

# ARTIFICIAL REEF EFFECTS ON FISHABLE RESOURCES IN THE GULF OF SALERNO (MIDDLE TYRRHENIAN): A PRELIMINARY ANALYSIS.

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## Abstract

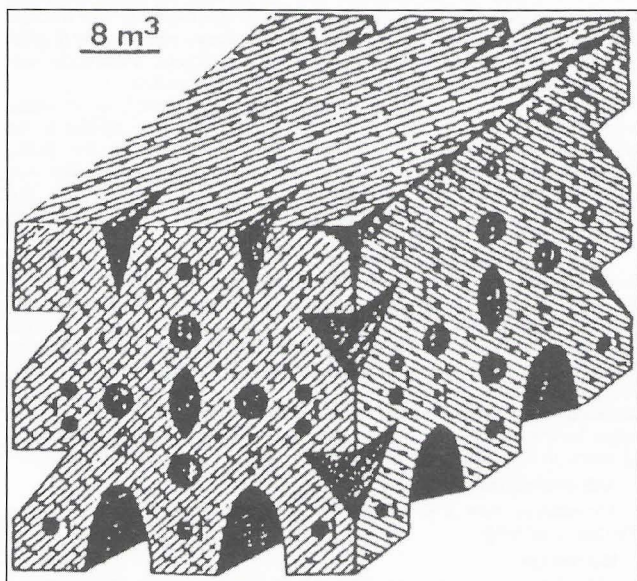
In the Gulf of Salerno during 1994, in the sea area in front of the town of Agropoli, at a depth ranging from 20 to 25 meters, a small artificial reef has been set up. The structure was built with concrete cubes disposed in a pyramidal design with four cubes in the inferior part and one on the top. A preliminary analysis on the effects of the setting up of this structure on the species of Teleosteans, Molluscs and Crustaceans, targets of the fishing activities in the area, is here reported.

*Keywords: Artificial reefs; trammel net catch analysis.*

In the year 1994, the administration of the town of Agropoli (Salerno) decided to set up a small artificial reef, which was at that time the first structure of this type employed along the coasts of the Region Campania (Southern Italy). The decision was caused by the will to set a serious obstacle to the illegal near shore trawl fishery, which, at that time, was a big problem in the area of the Gulf of Salerno.

It must be noticed that near shore trawl fishery causes, as it is well known, serious damages to the small-scale fishery, operating with traditional systems like trammel-nets, bow-nets, etc. Must be noticed also that in the whole bay of Salerno operates a relevant fleet of little boats attending to the small scale fishery (1).

In order to protect the local small-scale fishery, from the damages caused by trawl vessel and, at the same time to increase the marine production in the area, which is also a well known, the first Campania artificial reef was set up, built with concrete cubes (Fig.1).



To analyze artificial reef setting up effects on the fishable resources samples were collected bimonthly from October 1993 to September 1994, before the setting up of the reef, and from June 1995 to May 1996 after the placing of the structure. A trammel net (height 3 meters, length 500 meters) was the fishing-gear used, placed at a medium depth of 25 meters, lowered into the water at sunset and pulled up at dawn for an average of about 12 hours in the sea. In the data analysis, the presence of a group of species common to the period before and after the setting up of the artificial reef, can be evidenced: *Sepia officinalis* (L.), *Diplodus annularis* (L.), *Pagellus erythrinus* (L.), *Scorpaena porcus* L., *Mullus surmuletus* (L.), *Solea vulgaris* (Quens) while a consistent presence of *Seriola dumerili* (Risso) and *Trachurus mediterraneus* (Str.) typically pelagic teleosteans, was noted only after the placing of the artificial reef and the same was for *Scorpaena notata* (Raf.), *Phycis phycis* (L.) and *Serranus cabrilla* (L.) typical rocky bottom species. After the placing of the reef the presence of *Diplodus annularis* and *Sepia officinalis* became less considerable while, on the contrary, a more remarkable presence of relevant fishing interest species like *Pagellus erythrinus* and *Solea vulgaris* has been evidenced.

It has to be considered that data are relating only to the first life year of the reef and that, however, changes in the spectrum of the species targets of fishing activities can be evidenced. It is possible to agree with the opinion of D'Anna *et al.* (2) that the artificial reef doesn't develop a particular nectonic community but that there is a very close relation between reef community and the surrounding area one.

## Bibliographic references

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