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## Reef Research Sparks Design `Breakthrough'

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The Reef Ball Foundation, Inc. has developed a new, aesthetically pleasing artificial reef module based on an internal, inflatable bladder that allows the concrete structures to be floated to their drop sites behind any boat, eliminating the need for special deployment equipment.

Newly developed, compact Reef Ball molds are a break-through in that they make building many modules easy.

The customizable molds contain an internal, inflatable bladder complete with a diver's buoyancy compensator (BCD) style inflation/deflation hose. The lining of the mold is designed to create a complex surface structure that enables coral growth. The inventors are currently designing a polyethylene insert to enhance coral settlement.

A team of Russian group members is designing an enhanced connection system so that many Reef Balls® can be tied together for stability in high energy wave zones.

By using the new molds, several design improvements are possible. Rubberized balls can be placed between the outer mold and the interior bladder. This creates a "honeycomb" effect throughout the Reef Balls®. The numerous holes, nooks and crannies that this "honeycomb skin" provides allow the Reef Balls® to mimic natural reef systems in appearance and function. Other improvements include a flat mold and bladder bottom and expanded manufacturing capabilities. The flat bottom makes the structures more stable on the ocean floor, and the expanded manufacturing capabilities remove previous size constraints. All sizes and shapes, up to 12 feet in diameter, can be produced by the group.

--Laura Shellhorse



Reef Ball Development Group Photo

*New Reef Ball® design makes multi-module construction possible for reef builders.*

## How Reef Molds Work

The concrete that forms the Reef Balls is poured into the mold between the inflated internal bladder and around the rubberized ball. When the concrete hardens, the mold is pulled away and the module is rolled, by hand, into the water. The floating structure is towed to the-desired drop site, and, once the site is reached, the air is released through the BCD style valve. The bladder deflates at a controlled rate and the reef is placed precisely as the desired location. Although the bladder is removed when the modules are in place, it can be reinserted to move the reef later if the need arises.

Academic researchers are excited about the possibility of moving an established reef after coral has developed for control purposes in their efforts to understand coral deaths.

After an initial investment in a mold system, the modules can be created for a very low cost, usually less than \$100 a ball. If you are interested in learning more about this group and in receiving their newsletter, please contact them at (941) 752-0169

Six .inch Reef Ball® models are available from the group for \$20.

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