

# Methods for Releasing Deepwater Bottomfish

The Pacific Islands Fisheries Group has been administering a tagging project throughout the Hawaii Archipelago that targets the seven deepwater bottomfish (the Deep 7)—onaga, ehu, opakapaka, kalekale, hapuupuu, gindai and lehi. As part of the project, Hawaii bottomfish fishermen have been field-testing developed techniques to release deepwater bottomfish in a manner to promote their health and survivability.

When bottomfish are brought up rapidly from deepwater to the surface, they can experience “barotrauma,” which is physical damage to body tissue that is caused by rapid changes in the surrounding (or ambient) pressure. Barotrauma occurs because gases are compressible but the tissues are not. When bottomfish are brought rapidly from deep waters where the pressure is high to the surface where the pressure is significantly lower, the gas inside the air spaces in the body can cause damage to the surrounding tissues if that gas becomes trapped.

Bottomfish that appear lively and are in good shape are not experiencing barotrauma and can be returned to the ocean immediately without any treatment.

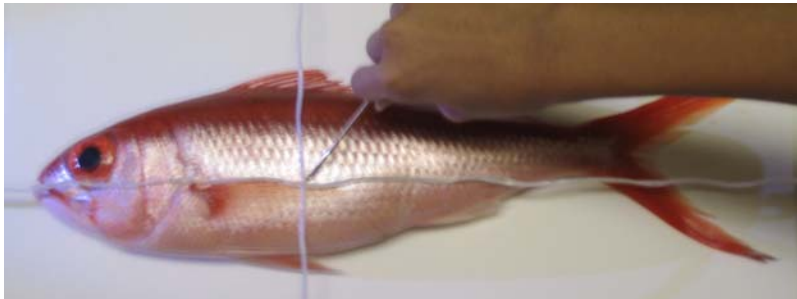
Bottomfish that come up showing signs of barotrauma—bloating, bulging eyes, stomach protruding through mouth and/or popped scales—should be treated before released or should be released in a manner that quickly returns them to higher pressure depths. These methods are explained below.

## 1) Venting

Venting a fish’s swim bladder is one way of treating barotrauma. Venting consists of puncturing or piercing the swim bladder to allow gases to escape. Once vented, the fish can be released. The faster the fish is treated the better its chance for a full recovery.

### Tools:

1/8-inch hollow tube about 6 inches long with one side sharpened or a syringe needle



### Steps for Venting the Swim Bladder:

Insert the hollow needle (or syringe) at a 45-degree angle towards the bottom of the stomach in line with the pectoral fin and below the 4th dorsal spine. Push the needle gently through the skin to puncture the swim bladder.

**Ehu’s stomach pushed back into stomach cavity after venting (above).**

If the procedure is done correctly, air should be heard escaping through the hollow needle and the stomach will deflate. (The swim bladder has been known to heal in a matter of days in some species and weeks in others.)

If the fish is vented and the stomach protrudes out of the fish’s mouth, use a smooth or rubberized dowel to push the stomach back into the stomach cavity. This will prevent the stomach from obstructing water flow through the fish’s gills as it descends to the bottom and is recommended when using “drop shoot.”

## 2) “Drop Shot Weight Release”

Fish can be returned to the bottom by using a release weight. Test have shown that fish do not require venting if using a release weight as gases in the swim bladder recompress as the fish returns to the bottom. However, if the stomach protrudes out of the fish’s mouth, use a smooth or rubberized dowel to push the stomach back into the stomach cavity. This will prevent the stomach from obstructing water flow through the fish’s gills as it descends to the bottom.



**A)** Pass the hook on the release weight from behind, along the gill plate and gills out through the fish’s mouth.



**B)** Next, drop the fish head first into the water. If the fish is larger, reduce the margin of error for timing the release of the fish with the weight by using the optional “drop shoot.” (below) The drop shoot provides safe handling of larger fish during release and also eliminates the need for two persons.

**C)** Once the released fish reaches a minimum depth of 25 fathoms, pull sharply on the line to release the fish.



### **Tools:**

Barbless hook mounted on a 5-lb lead weight and attached to a release line.

Optional “drop chute” made of 8-inch by 3-foot PVC pipe cut length wise in half and with a nylon rope handle

**Optional  
“Drop chute”  
release for  
larger fish.**



The Pacific Islands Fisheries Group is a 501c3 non-profit organization. For more information about PIFG, the tagging project or on the release techniques for bottomfish species, visit [www.fishtoday.org](http://www.fishtoday.org) or call 808 265-4962.