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Catch and Release Fishing



Using best practices to handle and release fishes improves their chances of survival. Photo courtesy of David Hay Jones.

Whether you are fishing for food, for sport, or for profit, chances are you are going to release some of the fish that you catch. But what happens after you put them back? The idea of catch-and-release fishing is to return captured fishes to their environment, thereby allowing them to remain and reproduce in that ecosystem. Unfortunately, this ideal result is not always achieved due to a phenomenon called discard (or post-release) mortality. It is estimated that **1 in**

every 7 red snapper caught in the Gulf of Mexico does not survive after being released, and the mortality of reef fish caught and released in the Gulf amounts to **millions each year**. Reducing these numbers is crucial to ensuring that the Gulf's reef fisheries remain healthy and sustainable for future generations. Fortunately, anglers have the ability to reduce discard mortality simply by following a set of guidelines referred to as *best handling and release practices*.

Landing your Fish



A rubberized landing net minimizes contact between a fish and rough surfaces, protecting the fish's important slime layer. Photo courtesy of Charlene Dindo.

Before you even drop your lines, you can be prepared to give any fish that you release the highest possible chance of survival. Bring a variety of tackle, and choose appropriate gear for the species that you are targeting. While it may be a thrill to catch a big fish on light tackle, you should avoid doing so unless you plan to keep the fish. Light tackle often leads to longer and more exhaustive battles for larger fishes, which can cause lactic acid buildup and leave a fish unable to swim away after release — and therefore more vulnerable to predation. Using stronger tackle helps to ensure that any fish you release has a higher probability of surviving to fight another day.

The use of non-stainless steel or other corrodible metal circle hooks is required when fishing for some species, and can benefit many others.

Non-stainless steel circle hooks reduce the likelihood of gut-hooking a fish, and eventually work their way out of a fish's mouth or fall apart when the metal corrodes. Stainless steel J-hooks should be avoided, as they can easily be swallowed by a fish and cause significant internal damage, or remain lodged in a fish's jaw for years.

When landing your fish, use wet hands or a rubberized landing net, and do your best to keep the fish off the deck. Fishes have a natural layer of slime on the outside of their bodies to protect them from contracting bacterial infections, and rough surfaces can damage this barrier and lead to infection after release.

Handling your Fish



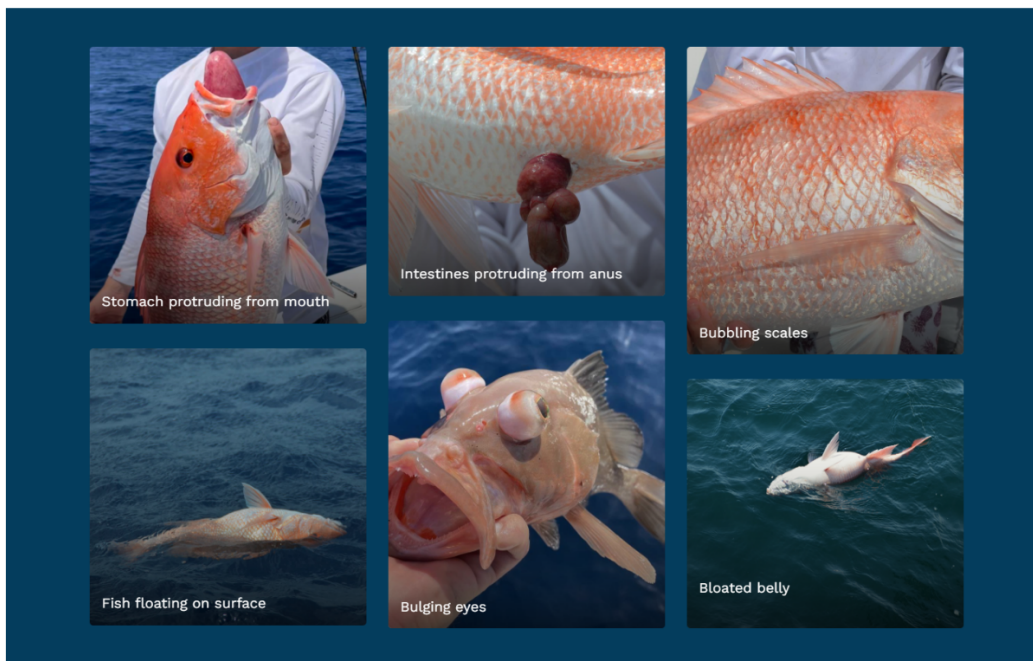
Holding a fish horizontally prevents unnecessary strain and injury to the fish's jaw and spine while it is out of the water.

If you *don't* plan to keep a fish you've just landed, it is important to implement correct handling practices (listed below) prior to release.

1. Minimize a fish's time out of water. When boating a fish, it is important to work as quickly as possible to return the fish to the water after capture. Each second a fish is out of the water lowers its chance of survival. A good practice is to only hold a fish out of water for as long as you can hold your breath.

2. Avoid touching sensitive areas of the fish, such as the eyes and the gills.
3. Hold larger fishes horizontally with two hands, rather than vertically. Holding a fish vertically puts strain and pressure on its jaw and spine while it is out of the water.
4. Remove the hook as quickly and efficiently as possible, and keep pliers or a dehooker on hand. If you can't quickly remove the hook, or if the fish is gut-hooked, you can cut the line close to the mouth. Attempting to remove a hook from a gut-hooked fish will likely kill it and should be avoided unless you plan to keep the fish.
5. If you want to take a picture of your fish, ensure that a camera is already out and ready to go before your catch even leaves the water. If done right, the process should take no more than a few seconds.

Releasing your Fish



Fishes can exhibit various signs of barotrauma when brought to the surface from depth. Photos courtesy of Florida Sea Grant.

There are several reasons why a fish may die after release, but for reef fish, the primary cause is **barotrauma**. Barotrauma refers to injuries sustained due to changes in pressure. At a depth of only 50 feet, the

pressure from the surrounding water is already more than *twice* that of the surface! As a result, when fishes are caught from depths of 50 feet or greater, their air-filled swim bladders often expand with the decrease in pressure and exert great force on the other internal organs.

If released in this condition, these fishes will generally float at the surface. They may eventually recompress enough to swim back down to depth, but until then, these “floaters” are susceptible to death from predation, stress, or barotrauma-related injuries. Fortunately, anglers can do their part to help mitigate these issues by using descender devices or venting tools.

Descender devices are a simple way to effectively release fishes with minimal harm and dramatically improve their chances of survival. These devices work by returning a fish back to its original depth, thus allowing the fish’s swim bladder to naturally return to its original size. They are also relatively cheap and easy to use.

If you don’t have a descender device, you should properly vent a fish that has experienced barotrauma. **Venting tools** are hypodermic needles used to pierce a fish’s swim bladder and allow gases to escape, thereby alleviating pressure and allowing the fish to swim downward. Just make sure you are venting the fish in the correct location and with a proper tool; otherwise, you will do more harm than good.



If a descender device is not accessible, a venting tool may be used to recompress a fish. Learning how to properly vent a fish is essential to avoid causing further injury to its internal organs. Video courtesy of Florida Sea Grant.

When used correctly, both descender devices and venting tools significantly improve post-release survival of fishes experiencing barotrauma. These two methods have proven to be so successful that, as

of January 2022, all anglers are [required](#) to have a venting tool or descender device on board when fishing for reef fish in the Gulf of Mexico.

The recent implementation of these requirements, along with new Gulf-wide training and Extension programs, will provide anglers with the resources they need to help reduce discard mortality of reef fish in the Gulf of Mexico.

Because different regions in the Gulf likely experience different depredation dynamics, properly examining the relationship between depredation and descender devices requires comparison between geographic areas. Therefore, scientists are partnering with charter captains to expand the original study across the Gulf. The captains will use cameras to capture footage of fish descents, allowing scientists to further analyze exactly how often depredation events take place on descender devices. Ultimately, these data will contribute to the growing base of depredation research in the Gulf of Mexico.

Return 'Em Right



"Providing anglers with the knowledge and tools to best release fish will benefit today's anglers, the next generation of anglers, and the overall health of our reef fisheries.

It is our responsibility to do our best to ensure the fish we have to release live to fight another day."

A new Florida Sea Grant initiative, "Return 'Em Right", aims to increase survival of reef fish that are caught and released in the Gulf of Mexico. This angler-driven program is based on research that shows when anglers have the knowledge and tools to best release offshore reef fish, more fishes survive to be caught later.

In addition to educational training modules, Return 'Em Right will provide *free* release gear to qualified Gulf of Mexico captains and anglers who are committed to using best release practices and to support the future of the fishery. Captains and anglers who wish to pre-register for the program, and those who are interested in learning more about best release practices when fishing for offshore reef fish, can visit returnemright.org.

Reducing discard mortality doesn't just affect today's anglers — using best handling and release practices will benefit future generations and the health of reef fisheries as a whole. Because mortality rates are factored into management decisions, reef fish survival can influence a variety of regulations, including catch limits and season closures. By giving the fishes you release the best chance of survival, you are making a positive impact on the fishery, the ecosystem, and the future.



I'm Marcus Drymon, an Assistant Extension Professor at Mississippi State University and a Marine Fisheries Specialist at Mississippi-Alabama Sea Grant. Amanda Jefferson, Lindsay Mullins, Matthew Jargowsky, Danielle McAree, Ana Osowski, Alena Anderson and I are the Marine Fisheries Ecology Lab. We'd love to hear from you! Please reach out to us at marinefisheriesecology@gmail.com



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