Occurrence and distribution of different bed types of seagrass Posidonia oceanica around the Maltese Islands

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Abstract

The small-scale distribution of Posidonia oceanica bed types were mapped at four locations off the northern coast of the Maltese Islands, using aerial photography supplemented by surveys using SCUBA diving. Results showed a similar pattern of occurrence of the seagrass at all locations surveyed. In shallow waters (2 m – 4 m), P. oceanica occurred as patches of variable size on a rocky and/or sandy substratum. In deeper waters (5 m – 10 m), the patches of seagrass were often replaced by reticulate beds consisting of P. oceanica interspersed with areas of bare sand. Deeper still (11 m – 13 m), a transition from reticulate to continuous beds occurred. Continuous beds extended to depths of around 25 - 30 m and eventually became reticulate or patchy in deeper waters (>25 m). Values of total seagrass percentage cover increased, while the ratio of fragmented:continuous bed cover decreased for the four study locations on moving southwards (Ramla Bay to St Thomas Bay), indicating that P. oceanica habitat was more abundant and less fragmented in the south-eastern parts of the Maltese Islands. However, values calculated using an exposure index did not indicate a relationship between exposure and the observed decrease in fragmentation of seagrass beds on moving northeast to southwest along the north-eastern coast. Data from the four sites surveyed, together with data from other surveys, were used to show the large-scale distribution of P. oceanica beds around the Maltese Islands. The implications of the study findings for the conservation and management of P. oceanica habitat around the Maltese Islands are discussed.