

Everted or protruding stomach



Bulging eyes



Bubbling scales



Inability to return to depth



Distended intestines and bloated belly

Photo by Hayden Staley, FWC

IF YOU CATCH A FISH YOU ARE NOT GOING TO KEEP, HELP IT SURVIVE AND GET BACK TO THE DEEP!

Healthy released fish will have a greater chance to grow and reproduce—which benefits fish populations and the future of your fisheries.

Experienced offshore anglers are all too familiar with having to release fish that are too small, out of season, or just bycatch.

Reef fish taken from deep water undergo expansion of gases in the swim bladder as they are brought to the surface. This may result in an overinflated or ruptured swim bladder as well as other pressure-related injuries, a condition called barotrauma.

Physical signs of barotrauma include protrusion of the stomach from the fish's mouth, bulging eyes, bloated belly, bubbling scales and distended intestines.

Barotrauma severity and likelihood increases with depth; most cases occur deeper than 30 feet. Certain species are more susceptible than others, and high temperatures may increase the severity of barotrauma.

No one likes the sight of floaters. Fishery regulations that require fish to be released will only be effective if fish survive. Reducing discard mortality could lead to more fishing opportunities in the future.

CATCHANDRELEASE.ORG



WATCH THE FLORIDA SEA GRANT CATCH AND RELEASE FISHING PLAYLIST

UF | IFAS Extension
UNIVERSITY of FLORIDA



Florida Sea Grant

PO Box 110409
Gainesville, FL 32611-0409
www.flseagrant.org
(352) 392-2801

The barotrauma information provided here is based on the best available research regarding fish barotrauma as interpreted by a Florida Sea Grant fisheries work action group. Content is adapted from *Barotrauma and Successful Release of Fish Caught in Deep Water*, <http://edis.ifas.ufl.edu/sg160>.

This publication was supported by the National Sea Grant College Program of the U.S. Department of Commerce's National Oceanic and Atmospheric Administration (NOAA), Grant No. NA 18OAR4170085. The views expressed are those of the authors and do not necessarily reflect the view of these organizations. Additional copies are available by contacting Florida Sea Grant, University of Florida, PO Box 110409, Gainesville, FL, 32611-0409, (352) 392.2801, www.flseagrant.org.

Unless otherwise noted, images by Florida Sea Grant. Reef habitat art courtesy of the Integration and Application Network, University of Maryland Center for Environmental Science (ian.umces.edu/symbols/).

Florida Sea Grant is committed to responsible and sustainable printing practices. This document is printed on paper of recycled content using soy-based ink.

BAROTRAUMA

SUCCESSFUL RELEASE OF FISH
& CAUGHT IN DEEP WATER

RELEASING A FISH SAFELY
WITH MINIMAL HARM IS KEY TO
HELPING IT SURVIVE.

BAROTRAUMA: WHAT CAN YOU DO?

Here are two ways you can help fish suffering from **barotrauma**:

1. Venting: Releases gas that has expanded within the swim bladder so the fish can return to depth on its own.
2. Weighted descent: Returns fish to capture depth quickly.

Studies show that both approaches are effective when applied correctly. The approaches have different advantages and disadvantages – choose the one that is best for you, and make sure you know how to do it correctly.



Weighted milk crate

WHY DO IT?

Recreational anglers, commercial fishermen and fisheries managers support the use of barotrauma mitigation strategies to increase survival rates of released fishes.

Fisheries regulations that require fish to be released will only be effective if fish survive. Reducing discard mortality could lead to more fishing opportunities in the future.

CAREFUL HANDLING POINTS

The quicker the fish gets back in the water the better it will do. Use gear that minimizes fight and handling times, reducing stress on the fish. Have dehooking and barotrauma tools ready for use. Gas expansion continues and barotrauma severity increases the longer the fish is at the surface.

Reef fish rely on structure for refuge. While at the surface or in open water, vulnerability to predators increases and is magnified by stress after a capture event.

Traditional method. Data shows it works if performed properly.

VENTING

Venting is a barotrauma mitigation method that is particularly suited for situations where you must handle many fish quickly.

Venting is quick and tools are cheap, but there is a risk of injuring or killing the fish if you don't get it right.

TOOLS

Venting involves the use of a sharp, hollow instrument that is inserted through the muscle to puncture the swim bladder wall and release gas that has expanded within it upon ascent. A variety of venting tools are available. You can also make your own from any sharp and hollow instrument. Knives and ice picks are not suitable, because they do not provide an escape route for the gas.



Proper angle and location

A recent addition to the barotrauma mitigation toolbox.

WEIGHTED DESCENT

Descending is a barotrauma mitigation method that is particularly suited for situations when you are not sure how to vent or when you are worried about potential predation on released fish.

Descending involves using a weighted device that attaches to or encloses the fish, forcibly recompressing expanded gas within the fish's body by returning it to depth. This allows the fish to regain its natural buoyancy and swim away.



Pressurized release tool



Weighted spring release tool



S-shaped wire hook clip

VENTING

PROS

- Quick and particularly suited for situations where you must handle many fish quickly
- Increases fish survival rates when performed correctly
- Tools are small, inexpensive, and convenient.

CONS

- Puncture risk to angler
- Research indicates ~50% of anglers vent incorrectly, resulting in injury or death to the fish.
- Fish is released at surface, requiring it to swim down on its own. This increases predation risk.

WEIGHTED DESCENT

PROS

- Non-invasive technique minimizes injury.
- No sharp objects required
- Easy to learn
- Minimizes predation risk by assisting fish to return to a safer haven on the bottom as quickly as possible

CONS

- Potential extra gear on boat
- Potential extra cost
- Potential added time involved in pulling the weighted gear up to surface
- Not every tool works for every fishing situation

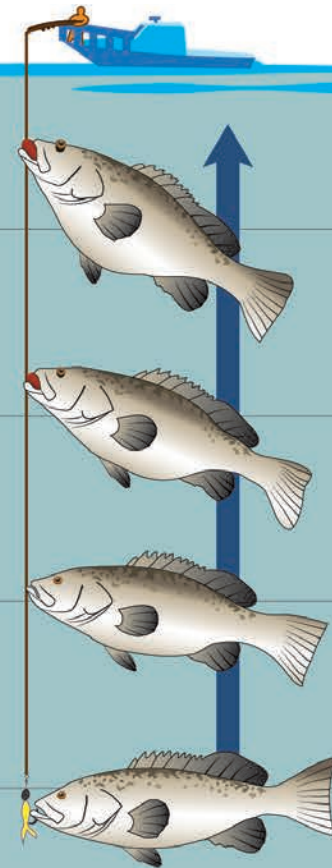
BAROTRAUMA

30 ft

60 ft

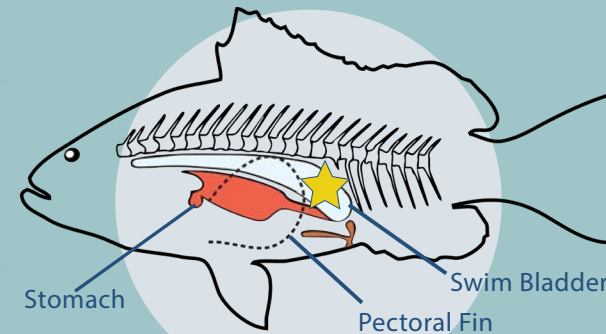
90 ft

120 ft



Barotrauma occurs when fish are brought up from depth. The condition becomes more severe when fishing in deeper water.

BAROTRAUMA MITIGATION



★ Vent here (at 45-degree angle just under the skin's surface)

Venting decompresses the fish before release.

A common misconception is that venting is bad for the fish. However, most fish caught shallower than 125 ft. will heal quickly if vented appropriately.

Common venting tools (right). Pictured images do not imply commercial endorsement.

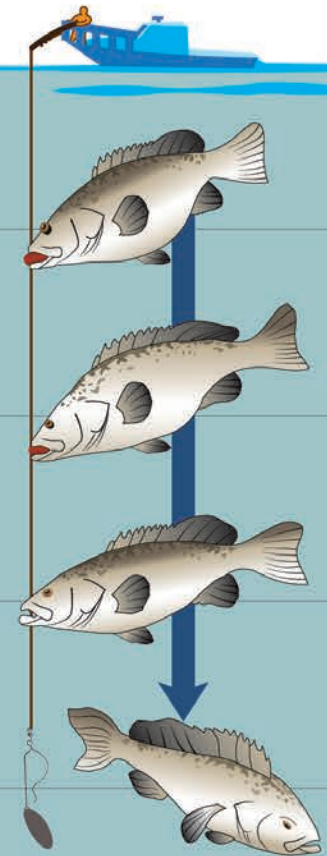


Weighted descent forcibly returns the fish to depth, where the pressure is greater and the fish is recompressed.

Common weighted descent concerns among anglers include:

- the fear of descending gear scaring away fish
- increased predation on the fish and tool
- and a steep learning curve

However, most descending gear is relatively simple and there is minimal evidence of decreased catchability or increased predation. Every situation is different. Some anglers may encounter different obstacles depending on their location and situation.



S-shaped wire hook clip demonstrated in illustration