



## Original article

## The seagrass *Posidonia oceanica* as indicator of coastal water quality: Experimental intercalibration of classification systems

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## ABSTRACT

The pervasive use of ecological indices is increasingly requiring actions of harmonisation. Specifically, within the EU Water Framework Directive, an important effort in methods intercalibration is being done. However, a significant limitation in comparability assessment arises from the datasets used, which have different geographic origins. The purpose of our study was to perform an experimental intercalibration, where data were collected specifically on a set of common sites and following all the requirements of the methods being assessed. Three indices based on the marine angiosperm *Posidonia oceanica*, the POMI, the BiPo and the PoSte, were applied to sites in three different geographical areas of the western Mediterranean: Catalonia, Corsica and Southern Italy (Ischia), distant between hundreds and more than thousands of kilometers. Two indices, POMI and BiPo, showed not only a very good relationship with human pressures (measured on a common scale for all sites) but also a high comparability, in all aspects investigated. The differences found for the third one (PoSte) are hypothesised as being due to a different rationale used to define reference conditions, the different metrics used in the index, and in particular to a different definition of ecological status in relation to the time scale of the response to anthropogenic pressures. Our study demonstrates that indices with very different approaches can provide fully reliable and comparable results.

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