

{rokbox title=|Ejemplar de nacra (*Pinna Nobilis*) :: Photo: Maite Vázquez-Luis (COB-IEO)|
thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-distribution-pinna-cabrera-vazquez-luis-et-al-2014-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-distribution-pinna-cabrera-vazquez-luis-et-al-2014.jpg{/rokbox}

M. Vázquez-Luis, D. March, E. Álvarez, D. Álvarez-Berastegui and **S. Deudero**, 2014. [Spatial distribution modelling of the endangered bivalve *Pinna nobilis* in a Marine Protected Area](#)

Mediterranean Marine Science, 15/3, 2014, 626-634.

Abstract: The spatial distribution of *Pinna nobilis* densities have been analysed through a geostatistical approach in the MPA of Cabrera National Park, Balearic Islands (Spain), Western Mediterranean Sea. Regression kriging was used to model the effect of environmental variables on the density of living individuals of *P. nobilis* and generate a predictive map of its distribution within the MPA. The environmental variables considered for the model were: depth; slope; habitat type and heterogeneity; wave exposure; and MPA zoning. A total of 378 transects were randomly distributed with a total of 149,000 m² surveyed at a depth range from 4.2 to 46 m. The recorded

P. nobilis densities are among the highest in the Mediterranean Sea. With respect to the prediction model, results indicate that benthic habitats play a key role in the spatial distribution of *P. nobilis*, with higher densities in seagrass meadows of

Posidonia oceanica

. The fan mussel population density peaked at 9 m depth, decreasing with depth. Also, decreasing densities are expected with increasing exposure to waves. The predicted map shows some hotspots of density different in size and distributed along the MPA, and provides valuable information for the spatial conservation management of this species.

Keywords: *Pinna nobilis*, benthic mapping, regression kriging, MPAs, Mediterranean Sea, protected species, species distribution model