



Nova Southeastern University
NSUWorks

Oceanography Faculty Proceedings, Presentations, Speeches, Lectures Department of Marine and Environmental Sciences

12-2004

Techniques for Restoring Gorgonians to Coral Reef Injury Areas

Lauren F. Shuman
Nova Southeastern University

David S. Gilliam
Nova Southeastern University, gilliam@nova.edu


Richard E. Dodge
Nova Southeastern University, dodge@nova.edu

B. D. Ettinger
Nova Southeastern University

Daniel P. Fahy
Nova Southeastern University, fahyd@nova.edu

See next page for additional authors

Follow this and additional works at: http://nsuworks.nova.edu/occ_facpresentations

 Part of the [Marine Biology Commons](#), and the [Oceanography and Atmospheric Sciences and Meteorology Commons](#)

NSUWorks Citation

Shuman, Lauren F.; Gilliam, David S.; Dodge, Richard E.; Ettinger, B. D.; Fahy, Daniel P.; Fahy, Elizabeth Glynn; Gill, Shaun M.; Monty, Jamie A.; and Walker, Brian K., "Techniques for Restoring Gorgonians to Coral Reef Injury Areas" (2004). *Oceanography Faculty Proceedings, Presentations, Speeches, Lectures*. Paper 278.
http://nsuworks.nova.edu/occ_facpresentations/278

This Conference Proceeding is brought to you for free and open access by the Department of Marine and Environmental Sciences at NSUWorks. It has been accepted for inclusion in Oceanography Faculty Proceedings, Presentations, Speeches, Lectures by an authorized administrator of NSUWorks. For more information, please contact nsuworks@nova.edu.

Authors

Lauren F. Shuman, David S. Gilliam, Richard E. Dodge, B. D. Ettinger, Daniel P. Fahy, Elizabeth Glynn Fahy, Shaun M. Gill, Jamie A. Monty, and Brian K. Walker

Techniques for Restoring Gorgonians to Coral Reef Injury Areas

Lauren F. Shuman, David S. Gilliam, Richard E. Dodge, Brian D. Ettinger, Daniel P. Fahy, Elizabeth G. Fahy, Shaun M. Gill, Jamie A. Monty and Brian K. Walker

National Coral Reef Institute, Nova Southeastern University Oceanographic Center, Dania Beach, FL

Great attention and energy has been spent investigating reattachment techniques for dislodged and fragmented scleractinian corals; however there has been a lack of controlled experimentation on how to restore dislodged gorgonians following a disturbance event, such as a ship grounding. Unfortunately, reef damage events occur frequently off southeast Florida. As an example, since 1998 at least five freighters have grounded on the reefs near Ft. Lauderdale, Broward County. These freighters dislodged many scleractinian and gorgonian corals and often destroyed thousands of square feet of reef habitat. After these events, restoration efforts concentrated on stabilizing loose debris and rubble, and reattaching scleractinian coral fragments and dislodged colonies. Although southeast Florida's reefs are dominated by gorgonian corals, which are also sheared from the reef when ships ground, restoration efforts generally do not place much emphasis on reattaching dislodged gorgonian colonies.

In order to determine effective techniques for restoring gorgonian populations, 94 gorgonian clippings were transplanted to a reef area in Broward County, Florida in June 2004. The 15-cm clippings were cut from naturally occurring loose colonies of *Pseudopterogorgia americana*, *Plexaura flexuosa* and *Muricea muricata*, common gorgonians in the southeast Florida reef system. Half of these clippings were attached to the reef substrate using Portland II cement; the other half were transplanted to the reef with two-part marine epoxy. These clippings will be monitored quarterly for a minimum of one year to measure growth and health, and whether the colonies form attachments to the reef over the cement or epoxy. Clipping growth data will be compared to control, 15-20 cm naturally attached, colonies of the same species to determine whether transplant growth is similar to naturally occurring small gorgonian colonies. Data will also be collected on loose control colonies, which are tethered to small pins in the substrate. These controls will indicate whether dislodged colonies left loose on the reef will die, or whether they will reattach and continue to grow.

The goal of this study is to determine effective techniques to restore gorgonian populations. This study aims to create a protocol that resource managers and scientists may follow when determining the most effective way to restore gorgonians to reef habitats following events such as ship groundings. This protocol will take into consideration the condition of each gorgonian colony and the resources available (equipment, money, and time) for restoration.

Contact Information: Lauren F. Shuman, National Coral Reef Institute, Nova Southeastern University Oceanographic Center, 8000 North Ocean Drive, Dania Beach, Florida, 33004, Phone: 954-262-3634, Fax: 954-262-4027, Email: shuman@nova.edu