

# CATCH & RELEASE SURVIVAL GUIDE

**This is not about you. It's about the fish.  
And how you can master the art of catch and release.**

BY **DARYL CARSON**

**T**hey call it the Lazarus video. It's black-and-white footage of a rockfish caught off the Pacific coast and swollen up like a helium balloon. The fish is seen lying in a cage and then floating lifelessly to the top once the cage is lowered in the water. But then, as the basket descends, the resurrection begins. The fish's bugged-out eyes settle back into their sockets and the distended stomach retreats back down its gullet. By the time the cage door opens at 70 feet, the fish swims out and heads back down to the reef where it was caught.

This amazing footage (see it at [dfw.state.or.us/MRP/research](http://dfw.state.or.us/MRP/research)) is of a yelloweye rockfish surviving barotrauma, a condition caused by the rapid expansion of gasses experienced as a fish is quickly reeled up from depth. If this happened to a diver, we'd call it a catastrophic case of the bends. If handled properly in fish, it can cause nothing more than a temporary impression of a blimp. Or maybe a bug-eyed version of Rodney Dangerfield. If not handled properly, and a fish in this condition is just chucked back in the water, it becomes a buoy, stuck at the surface to either die of its wounds or become an easy meal for a predator. It's a scenario

plenty of fishermen have witnessed. But the Lazarus video, along with a growing body of research, shows the effectiveness of properly treating barotrauma. It also shows that fishermen can, and dare we say should, do more to up the chances of survival for fish they catch and then release.

Yes, catch-and-release fishing has been a mantra of marine conservation for a long time. In the U.S., it's been officially advocated in different areas since at least the 1950's. But catch-and-release fishing is evolving beyond the practical necessity of putting undersized fish back into the water and into more of an ethos for sport fishermen. The cause of conservation often has just as much influence on an angler's decision-making process as the desire to hunt for food or the quest for a trophy. For many sportsmen, catch and release is a normal mode of operation.

How important is catch and release? Well, releasing fish, whether mandated or not, is so prevalent that fishery managers use survival rates of released fish as part of their calculations of fish stocks. Not only do they calculate how many fish are caught, but they give us credit for throwing some back.

"In 2010, 211 million fish were released by marine recreational anglers," says



*Just like catching a fish, successfully releasing a fish so that it lives to fight another day takes proper tools and technique. Photo: Richard Gibson.*



Left: Handling fish with a tool like the BogaGrip prevents removing its slimy, protective coating, a defense against infections. Photo: Dave Lear. Right: Venting fish swollen from barotrauma is required by law in the Gulf of Mexico. Photo: Dr. Karen Burns.

Andrew Loftus, a natural resources consultant based in Maryland, and organizer of the 2011 FishSmart workshop, which focused on catch and release issues. “Some of these fish survive; others do not. If there is a 10% average release mortality, 21.1 million fish die; if there is an average 20% mortality, 42.2 million die. So, increasing the survival of these fish by even a small percentage through better release practices and techniques will save millions of fish each year.”

Loftus also points out that the more highly regulated a species becomes, i.e., red snapper in the Gulf of Mexico, the more fish are released, and the greater impact release mortality can have on fish stocks and future management decisions. The clear implication is that if fishermen can help keep released fish alive, we help increase the odds of improving fish stocks in the future.

The issue of release mortality continues to gain traction among both the regulatory and research communities. Gulf fishermen know that in 2008, federal law began to mandate the use of dehooking devices and also required that any fish recognized as suffering from barotrauma (like the Lazarus fish) must have its swim bladder vented so it can more easily swim back to depth. And, while there hasn't been time to find out how effective the new law has been in the Gulf, researchers have continued to study the issue and are finding out that several key factors play into how likely a released fish is to survive.

In March of last year, the first ever FishSmart workshop was held in Atlanta, sponsored by NOAA Fisheries. It brought together a who's-who list of fishery management experts with the recreational fishing community and focused their considerable cranial capacity on the issue of lowering release mortality rates. The goal was to gather what information existed on the topic, identify where the gaps are, and then help further develop a set of best practices to recommend to recreational fishermen (check out a full rundown on the proceedings at fishsmart.org). This year, the work is continuing with regional workshops.

“The regional workshops are going to be a great thing,” says Dr. Karen Burns, ecosystem management specialist for the Gulf of Mexico Fishery Management

Council, and widely regarded as an expert on fish barotrauma. “Each region of the country has unique challenges. Not all environments are the same, and not all species are the same.” As an example, Burns notes that the effects of barotrauma can vary widely by species and water depth. Venting, or using a hypodermic needle or other appropriate tool to pierce a fish's body cavity behind the pectoral fin and release highly expanded gasses, is currently one of the most widely accepted procedures for dealing with barotrauma. But, it's not foolproof.

“Not all swim bladders are created equal,” she says, “Some are thick, others thin, some have lots of blood vessels, others are large or small. Swim bladders are part of a fish's adaptation to its life history or how it makes its living. Since some fish live in the water column and others on the bottom, their swim bladders reflect their lifestyle. The bottom line is we need to know more.”

And, there's more to the story than just dealing with barotrauma. Burns says that other factors can be even more critical for a fish than being blown up like a blimp. For instance, predation by dolphins is a significant issue in the northern Gulf of Mexico. On two research trips off Panama City, Florida, Burns' team confirmed 3-to-7% of released fish were eaten by opportunistic dolphins, with another 20% chased below the surface and likely to have been eaten.

Another critical issue for released fish, especially reef fish, can be thermal shock. Burns and others have documented that pulling fish up above the thermocline (think bottom fishing in the Gulf during the summer) can be quite traumatic, especially if a fish spends a significant amount of time at the surface or on deck. In fact, many researchers agree that one of the most effective things fishermen can do to help a released fish survive is simply to reduce its deck time. Some studies have even documented that past a given point, each additional minute a fish spends out of the water correlates to an exponential rise in mortality. The recommendation to fishermen is to have a plan in place before the fish gets to the surface and then do what needs to be done quickly, especially if that involves taking measurements or posing for photos.

The FishSmart gurus will continue to tackle the issues of barotrauma, predation, and thermal shock, but as they do, many recognize there may still be an even more significant challenge to successful catch-and-release fishing—coming up with a list of recommended practices that is reasonable enough for fishermen to use effectively and willingly. Perhaps no issue illustrates this better than the two primary methods currently used for dealing with barotrauma. While venting the swim bladder is the established method, recompression, or sending a fish back down to depth before release, is gaining attention.

Organizers say this is one of the most interesting things to come out of the FishSmart workshop. Alena Pribyl, a recent PhD grad from Oregon State University and a workshop participant, has done research in this area and says recompression is the use of any type of device to help a fish get back down in the water column.

“Basically, we're talking about weights,” says Pribyl. “The simplest device is a barbless, weighted hook, but you can also use something like an inverted milk crate or a basket with a trap door. There are also devices you can buy from tackle shops,” she says, referring to descender devices with release clips that are used with a rod and reel.

Whatever the method, Pribyl says recompression in rockfish can be incredibly effective, citing several studies conducted along the West Coast, including a recent study by the Alaska Department of Fish and Game that involved an extensive rockfish tagging project looking at 17-day survival after barotrauma. “Sam [Hochhalter] found 98% survival success in yelloweye rockfish recompressed with a descending device compared to only 22% for surface-released yelloweye rockfish.”

These kinds of survival rates are (forgive us) eye-popping, especially when accepted release mortality rates for the same species range from 22% to 56%, depending on the depth at which the fish is caught. Of course, researchers already know that different species respond differently to recompression just as they respond differently to venting, but there seems to be a trend that shows recompression is more effective overall. If that's the case, it has fishery

managers in the southeast wondering if the Gulf of Mexico's venting requirement may need to be updated to allow for recompression when applicable.

And, this is where the issue of practical implementation comes back into play, because getting a fish back down to depth takes significantly more time than simply venting it. Burns puts it this way: “If you're on a private boat or a six-pack, recompression can be highly effective. On a head-boat, with 40 anglers, there's just too much volume and the fish are likely to be out of the water too long,

at which point swim bladder gas expansion, thermal shock, and other factors begin to take a greater toll.”

While the work on barotrauma and other catch and release issues continues, the big picture for fishermen remains rosy. There are plenty of things we can do that are proven to significantly boost the chances that a released fish will live long enough to grow, reproduce, or be caught again another day. And even a small change in the percentage of fish that survive can make a big contribution toward healthy fish stocks.

## STAYIN' ALIVE

gloves, or wet towels to avoid removing the slime layer from their body.

### Revive and Release

Release fish as quickly as possible and determine whether you need a release tool (dehookers, venting tools, recompression tools) to improve their chance of survival. Also, revive fish as needed by allowing water to flow over the gills

### Beat Barotrauma

Bulging eyes and distended stomachs are a sure sign of barotrauma. When not required by law to use venting tools, recompression is generally the best method, and fish should be returned to the depth from which they were caught (or as close as possible). If venting is necessary, DO NOT PUNCTURE THE STOMACH PROTRUDING OUT OF THE MOUTH, but vent the swim bladder behind the pectoral fin.

You can find more online at fishsmart.org and flseagrant.org.

**Pull a fish from the water and it can show you more moves than John Travolta in tight pants. To get it back in the water safely, you'll need a few moves of your own. Here's our primer on a successful release technique.**

**Plan Ahead** Have a game plan for releasing fish before you ever head out, making sure you have the tools you'll need. If you're catching fish you can't—or don't want—to keep, plan on moving to a different area, changing depth, or using different bait.

**Gear Up** Use tackle suited to the size of fish you are trying to catch. Consider using “weak hooks” that break if you catch fish too big. Employ circle hooks where required and learn the proper techniques for using them.

**Land the Fish** Don't play fish to exhaustion, but land them as quickly as possible. If you can, leave fish in the water rather than bringing them on board. If you must handle them, use knotless, rubberized landing nets, rubberized



Photo: Steve Theberge

# SURVIVAL TOOLS

From billfish to panfish, the right tools can make all the difference in keeping your catch alive.

## AFTCO Tailer

This unique gaff trades the traditional hook for a wide loop of springy, stainless steel aircraft cable that slips over the fish's tale and cinches down with a quick upward pull of the handle. The four-foot-long anodized aluminum handle is tapered for easier handling and a swivel built into the cable helps keep control of fish that roll and twist. The cable itself is plastic coated to further help protect the fish. \$100; aftco.com

## Team Marine Venting Tools

Available in multiple sizes, we like the Pro Series PV-1. The retractable needle makes this tool easy to store, and its unique tip is designed to vent fish with a minimum of tissue damage. The aluminum body and stainless steel parts also make it just the thing for caustic saltwater environments. \$35; teammarineusa.us



## ARC Sportsman Dehooker

The ARC dehookers come in a range of sizes, but this 16-inch stainless steel model is ideal for medium size fish typical to inshore fishing and many reefs. It's recommended for hook sizes 2/0 to 9/0. The T-handle design is simple to use and allows fish to remain in the water while being released, even when a hook is embedded deep in the throat. \$19; dehooker4arc.com



## RokLees

One of a growing number of descender devices specifically for releasing reef fish at depth, the RokLees combines a weight and spring-loaded grip that attaches to the fish's jaw. Rubber tabs on the grip help protect the fish. Once lowered to the bottom, a simple jerk of the line opens the device and the fish swims free. \$40; ecoleeser.com

These products and more can be found online at the following:

- basspro.com
- meltontackle.com
- cabelas.com
- tackledirect.com
- academy.com
- sportsauthority.com



## Pelagic End Game Gloves

Armored with Kevlar, Pelagic's fish mitts are just the thing for going mano-a-mano with several hundred pounds of thrashing fish flesh. These gloves protect from line cuts during the battle and from the fish itself during landing or releasing. Closed fingertips give maximum protection and a Velcro closure ensures a snug fit. \$40; PelagicGear.com

## Van Staal 7-inch Pliers

If you can hang onto a pair of Van Staal pliers, you should never have to buy another pair. The titanium body is lightweight, ultra corrosion resistant and practically indestructible. The blunt nose design is perfect for fast work around frisky fish and we like the spring-loaded line cutter with replaceable tungsten parts. \$360; vanstaal.com



## Sportsman's Release Knife

Everyone knows it's a bad idea to wave a pointed blade around on a crowded, rolling boat deck. But it still happens. Instead, grab a Sportman's Release Knife. Its twin, inward-facing blades are encased in a nearly indestructible polymer handle and shrouded in a hooked end that makes it easy to slice through the heaviest mono. Get one for your wire man and make everybody happy. Get a few more, make them standard equipment for everyone on your deck, and make fishing the blue water just a little safer. \$20; releaseknife.com



## BogaGrip

The original fish-lip gripper, this is just the thing when you have to pull a fish out of the water. Its unique design keeps your hands from wiping off the fish's slimy, protective coating and the built-in scale gives an instant reading for your logbook or the record books. A stainless body and durable construction make it great for saltwater use. Available in three sizes, the largest handles fish up to 60 lbs. \$125-\$250; eastabogatackle.com



## Accurate 6-inch Offshore Piranha Pliers

Excellent for smaller hands, these trimmed down, 6-inch pliers are built with aircraft aluminum frames and special inserts at the jaws for ultra durability. Cuts everything from mono to single and multi-strand wire, as well as all braided line sizes. Cutters and jaws can both be replaced. \$135; accuratefishing.com



## BLACKTIP Catch & Release Recompression Tool

Named West Marine's 2011 Green Product of the Year, the BLACKTIP's spring-loaded jaws safely grip a fish's mouth so it can be lowered to the bottom. Once the weight (supplied by the fisherman) touches down, the fish is released. Made from anodized aluminum with brass swivels and pins for saltwater use. \$49.99; westmarine.com