

## Posidonia Oceanica Beds in the Off-shore of Favignana Island

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### **Abstract**

The *Posidonia oceanica* beds in the offshore of Favignana Island (Egadi Archipelago, western Sicily) were investigated by means of a side scan sonar survey improved by some underwater inspections. The study area is localized into the marine natural reserve of Egadi Islands. Sonographic recordings showed the presence of *Posidonia oceanica* meadows covering large infra-littoral areas of the offshore of Favignana island. *Posidonia oceanica* beds start to develop upon rocky littoral abrasion platforms, and in many sites the upper limit of the meadow corresponds with rocky ledges. The upper limit shows morphological and structural features (the coincidence with rocky ledges, the localisation before rocky platforms) that guarantee steadiness conditions, confirmed also by aerial photo interpretation. Some open sea areas resulted on the contrary seriously deteriorated by trawl fishing, illegally in use along all the coasts of western Sicily. Trawl fishing causes devastating effects on the meadows for the mechanic action of otter boards leaving tracks into the mat, that can be further easily eroded by current action. Another cause of human disturbance on the meadow is ships anchoring, particularly active during winter time when ships find often a refuge from the stormy sea close to the island. Many signs of beds regression were found in anchorage areas. The assessment of density on three transects along the eastern coast of the isle, carried out by means of underwater inspections, shows a reduction of density on the area where illegal trawl fishing is mainly performed, in comparison with an undisturbed area, and a density reduction resulted also in the area in front of the local town of Favignana. The greatest effects resulted on -5m and -10m depths, while no effect resulted on deepest sites. A thematic map of phanerogamae beds in the offshore of Favignana was drawn in order to give information about distribution, features and environmental conditions of meadows surrounding the island.

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