



Round Table Session I

Use of *Posidonia oceanica* as a bioindicator of water quality in relation to the implementation of the Water Framework Directive

The EU Water Framework Directive (WFD) requires long-term sustainable management of water bodies and a high level of protection for the aquatic environment. The main objective of the WFD is to achieve good ecological status for all surface water bodies by 2015, thereby ensuring the conservation and proper functioning of aquatic ecosystems. The WFD requires monitoring and assessment of the ecological status using **biological quality elements (BQEs)**. Annex V of the WFD outlines two macrophyte-related attributes, with respect to assessment of the ecological quality of coastal waters:

- Composition of aquatic flora
- Abundance of aquatic flora.

The specific status of a given water body should be defined depending on the presence and abundance of macroalgal and angiosperm taxa that are sensitive to disturbance. Marine Angiosperms, i.e. seagrasses, constitute 'key' species in shallow coastal water coastal ecosystems, and contribute to some of the most diverse and productive habitats in the Mediterranean Sea. The state of health of *Posidonia oceanica* meadows is a good indicator of the ecological status of a particular coastal water body. Therefore, *P. oceanica* has been proposed as a BQE for Mediterranean coastal waters. Considerable work is being currently undertaken to develop classification tools and metrics that would allow use of *P. oceanica* as a BQE for WFD-compliant assessment of Mediterranean coastal waters. This work is aimed at developing harmonised seagrass metrics, and a common definition of reference conditions for *P. oceanica* meadows present in different parts of the Mediterranean.

The WFD also requires harmonisation of understanding of 'good' ecological status and consistency is use of definitions with respect to the different quality elements described in Annex V of the Directive. Such work is currently being undertaken during an intercalibration exercise, and needs to be continued in order to develop harmonised targets for restoration of the ecological status of coastal waters, where required. Since *P. oceanica* is one of the promising bioindicators for the assessment, a joint effort is required to develop common seagrass metrics based on harmonised data sets collected from several coastal areas around the Mediterranean. The collaborative work also requires an assessment of the applicability of chosen metrics to the WFD requirements, with respect to identification of main processes that impact the seagrass adversely.

This round table session calls for discussion on the potential application of *P. oceanica* as a bio-indicator for WFD-compliant assessment of the ecological status of Mediterranean coastal waters. In particular, discussion is required on prospects of developing joint, harmonised *P. oceanica* metrics for classification of coastal waters, by taking into account current scientific knowledge on the functioning and role of the *P. oceanica* meadows, and the main pressures threatening this vulnerable ecosystem in the Mediterranean ecoregion.