

Management of Recreational Fisheries



Key Points

Catch-release fishing is an effective way to allow recreational fishing while maintaining healthy fish populations.

Survival of fish is much higher if catch-release fishing is done using single, barbless hooks.

Catch-release fishing regulations could maintain Mongolia's trophy fishing waters.

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Community Involvement

Why should anglers want to adopt the practice of catch and release?

Aside from certain regulations, such as bag limits or size limits, there are a number of good reasons for releasing a portion of the catch alive. First, catch and release offers a sensible way to extend the fishing trip after a reasonable or legal catch limit has been reached. If the trip involves a guide or charter service, catch and release can prolong an enjoyable recreational opportunity, giving anglers more satisfaction. Second, several recent studies have suggested that as anglers gain expertise in a particular fishery or fishing technique, they often develop an interest in "limiting their kill instead of killing their limit." [temporary text, stolen off web]

Why do hooked fish sometimes die?

Even when there is intention to release a fish, there can be mortality if the fish is over-stressed or wounded. Stress results from the fish fighting after being hooked. The physical exertion causes an oxygen deficit in the tissues, forcing the muscles to function anaerobically (without oxygen). This causes lactic acid to build up in the muscle tissue and blood, which can drop the pH of the fishes blood and ultimately kill the fish. If the fish is quickly released, its blood pH usually returns to normal and the fish will be unaffected. The other primary cause of mortality is wounding by the hook. Treble hooks, for obvious reasons, will result in more puncture wounds and subsequently higher mortalities. Barbless hooks facilitate release and decrease "out-of-water" time. Finally, when a fish is handled or comes in contact with dry surfaces, such as landing nets or dry hands, its mucous layers – commonly called slime layers – may be partially removed, presenting an opportunity for bacteria or pathogens to invade the skin. Understanding these dangers for fish allows us to better protect them, especially rare species, while angling. On the opposite page are some steps to safely practice catch-release fishing.

Catch-Release Fishing (continued)

How to safely catch and release a fish:

- Fish using only single hooks without barbs. Barbed hooks, especially treble hooks, can make removal of the hook difficult and can harm the fish more.
- Do not tire the fish. A prolonged struggle will decrease its chances of survival.
- When landing the fish, it is important to minimize out-of-water time and any fish contact with surrounding surfaces or objects.
- Gently remove the hook with hands or pliers. If the hook is deeply imbedded, cut the fishing line; the hook will eventually disintegrate and thus do less harm to the fish.
- Handle the fish under water and avoid touching its eyes or gills. A fish out of water quickly begins to lack oxygen.
- Revive the fish by holding it underwater horizontally with its head facing the current. If it is floating on its side, revive it gently move it back and forth underwater so that water passes through its gills. Release it as soon as it begins to struggle.



Barbed hook



Barbless hook:
barb broken,
filed down or
bent



Management Recommendations

1. In management of rare or threatened fish, such as taimen, mandating a catch-and-release only fishing policy for these species could help stabilize their populations.
2. Regulations need enforcement to be effective. One way to aid enforcement personal would be to require the use of single, barbless hooks in regions where fish are protected.
3. If fish do die during legal catch-release fishing, the fish may be saved for scientific purposes. Growth rates for fish can be determined from the fish's calcified structures.
4. etc. [haven't looked this up much yet – let me know if you guys have anything useful here]

References:

Klauber, A. 1992. Catch & Release. In: *Nor'easter: Magazine of the Northeast Sea Grant Programs*. Fall/Winter 1992.

Malchoff, M.H., M.P. Voiland, and D.B. MacNeill. 1992. Guidelines to Increase Survival of Recreational Sport Fish. Cornell Cooperative Extension Fact Sheet.