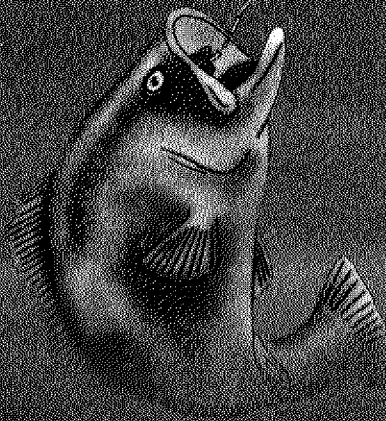


FISHERY CONSERVATION

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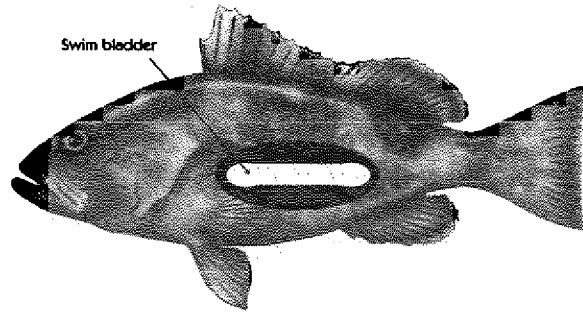


A Guide to Releasing
Reef Fish
with Ruptured
Swimbladders

FLORIDA SEA GRANT COLLEGE PROGRAM
SGEP-12

THE PROBLEM

Many marine reef fish have a gas filled organ called a swimbladder which controls buoyancy and allows the fish to maintain a certain depth in the water column.



The gas in the swimbladder expands when fish are brought quickly to the surface by hook and line. This can result in serious injury to the fish, and if released in this buoyant condition, the fish may float away and die from exposure to the elements or become easy targets for predators. This defeats the purpose of fishery management laws such as minimum size restrictions and daily bag limits.

SWIMBLADDER BIOLOGY

Most reef fish have a closed swimbladder, an internal organ filled with gases, mostly oxygen, carbon dioxide, and nitrogen. This organ is located in the stomach cavity attached to the fish's backbone beneath the dorsal fin.

Swimbladders can expand only so far before they burst. When it bursts, the swimbladder gases escape into the fish's body cavity, where they can continue to expand. The pressure exerted by these gases is sufficient to push the stomach out of the mouth, the intestines out of the anus, and applies pressure to the internal organs of the fish.

Venting releases these gases from the body cavity, thus eliminating the pressure on the internal organs. If damage is not excessive, the organs will return back in place on their own once the gases are expelled. Venting also will allow the fish to overcome buoyancy problems and swim down to habitat depth, enhancing immediate survival of the fish.

VENTING METHODS FOR REEF FISH

Scientific studies have shown that species with large swimbladders, such as red grouper and gag grouper, derive immediate benefit from venting.

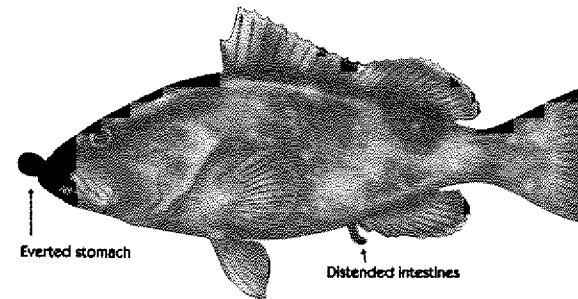
NOTES ON VENTING

After reeling in a fish, closely observe its condition. If the fish is bloated and floats (unable to control its buoyancy), or if the fish's stomach is distended out of the mouth, the fish should be vented. If the fish appears normal, not bloated and is able to swim down on its own, venting is

not necessary. With practice and experience your ability to quickly judge which fish should be vented will improve.

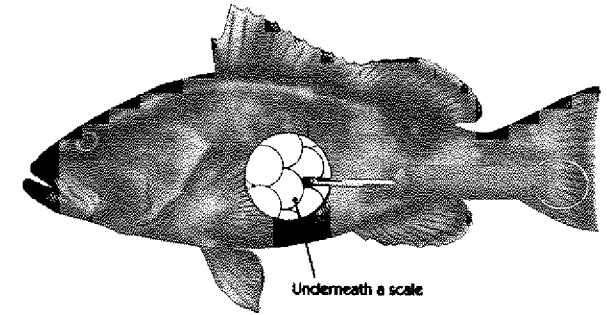
Venting Procedure:

- 1) Quickly determine if the fish requires venting before release. Vent the fish's body cavity if the stomach is everted out of the mouth or the fish is very bloated and floats at the surface, or is unable to swim down to habitat depth. If the fish's stomach is everted out of the fish's mouth, do not attempt to push it back into the fish's body or deflate it with a knife or ice pick as this could cause additional injury or death. Expelling the swimbladder gases will allow the stomach to return to its normal position.

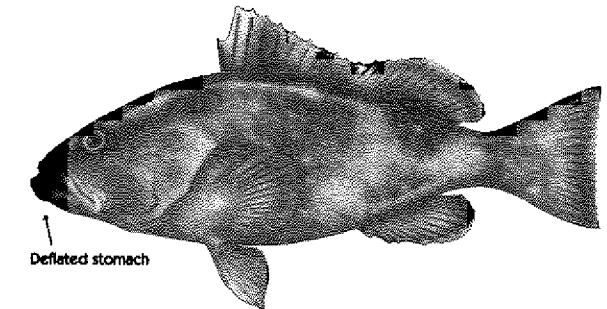


- 2) To vent, hold the fish gently but firmly on its side and insert the venting tool at a 45 degree angle at the base of the pectoral fin. Only insert the tool deep enough to release the gases, do not skewer the fish. The sound of the escaping gas is audible and deflation is noticeable. If a fish

is extremely bloated, use your free hand to exert gentle pressure on the fish's abdomen to aid deflation.



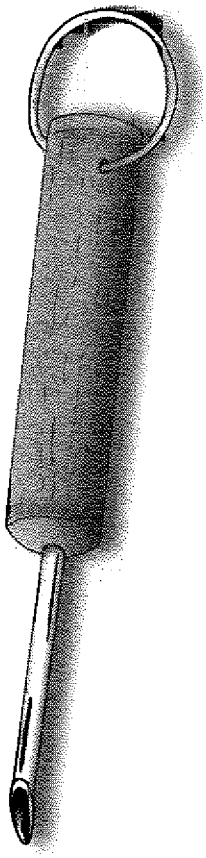
- 3) Return the fish to the water as soon as possible and, if necessary, revive it by holding the fish with the head pointed downward and move the fish back and forth to pass water over the gills until the fish is able to swim unassisted.



VENTING TOOLS








A hollow, sharpened, stainless steel veterinarian's cannula mounted on a hollow wooden dowel is the best tool for venting reef fish. However, any sharp

hollow instrument, even a hypodermic syringe will work. The tool must be hollow to allow the gases to escape, therefore, an ice pick or knife should not be used. Simply puncturing the extended stomach causes more stress to the fish and can result in a mortal injury so it should not be done. The venting tool should be cleaned between uses and kept in a safe and accessible place. Clogs can be cleared by using a piece of wire and chlorine bleach is a good disinfectant to use to keep the tool clean. Be sure to cap or place a cork on the tip of the tool after use to prevent personal injury.



FISH SURVIVAL GUIDELINES

Fishing laws are designed to maintain a spawning stock ratio to ensure the future of a fish species. Compliance with fishing laws is essential for sustaining U.S. sport and commercial fisheries. When compliance means releasing a fish, follow these guidelines to improve its survival.

-  Have a plan for releasing a fish before landing it.
-  Avoid using gaffs and landing nets if possible.
-  Handle the fish as little as possible and try to keep the fish in the water.
-  Handle the fish with wet hands, wet gloves or a wet towel to avoid removing the beneficial fish slime. Be sure to avoid damaging the gills and eyes.
-  Back hooks out using pliers or cut the leader as close to the hook as possible on throat-hooked fish. Use hooks which rapidly degrade in saltwater.
-  Time is crucial in keeping a released fish alive. Work quickly and in concert with others on board for quick releases.
-  Revive an exhausted fish in the water by passing water over the fish's gills by using a gentle back and forth swimming motion until the fish recovers.



Information in this document is based on the best available research regarding reef fish venting as interpreted by a Florida Sea Grant Advisory Panel assembled to review this research. Although the authors realize the need for further study of the influence of venting on long term reef fish survival, sufficient information exists to warrant this educational brochure providing guidelines to assist anglers in successful release practices.

This research, conducted by scientists at the Center for Fisheries Enhancement at Mote Marine Laboratory, was sponsored by NOAA, Office of Sea Grant, Department of Commerce, under Grant Number NA36RG-0070. The U.S. Government is authorized to produce and distribute reprints for governmental purposes not withstanding any copyright that may appear herein.

For more information, contact your local Florida Sea Grant marine agent or the Florida Sea Grant College Program at: PO Box 110400 - Gainesville, FL 32611-0400 - 352-392-5870 or the Mote Marine Laboratory - 1600 Ken Thompson Parkway, Sarasota, FL 34236 - 941-388-4441.

SGEF-46

September 1999

