

Cultured Corals Transplanted to the Wellwood Site

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Kelly Nedimyer holds a fragment of staghorn coral during a recent dive trip to transplant corals onto the Wellwood Restoration site. (Photo: Ken Nedimyer)

In late 2003, a trio of sanctuary reef restoration specialists joined my dad and me on what we hope will be a long-term project designed to restore corals to damaged reef areas. On our trip, we successfully moved six staghorn coral (*Acropora cervicornis*) colonies from our coral nursery located on my dad's live rock lease site to the *Wellwood* grounding site on Molasses Reef off Key Largo. These corals were propagated from the donor colonies that had settled on his live rock farm over the last 9 years.

The effort of coral propagation using staghorn coral began two years ago. Staghorn coral is a fast growing, branching coral that can be easily propagated by fragmentation. Thus, it was a great candidate for aquaculture. Our propagating method actually begins on land where we used epoxy to attach fist-sized rocks to concrete blocks. The blocks are then moved and organized onto my father's rock site. We take small uniform cuttings from the settled donor colonies and affix them to these fist-size rocks on the blocks. We attached the corals to small rocks so that we could remove the corals from the blocks without damaging or stressing the corals. Our method was successful and the corals were thriving.

Last summer a large outbreak of an unidentified coral disease, which scientists are attempting to characterize, swept across the Upper Keys (especially White Bank Dry Rocks, off Key Largo) killing numerous staghorn corals. During the disease outbreak at White Bank, we noticed that our corals were doing well and except for two colonies on one section of the site, none of ours became infected. We were contacted to see if we had some healthy corals that could be taken to White Bank for a comparison study, and it



Boats running aground on the coral reefs of the sanctuary can crush reef-building corals and leave toxic (blue) bottom paint behind. Restoration biologists are charged with restoring this damage.

(Photo: FKNMS)



Kelly Nedimyer cuts a growing tip of staghorn coral for transplanting onto the Wellwood restoration site. Healthy colonies of staghorn that had reached one year old were chosen for this project.

(Photo: Ken Nedimyer)



was at this point that we decided our initial goal of using our propagated coral for the marine aquarium industry needed to be changed. We believed that our corals could serve a better purpose restoring damaged reef sites than selling them for aquarium decorations.

We spoke with Sanctuary Restoration Managers Harold Hudson and Bill Goodwin about donating some of our corals for restoration work. After some checking with their colleagues, and after the white band disease outbreak had subsided, we got the go ahead for a pilot project to take place on one of the restoration modules on the *Wellwood* site.

On a nice day in October, Harold Hudson, Ben Richards, and Amy Massey joined my father Ken Nedimyer and me on our boat to transplant the developed coral colonies. First, we went to the coral nursery to select appropriate corals for transplant. Six nice colonies were chosen and detached from the blocks. The corals were then taken to the boat, where they were placed in five-gallon buckets of water to be transported to the *Wellwood* site.

At the site, Hudson located the selected module, and we tied up to the nearest mooring buoy. Then we carried the corals to the bottom, and with Hudson's help, six suitable sites on this module were chosen for the attachment of the corals. The sites were then prepared using a wire-brush to remove the algae and make the surface flat and receptive for cementing the new colony in place. While Massey, Richards, and I finished the cleaning process, my dad and Hudson went back to the boat to mix the cement that we would use. When sites were ready, Hudson mixed the cement to just the right consistency, formed it into a ball and handed it to Richards, who then swam it down to me. Then I pressed the cement ball into the cleaned area and quickly picked up the selected coral rock and pressed it firmly into the cement. Finally, we smoothed out any cracked or rough areas in the cement. We had to work quickly because the cement hardened in less than 10 minutes. The process was repeated until all six corals were in place.

After several months, all six corals are alive and appear healthy. Before and after photos indicate they had grown considerably and have even started to develop new branches. We will continue to watch these transplanted colonies over the next year and record their progress. In the meantime, our plans are to continue to propagate more corals for future restoration efforts.

*Note: This article appeared in the Spring/Summer 2004 issue of the newsletter of the Florida Keys National Marine Sanctuary, **Sounding Line**.*



The sites were prepared to receive the colonies of coral using a wire-brush to remove the algae and make the surface smooth. (Photo: Ken Nedimyer)



After several months, all transplanted coral fragments were doing well. Some even started to develop new branches. (Photo: Ken Nedimyer)