



## 2011 Runner-up: The SeaQualizer

Innovative Bycatch Release Device Wins \$10,000 Award

The SeaQualizer is a noninvasive, pressure activated, fish recompression tool that is capable of releasing fish at targeted depths, and was awarded a \$10,000 prize as runner-up in the 2011 Smart Gear competition.

The winning team, that comprises Bill Brown, Jeffery Liederman, Patrick Brown, and Ryan Brown from the Florida based company, Finovation Inc., came up with the idea for the SeaQualizer to address a significant problem in the management of some recreational fisheries - the mortality of bottom dwelling fish that are released at the surface as bycatch.

These fish have air bladders, and when they are brought to the oceans surface from depth they undergo barotrauma. This is when the fish cannot release the gas in the airbladder quickly enough to prevent expansion of the air bladder when brought to the surface on fishing gear.

Once released, with their air bladder expanded, the fish are unable to return to the original depth where they were captured, and as a result the mortality rate is very high.

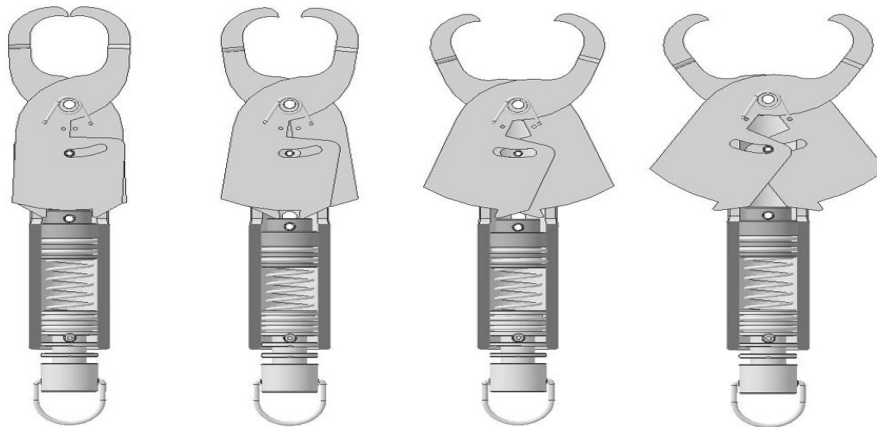


### SeaQualizer - Fast Facts

The SeaQualizer represents a breakthrough in bycatch release technology that could have a major impact on the management of recreational fishery mortality.

This pressure activated, fish recompression tool can accommodate the release of many species of fish, both large and small. Large species of fish, such as the Warsaw or Goliath Grouper require a significant amount of weight to overcome the resultant buoyant force while small species of fish require a compact profile to accommodate their small mouths.

Although several techniques have been introduced to mitigate this bycatch mortality, none are widely used in many recreational fisheries and others have not proven to be effective.



Secured → Released

Diagram illustrating the SeaQualizer sequence of release

### How the SeaQualizer works

The SeaQualizer works by non-invasively securing articulating jaws to a fish's lower lip, that has been caught at depth. To return the unintended catch, the reverse end of the mechanism is fastened to a weighted fishing line, via a long-line clip, that is then returned to a depth.

This provides adequate recompression so that when released, the fish can swim away with minimal buoyant force acting against it.

The device is triggered by a pressure differential at a specified depth. It reduces the time and effort for the angler to repeatedly reel heavy weights all the way up from the bottom.



### Conservation Potential

Management of many fish species including the valuable red snapper in the Gulf of Mexico and rockfish in the Pacific include the mandatory release of undersize fish and catch limits that require the release of significant numbers of fish. If survival could be improved for these fish, significant improvements could be made in management and stock levels of these valuable fish species.

Studies have suggested that survival rates greater than 50% are possible, depending on the species and the depth from which they are raised. Species such as the rockfish are usually caught in less than 200' of water and when recompressed have shown survival rates of up to 90%.

With its user friendly capabilities and the tested effectiveness of this device, the SeaQualizer could be widely accepted by the recreational fishing community and if so, could make a significant contribution to the reduction of bycatch mortality in many recreational fisheries and contributing to improved sustainable management and increased fishing opportunities.



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