

Restoration of seagrass mats (*Posidonia oceanica*) with electrical stimulation

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Seagrasses provide crucial juvenile fish and shellfish habitats, maintain biodiversity, and help protect coastlines from erosion, but are increasingly disappearing due to deterioration of coastal water quality and increased storm strength. The Biorock® Electrodeposition method has been used for the first time to restore seagrasses. Experiments carried out in Giovinazzo and in the Protected Marine Area of Torre Guaceto, in Puglia (Adriatic Sea of the Mediterranean off southeast Italy) during the summer of 2008 compared two methods: transplantation of *Posidonia oceanica* plant and root mats with and without use of the Biorock® method. The results demonstrated the utility of the method for preventing erosion of the *Posidonia oceanica* meadows, which at the moment is the major cause of loss of the seagrass along the Puglia coast. The experiments conducted showed the compatibility of the electrical method with the seagrasses, and the durability and the functionality of the mineral deposits produced by seawater electrolysis. Combined use of the Biorock method with mat transplanting methods increased *P. oceanica* attachment and stability for the necessary (long) time needed for recolonization of the meadows. These results suggest the possibility for large-scale use of this technology for seagrass restoration in the Mediterranean and elsewhere.



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