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SPATIALLY ASSESSING PLANT DIVERSITY FOR CONSERVATION: A MEDITERRANEAN CASE STUDY

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Abstract

In this paper, we present a spatially explicit procedure for mapping and assessing coastal plant diversity value in the context of biodiversity monitoring and conservation planning. Our objective was to devise a replicable and easy to understand methodology framework, which can represent an expedient tool for coastal management and decision making at spatial scales between 1:25,000 and 1:50,000. For this purpose, we adopted a small number of key descriptors that refer to easily quantifiable information on species and habitats: plant species richness, species of conservation value, floristic consistency, habitat diversity, and habitats of conservation interest under the Council Directive 92/43/EEC. We built an expedient sampling strategy that combines systematic sampling by grid cells of fixed size with stratification per habitat type, and apply a plain equal weighting scoring system for assessing overall plant diversity.

All floristic and habitat data were entered into a spatial database built within a GIS environment and referred to a 1x1 square km spatial grid overlaid on two selected test sites in southern Sardinia (Italy). The descriptors we chose were successful surrogates of plant diversity, as they were able to represent the known conservation importance of both test sites and of specific areas within them, both individually and in combination. In particular, our results show that integrating indicators at different

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