

## **Using best expert judgement to harmonise marine environmental status assessment and marine spatial planning**

**Michael Elliott<sup>1\*</sup>, Suzanne J. Boyes<sup>1</sup>, Steven Barnard<sup>1</sup> and Ángel Borja<sup>2</sup>**

<sup>1</sup>Institute of Estuarine and Coastal Studies (IECS), University of Hull, Hull HU6 7RX, UK

<sup>2</sup>AZTI, Marine Research Division, Pasaia, Spain

All maritime states have the challenge of maintaining the environmental quality of their seas while at the same time maximising their economic potential. This requires appropriate science, governance and management measures. For example, in Europe, directives and regulations address the pressures affecting the health and sustainability of marine resources, and promote Good Environmental Status (GES) (e.g. the Marine Strategy Framework Directive, MSFD), while having a coherent and integrated pattern of sea use (e.g. the Maritime Spatial Planning Directive, MSPD). Therefore an approach is required to meet these challenges for all maritime states including, for Europe, the joint adoption of these two directives. As such an approach does not yet exist, one is proposed here using a hypothetical example and a Best Expert Judgement (BEJ) methodology. Forty-two marine science, management and impact assessment specialists provided views on a hypothetical marine scenario to derive and interrogate a framework applicable to marine areas with multiple uses and users. The scenario allowed the severity of the activity effect-footprints to be determined on the 11 MSFD Descriptors of GES with that severity being weighted according to the area of each activity effect-footprint. In turn, this allowed the calculation of marine regional environmental status thereby indicating whether the adoption of quality assessment and spatial planning can be mutually beneficial, or are antagonistic in meeting environmental targets. This paper uses the proposed approach to discuss maximising the assimilative capacity of a marine area and minimising the environmental degradation due to new activities.

**Keywords:** Best Expert Judgement; assimilative capacity; activity effect-footprints; marine quality assessment, maritime spatial planning

\*Presenter: E-mail: [mike.elliott@hull.ac.uk](mailto:mike.elliott@hull.ac.uk)