At the end of the 72 hours, 22% of the bass had died. The death rate was no higher for fish caught on live bait than for those caught on artificial baits. On the first trip, mortality was 13% for live bait-caught fish, compared to 23% for artificial baits. On the second trip, it was 28% and 23%. The mortality rate was related to where the fish were hooked, however. It was 48% for fish hooked in the throat, 17% for fish hooked in the gill, and 20% for mouth-hooked fish. The percentage of throat-hooked fish was highest with plastic worms.

Bleeding was also important. Of the 240 fish captured, 19 were observed to be bleeding and nine (47%) of these died. Bleeding was observed more often for fish hooked in the throat (48%) and gill (50%) than for fish hooked in the mouth (1%). Anglers cut off and left hooks in 16 of 21 throat-hooked largemouth bass. Eight (50%) of these fish and two of the five (40%) throat-hooked fish from which the hook had been removed were dead by 72 hours. For all fish, the larger the fish, the lower the mortality was.

The biologists concluded that the type of bait used had little effect on release mortality, so banning live bait use would not improve release survival. Also, since mortality occurred in mouth-hooked fish, the least severe hooking location, just the action of hooking, playing, landing, and hook removal adds substantially to release mortality.

TPW also conducted a monitoring study of a bass tournament at Lake Fork, Texas. During this tournament, each two-person fishing team was allowed to keep five bass measuring 14 inches and longer and was allowed to cull their catches throughout the day.

The biologists monitored immediate and delayed mortality of several test groups of bass—fish caught and immediately released; fish which were caught, held in live wells and released (culled) later in the day when larger fish were caught; and fish brought to weigh-in at the end of the fishing day. These mortality rates were compared to bass that the biologists collected by electrofishing (shocking). All the bass were marked and held in four large holding nets for 6 days following the tournament.

The bass taken by electrofishing and held for comparison with hook-caught fish suffered a 3.7% mortality rate. Those caught and released immediately had 1.3% mortality, bass caught, held and culled had 14.9% mortality, and fish brought to weigh-in had 39.1% mortality. The researcher in charge stated that **bass mortality due to tournaments can be much higher than many fishermen believe.**