

## BIOTOPES, OR ARTIFICIAL REEFS

THE DIRECTORATE GENERAL OF SEA FISHERIES HAS SET IN MOTION A PROGRAMME AIMED AT THE CREATION OF PROTECTED AREAS WITH ARTIFICIAL REEFS FOR THE PROTECTION AND PRESERVATION OF MARITIME RESOURCES.

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fter the "Direcció General de Pesca Marítima" was set up, in 1984, a series of initiatives were

started, aimed at the protection and preservation of maritime resources. One of these initiatives consisted in the creation of protected areas through the installation of biotopes, or artificial reefs, along the length of the Catalan coast.

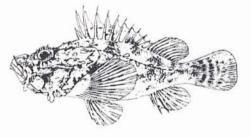
These biotopes have been built following two basic objectives:

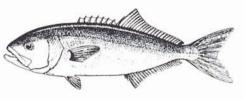
1. To increase fish production, especially in relation to traditional fisheries (protective biotopes).

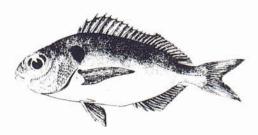
2. To protect the marine beds of phanerogamia and the coastal areas essential to the development of the juvenile stages of many marine species (production biotopes).

In this way, by finding the ideal location and through the use of morphologies which are specially suited to the functions required, we can, for the same cost, cover a larger area of influence than that occupied by the construction itself.

Recently, with the object of producing associated marine cultures, the reefs have been used as a base for the infra-







structure necessary to increase the productivity induced by the biotopes. In the latest biotope design, provision has been made for the cultivation of oysters in long-lines attached to the reefs. Current studies are bearing this aim in mind in the distribution of new reefs.

Since 1984, when the first biotope was installed in the region of the Illes Medes, similar structures have been placed at other points of the coast, such as Salou, Arenys de Mar, l'Ampolla and Calafell. Here we have observed the arrival of marine species which have gradually occupied the structures' different nuclei and the surrounding area, both as adult specimens and as young fish. The installation of a new set of structures is foreseen for the end of the year in the area between Platja d'Aro and Tossa de Mar.

Environmental studies to determine the possibility of situating two new biotopes between Montgat and El Masnou, and Vilanova i la Geltrú and Sitges are now well under way.

The total amount invested in the installation of these structures so far is of the order of 100 million pesetas.