

New Technique Restores Bay Bottom

A University of Miami Sea Grant scientist, using a new seeding technique, has restored vegetation on a bay bottom denuded by heated water and silt from a power plant.

Since the release of these effluents into Biscayne Bay ended, Dr. Anitra Thorhaug has succeeded in growing *Thalassium testudinum* — commonly called turtle grass because it is a favorite food of sea turtles — on the bay's bare floor.

Her research is supported by the National Oceanic Atmospheric Administration's Office of Sea Grant. In addition to the Commerce Department agency, the Florida Power and Light Company and the Atomic Energy Commission have helped finance the studies.

"Where turtle grass is, the fish are," Dr. Thorhaug says. "It provides food and protection for sport and commercial fishes

during various stages of their life cycles. Fishermen know that one of the best ways to catch sea trout, for example, is to allow their boats to drift across carpets of turtle grass, trailing live shrimp as bait."

A vital part of bay ecosystems, seagrasses have been destroyed in many areas by dredging, siltation, and pollution. Earlier attempts to restore turtle grass, by cutting sprigs of *Thalassia* and planting them in new areas, met with limited success. And, if this technique were carried out on a large scale, it would damage the beds from which the sprigs were cut.

Dr. Thorhaug had a new idea: Why not plant seeds of the turtle grass? So she took a diving crew to the Bahamas where, wearing scuba gear, they harvested 8,000 *Thalassia* fruits.

Back at the University of Miami's Rosenstiel School of Marine Science, the crew separated 20,000 seeds from the fruits. Then the seeds were treated with root-growth hormones and suspended in running sea water until they could be planted by divers.

The divers planted the hormone-stimulated seeds in rows, anchoring them with brightly colored plastic. The seeds sprouted roots almost immediately after being planted, and grew rapidly. Nine months after the diving crew had jabbed them into the bay floor, only 31 per cent of the plants were dead, dormant, or missing.

Dr. Thorhaug estimates that her seeding technique can restore seagrasses 10 to 12 times faster than natural processes. It could hasten the comeback of vegetation in underwater lands blighted by dredging, siltation, chemicals, or sewage, and could be used to grow seagrasses on underwater banks or canal sides.

But much research remains to be done, she notes. The stresses placed on the young plants by fluctuating water salinity and temperatures must be evaluated.

In the meantime, Dr. Thorhaug's diving teams are planting turtle grass seeds in an area of Biscayne Bay, between Miami and Miami Beach, where siltation and pollution long ago thinned out bottom vegetation and where few fish cruise.