



Mapping of *Posidonia oceanica* using Aerial Photographs and Side Scan Sonar: Application off the Island of Corsica (France)

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In light of the essential role that seagrass beds play from an ecological and sedimentary point of view, mapping of these organisms should be carried out in order to clearly assess their distribution. Although a large number seagrass beds have been mapped, these generally only take into consideration the shallower formations (0–15 m) or those which are geographically very confined (<5000 ha) due to the inherent difficulties involved in mapping such ecosystems.

Posidonia oceanica is a marine phanerogam endemic to the Mediterranean. The wide bathymetric range (0–50 m) of this species increases the difficulties involved in its mapping. The combined use of image processing of aerial photographs for the shallower layers (0–15 or 20 m in regions of very sheltered waters) and of side scan sonar for the deeper depths (20–50 m) is a particularly suitable approach. The implementation of these techniques along the Corsican coast (approximately 127 000 ha) allowed the mapping of assemblages and bottom-types present from the surface to a depth of 50 m with a resolution of 5 m. The results reveal that *P. oceanica* seagrass beds occupy a surface area of approximately 62 000 ha with a mean lower bathymetric limit of about 32 m. A comparison of these results with other regions of the Mediterranean confirms the extent of distribution of this species along the Corsican coast (49.1% from 0 to 50 m vs 16.3% along the French continental coast). The surface area of the Mediterranean coastline potentially occupied by *P. oceanica* seagrass beds can be estimated to be between 2.5 and 5 million hectares. © 1998 Academic Press

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