



Vol. 3, No. 2

October 1991

# BUCKET BIOLOGY

## Managing Fish with a Bucket...

Three years ago, one could watch several thousand grayling jam into the Rogers Lake inlet in the annual spring spawning rites. One could watch with delight as they thrashed about in the shallow water, looking like miniature sailfish with their distinctive fan-like dorsal fins flashing brilliant turquoise and salmon-colored streaks. Dozens came to admire the spectacle. Hatchery workers, with just a few scoops of net, were able to gather enough fish to supply eggs for Montana's entire planting program. The fishing off the mouth of the inlet was some of the best around.

This spring, the stream was eerily vacant. The grayling were gone in just two short years. They were the victims of three successive illegal transplants that introduced rainbow cutthroat hybrids, brook trout, and yellow perch.

The perch were the final straw. The lake produced good trout for a while, then produced jumbo perch for two years. Now only stunted 4" perch remain.

Gone, sadly, are the grayling, one of only four populations in northwestern Montana. Gone, also, is the spring spawning spectacle, the great fly-fishing, the easy egg supply. Only a ruined fishery remains.

The most likely solution is to start over by poisoning the fish out of the lake, a move that will cost at least \$25,000 from anglers' license fees. All because someone thought they had a better idea.

Unfortunately, this scenario is played out every day across the United States. The Department of Fish, Wildlife and Parks now has documented over 160 illegal transplants across the state. Undoubtedly, there have been many hundreds of more illegal introductions that didn't take. Gamefish, rough fish, warmwater fish, coldwater fish—you name them, they've been moved around. Some transplants are unintentional—a bait bucket dumped overboard or fish escaping from a private pond. Other introductions are more malicious, placed there by someone

who wants to "have it all" in the angler's favorite stream or lake.

This does not mean that all fish introductions are inherently bad. Introduced species are the cornerstones of many of Montana's most noted fisheries. But even the best planned, well-intentioned introductions can have unexpected results. Poorly planned or illegal introductions can cause disasters. Consider these problems that can occur:

- competition for food and space with existing fish;
- interbreeding or disruption of spawning with existing fish;
- introduction of new diseases and parasites;
- alteration of aquatic habitat, and;
- less fishing opportunity and higher management costs for anglers.

Fish have the same biological controls as other animals. Just as you wouldn't run twice as many cows as a pasture can handle, or mix lions and tigers with the cattle, people have to understand that if you mix too many fish, or the wrong kinds of fish, something will have to give. This usually manifests itself through lower growth rates or higher mortality.

Because of all the potential problems, environmental assessments or impact statements are now required for all planned introductions. Factors examined include biological and social impacts, access, and economics. Those with little patience and a bucket can bypass the whole process—hence the term "bucket biology." Ironically, these so called "bucket biologists" also hurt themselves. Fish biologists contemplating the introduction

*Continued*

