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Wetland monitoring: aquatic plant changes in two Corsican coastal lagoons (Western Mediterranean Sea)

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ABSTRACT

1. A monitoring system was developed in two Corsican coastal lagoons (Biguglia and Urbino; Corsica, Western Mediterranean).

2. Three species of seagrass (*Nanozostera noltii*, *Ruppia cirrhosa* and *Cymodocea nodosa*) were monitored by (i) measuring spatio-temporal changes in the seagrasses, using fixed structures, (ii) investigating temporal changes in the biological parameters of the seagrasses, and (iii) mapping their distribution by processing aerial images of both lagoons.

3. These investigations showed that, while the two lagoons exhibit, a priori, a certain structural homogeneity (ecosystems based on aquatic plants), they function in different ways that are specifically linked to environmental conditions.

4. At present, the estimated net production varies from 86 to 469 $g\,C\,m^{-2}\,yr^{-1}$ at Biguglia and 190 to 1301 $g\,C\,m^{-2}\,yr^{-1}$ at Urbino. These values confirm the richness of these two lagoons, and the interest of using seagrass, by means of regular monitoring, for the conservation and management of coastal lagoons.

KEY WORDS: coastal lagoon; Mediterranean; seagrass; monitoring; mapping; population dynamics

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