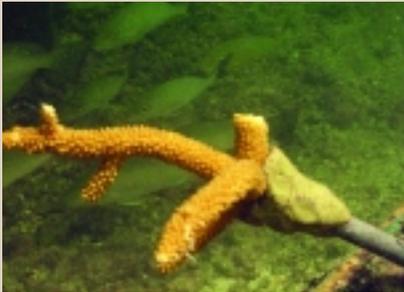


Other Developments

Building a coral nursery at Biscayne National Park

by Richard Curry, Daniel DiResta, and Shay Viehman

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With more than 20 boats running aground on coral reefs annually in Biscayne National Park, Florida, the National Park Service is challenged to protect the park's coral reefs. Add to that other disturbances such as coral disease, storms, and destructive fishing and the problem is multifaceted, requiring an integrated management strategy. Part of the solution lies in an innovative restoration program being pioneered at the park that focuses on rebuilding damaged coral reefs with coral grown in a nursery (photo, bottom). In 2002 the nursery was expanded greatly to provide material for future restoration projects.

The operational principles used in this hard-coral nursery are identical to those for conventional plant nurseries: manipulating environmental conditions to attain maximum growth, size, and survivability. The only difference is time; where plant nurseries cycle their product in one to four years, coral nurseries may require 10 times that.

Park scientists and volunteers populate the nursery by rescuing damaged coral fragments (photo, top) that would die if not transferred to a stable and secure location. The vessel groundings that occur on the coral reefs in the park provide more than enough material for the nursery; no additional collections are made from undamaged reefs. The park will increase its nursery

stocks by dividing the damaged colonies brought in from the reef and by fragmenting those coral colonies that have reached a suitable size (>15 centimeters, or about 6 inches).

Unlike the few other hard-coral nurseries worldwide, the four nursery sites at Biscayne are located in well-protected areas, providing easy access for monitoring and maintenance. These sites also facilitate simple experiments focused on enhancing growth and regulating growth inhibitors such as algae. Volunteers from local schools and the public assist in research and implementation of optimal nursery maintenance techniques. Other partners are the University of Miami, the National Oceanic and Atmospheric Administration, and the University of North Carolina, which are developing techniques for capturing coral sperm and eggs during annual spawning and growing them into juvenile corals in order to further increase nursery stocks. Soon, nursery-grown corals will provide an environmentally sensitive option for use in coral reef restorations. ■

NPS PHOTO BY SHAY VIEHMAN



richard_curry@nps.gov

Science/Research Coordinator, Biscayne National Park, Florida

diresta@miami.edu

Associate Professor, University of Miami

shay_viehman@nps.gov

Associate Science/Research Coordinator, Biscayne National Park, Florida