

**Recent monitoring data of *Posidonia oceanica* meadows distributed along the Apulian coasts (Eastern-Central Mediterranean Sea) according to the 2000/60 EC Directive.**

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According to the Water Framework Directive (WFD), a specific monitoring of *Posidonia oceanica* meadows was carried out along the Apulian coasts by the Regional Agency for the Environmental Prevention and Protection (ARPA Puglia). A total of 17 sites, 11 in the Southern Adriatic Sea and 6 in the Northern Ionian Sea were investigated during two consecutive monitoring cycles (2009-2011 and 2012-2014). Sampling procedures as well as laboratory analyses (phenology and lepidochronology) were carried out according to a common methodological protocol shared at Italian national level (D.M. 260/2010) for the final ecological classification (*sensu* WFD) using the PREI index. In each meadow, two sampling stations were investigated by scuba divers at the fixed depth of 15 m and in correspondence of the lower bathymetric distribution limit. For each station, 9 shoots counting (40x40 cm square) and 3 covering estimates (around 5 m of radius) were carried out. In addition, 18 orthotropic shoots and a sediment sample were collected as well as some other bio-ecological data (meadow continuity, dead *matte* presence, bottom type, invasive algae presence, flowering, disturbance sources, lower limit type and depth). The results showed that 29% of sites were classified as "GOOD", 59% were classified as "MODERATE" while the remaining 12% as "POOR", with a general slight improvement of the classification in the last monitoring cycle (2012-2014). Although the ecological quality status of the Apulian *Posidonia oceanica* meadows (summarized by the PREI index values) reflects the distribution of anthropic pressures on the coast (harbours, industrial and urbanized areas, river's outlets) along a latitudinal gradient, the classification based on the rules (reference conditions and EQR boundaries for the PREI index) reported in the Italian law (D.M. 260/2010) seems to underestimate the real ecological status. Consequently, a revision of both the actual reference conditions and EQR boundaries is suggested for the BQE *Posidonia oceanica* in the Apulian marine waters, in order to taking account of the environmental features of two different marine basins as the south-western Adriatic Sea and the north-western Ionian Sea.