

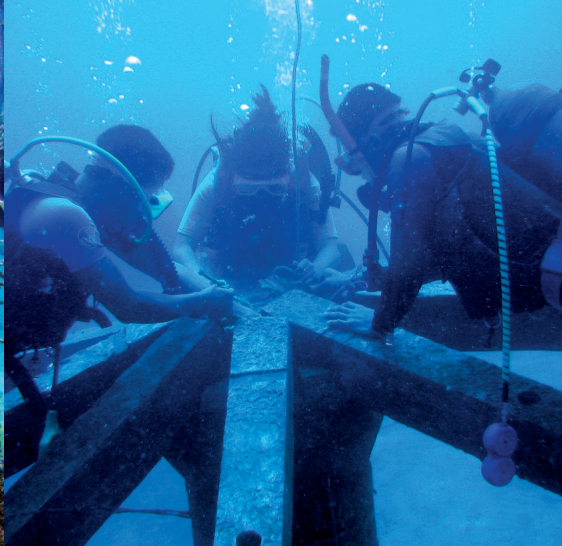
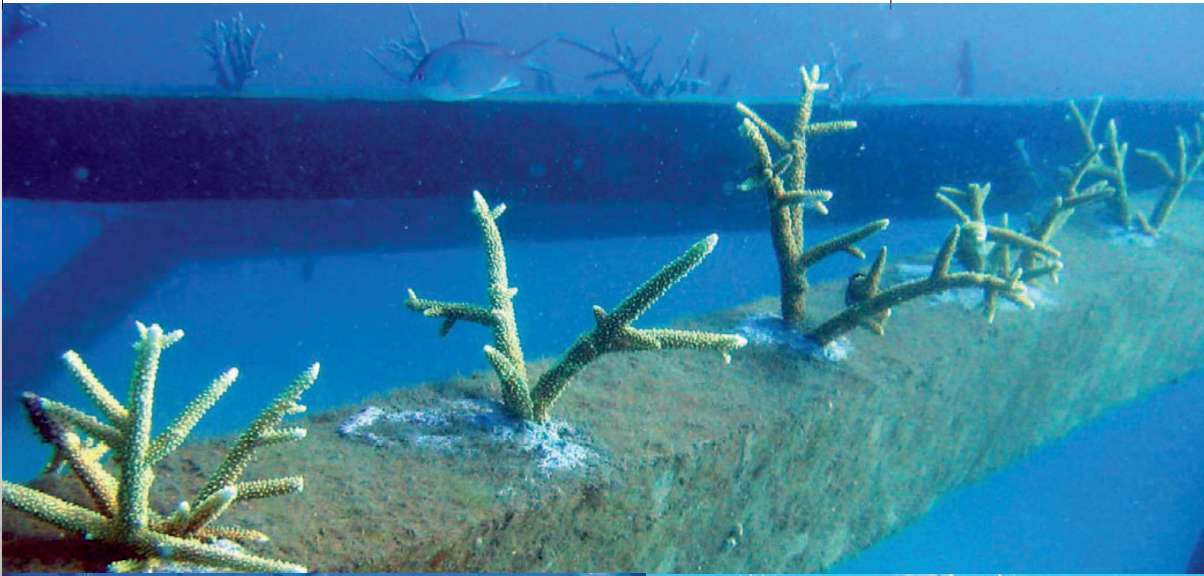


Silver Award Asia Pacific

## Reef fabrication

Title of project	<b>Concrete substrates for accelerated coral restoration</b>
Principal authors	<b>Lemuel Rananan Alfeche, Mindanao Polytechnic State College with Ernesto Fabella Pelaez, Duka Reef Divers Foundation, Ronald Roland Cesar Rodríguez, Diamond Marketing, and Severo Eduardo M. Yap, all in Cagayan de Oro, Philippines</b>

Located in the Philippines, this project takes us to and even under the ocean. It offers a very simple but nevertheless ingenious solution to accelerated coral restoration. This is environmental engineering at its best, using a low technology concept to restore marine ecosystems damaged by humanity. The main idea of the proposal is to deploy concrete substrates that are found to be biologically friendly to coral reefs due to the presence of calcium bicarbonate in cement. A multi-legged structure insures the stability needed to withstand strong underwater currents. Prototypes were constructed to test the modules as to the efficacy of the design in terms of promoting coral growth while serving to attract fish and other marine fauna. Considered with respect to minimal construction cost



and the exponential growth of coral, the project promises an extraordinary return on a low investment.

