



# BUDDY LINES

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## RESEARCH ON ARTIFICIAL REEF BUILDING LEADS TO REEF BALL DESIGN BREAK-THROUGH

ATLANTA, GA (September, 1993) -- The Reef Ball Development Group, Ltd. 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, rface 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 Ball™. The numerous holes, necks and crannies that this 'honeycomb skin' provides allows 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.

## HOW MOLDS WORK

Here is a brief summary of how the molds work. The concrete that forms the Reef Balls™ is poured into the mold between the inflated internal bladder and around the rubberized balls. 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 on 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 the group and in receiving their newsletter, please contact them at (404) 642-5948. Six inch Reef Ball™ models are available upon request.

