

# ANALYSIS OF THE FISH ASSEMBLAGE IN THE MPA GAIOLA UNDERWATER PARK THROUGH VISUAL CENSUS TECHNIQUES

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**Abstract** – The results of a study on fish fauna through visual census techniques carried out in the waters of the MPA Gaiola Underwater Park (Gulf of Naples, Italy) during October-November 2010 are reported. Data collected provided a preliminary insight into the composition, structure, distribution and abundance of the fish assemblage within different habitats as well as within the Gaiola marine reserve in its entirety.

***Riassunto** – Vengono presentati i risultati di uno studio sulla fauna ittica realizzato tra ottobre e novembre 2010 con tecniche di censimento visuale nelle acque del Parco Sommerso di Gaiola (Golfo di Napoli, Italia). I dati raccolti forniscono informazioni preliminari sulla composizione, struttura, distribuzione ed abbondanza del popolamento ittico locale, sia a livello di specifici habitat che per la riserva marina nel suo complesso.*

## Introduction

Fishes inhabiting coastal areas are not only valuable resources for fishery purposes, but they are also valuable elements of coastal biodiversity and thus excellent indicators of the state of the marine environment [6]. Consequently, information on the community structure, including estimates of the size frequency and abundance of individual species, are essential to evaluate anthropic effects especially in marine areas subjected to restrictive measures such as marine reserves. This can be considered true also for the MPA Gaiola Underwater Park where the knowledge on the composition and structure of fish assemblages is very scarce, despite its environmental and archaeological value. To date, the only data on this faunistic component were collected in the framework of a project specifically addressed to bionomic mapping of the Gaiola marine reserve seabeds [4]. Hence, the objective of the present study was to characterize the coastal fish assemblage by determining species composition, diversity, relative density and size frequencies of individual species within different habitats as well as within the Gaiola marine reserve in its entirety.

## Materials and methods

### *Study area*

This study is part of monitoring plan of the ecological marine-coastal system of the Marine Protected Area Gaiola Underwater Park that the managing Authority