

The small-scale trap fishery for *Plesionika narval* (Decapoda, Pandalidae) in the eastern Mediterranean Sea: bio-economics and challenges for management.

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Small-scale trap fisheries are less studied compared to other Mediterranean fisheries, as they are quite localised and carried out by small fishing fleets. However, their importance for local communities, economic output and effect on exploited stocks can be substantial. A small-scale trap fishery targeting the high-value shrimp *Plesionika narval* (Decapoda, Pandalidae) operates in the Dodecanese islands (SE Aegean Sea, eastern Mediterranean). Little is known about the biology, distribution and state of the *P. narval* stock in the area, and about the fishing tactics and socio-economic characteristics of the fishing fleet. In recent years, the stock has showed signs of overexploitation and a pilot study of the fishery aiming to produce a sustainable management plan is currently under way (www.plesionika-manage.eu). Here, we analyse logbook data to study the fluctuations of the catch per unit of effort (CPUE) of *P. narval* across the Dodecanese in 2005-2011 and investigate areal, seasonal and bathymetric effects. We also examine the socio-economic characteristics of the fishing fleet and explore ways to improve the sustainability of the fishery. Our analysis indicates distinct differences in stock state and composition between different Dodecanese islands and marked seasonal CPUE fluctuations. It also suggests that the fishery for *P. narval* is very profitable compared to other Greek small-scale fisheries, but the long-term sustainability of the fishery could benefit from spatial or temporal restrictions of fishing effort and gear regulations. Challenges for management identified in this study are applicable to other small-scale trap fisheries in the Mediterranean and elsewhere.

Keywords: CPUE; Dodecanese; management plan; socio-economics; sustainability

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