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# ODEMM Pressure Assessment in the Celtic Seas.

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## Résumé

In order to deliver holistic ecosystems-based marine management, managers must know the factors affecting the ecosystem if they are to manage them. Here, we present a risk assessment framework, based on the ODEMM (Options for Delivering Ecosystem-based Marine Management) approach for the Celtic Seas. The framework traces the multiple sectors affecting the marine environment, the numerous pressures they create, and the ecological characteristics affected by them. Scores are assigned via an expert panel and cross-check methodology which detail the extent, overlap, degree of impact, persistence and resilience for each pressure pathway, based on pre-determined thresholds. From this information, pressure matrices are created that can be used to calculate scores to indicate an overall impact risk score and expected recovery timeline estimates. Further, this information can be used to create easily interpretable and understandable tools for communicating complex messages in a simple format to non-scientists such as policy-makers and stakeholders. These methods can be used to visualise important information such as how particular sectors cluster together, which allows the understanding and insight that often multiple sectors cause a similar array of pressures and so they must be targeted together if long-term solutions are to be found. Together, these tools can be used to help enlighten stakeholders and enable policy-makers to make informed decisions. In light of the complex landscape of ecosystem-based management and the Marine Strategy Framework Directive, these tools have a real benefit in the simplicity of their understanding.

**Mots-Clés:** ODEMM, risk assessment, Celtic Seas, Ecosystems, impacts, pressures, communication tools

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