

Ability of Artificial Sea Grass to Attract Marine Life

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Zostera fields serve as habitat, feeding ground, and hiding place for many species of fish, including juvenile red sea bream. We conducted a study of several types on artificial sea grass resembling *Zostera marina*, to determine their ability to attract marine life.

In July 2000, seven 2m x 2m iron lattices implanted with artificial sea grass were placed on the seabed at a depth of 7 meters in Morode Bay in Misho-Cho, Ehime Prefecture. The lattices were implanted with six different configurations of the artificial sea grass: green, long, thick strands (Zone 1); green, short, thick strands (Zone 2); white, short, thin strands (Zone 3); green, short, thin strands (Zones 4 and 6); green, long, thin strands (zone 5); green, long, thick strands with an unplanted area in the middle (Zone 7); For comparison, a *quadrat* (a fish observation area with grids divided by ropes) was also placed in a natural *Zostera japonica* field and in the sandy seabed adjacent to the study area. A census of the fishes been taken at every spring tide since July 15, 2000.

The results at the end of December 2000, revealed a total of 1,294 individuals from 58 spp. in the artificial sea grass area, 258 individuals from 31 spp. in the natural *Zostera japonica* field, and 165 individuals from 15 spp. in the sandy area. Juvenile red sea bream were found most often in the artificial sea grass at the time of the census in December, while none were found in the sandy seabed area.

Within the area implanted with artificial sea grass, the zones containing long, thick strands, such as Zones 1 and 7, showed the greatest variety of species. The red sea bream were most prevalent in Zones 1, 2, and 3, rather than in Zone 5, which contained the long, thin strand sea grass. *Sepioteuthis lessoniana lesson* were first discovered in the test area in late-April 2001, ten months after the lattice was placed in Zones 3, 4, 5, and 6 (thin strands), which they used as a spawning ground.

There was a significant difference between thin and thick strands in the amount of natural seaweed that had attached itself to the artificial sea grass. In February 2001, 14 spp. of natural seaweed were found attached to the long, thin strands, while 3 were found on the short, thick strands. Thin strand Zones had more seaweed growing in them than thick strands, irrespective of length.