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ABSTRACTS SUBMISSION FORM

ELECTRIC CORAL REEF RESTORATION IN THAILAND

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Twentyfive Biorock® electrical coral reef and fisheries restoration structures have been installed at six sites in Ko Samui (16 structures) and two sites in Ko Tao (9 structures). Due to declining fish catches, local fishermen recognized the need to restore coral reef habitat, resulting in local government funding for Biorock reef restoration projects at 6 sites around Koh Samui. In Koh Tao the dive community, environmental groups, and local government supported reef restoration projects to restore damaged snorkeling and diving sites. Small naturally broken coral fragments found nearby were attached to Biorock structures. These rapidly attached themselves to the Biorock material, often within one day. They show very vibrant colors, extremely dense branching and exceptionally rapid growth. Very high rates of spontaneous coral and oyster recruitment were seen on many structures, with some structures being nearly completely covered with natural coral recruits within two years. Coral recruits growing on Biorock were seen to grow about five times faster than those on ceramic tiles, and to branch far more rapidly. Structures were immediately colonized by fish populations in greater numbers than the surrounding reef. These pilot projects showed that the Biorock methods were extremely effective in rapidly growing back vibrant coral and fish communities in places that had been practically barren before and subjected to high sediment stress. Biorock reefs produce better biological results at lower cost than alternative technologies and could be much more widely used to restore damaged reefs and fisheries. Given the severe shore erosion seen in many parts of Thailand, which will get worse in the future as sea level rise accelerates, Biorock shore protection structures could be built in erosion affected areas as soon as possible.

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