

## ES-MSP: Integrating Ecosystem Services into emergent Marine Spatial Plans

Dr Jacqueline F. Tweddle, University of Aberdeen and Marine Scotland Science

### Overview

The marine environment is under increasing use, putting pressure on marine ecosystems and increasing competition for space. New activities (e.g. renewable energy developments), evolving marine policies (e.g. use of marine protected areas), and climate change may drive changes in species, habitats and biodiversity, and therefore in the resulting ecosystem services (ES) that society and business utilise from coastal and marine systems. A process is needed within marine spatial planning (MSP) that integrates ecological assessment of changes with stakeholder perceptions and valuation of ES, whilst balancing ease of application with the ability to deal with complex social-economic-ecological issues.

The project “Cooperative participatory assessment of the impact of renewable technology on ecosystem services: CORPORATES” involved natural and social scientists, law and policy experts, and marine managers, with the aim of promoting more integrated decision making using ES concepts in marine management. CORPORATES developed a process to bring ES concepts into stakeholders’ awareness. The interactive process, involving 2 workshops, employs interludes of knowledge exchange by experts on ecological processes underpinning ES and on law and policy. These enable mapping of benefits linked to activities, participatory system modelling, and deliberation of future policy impacts on different sectors. The workshops were attended by industry representatives, regulatory/advisory partners, and other stakeholders (NGOs, SMEs, recreationalists, local government). Mixed sector groups produced new insights into links between activities and ES, and highlighted cross-sector concerns. The process CORPORATES has developed successfully built shared understanding between industry and stakeholders of inter-linkages and interactions between ES, benefits, activities, and economic and cultural values.

### Use of funding

Funding from the MASTS Marine Planning and Governance Forum was used to facilitate a workshop attended by future Scottish regional planners, to demonstrate how ES concepts can be integrated into emergent marine spatial plans, using the process developed by the CORPORATES project as an example. This process is designed to provide an ES-based decision-support model for exchanging societal-ecological knowledge and providing productive, interactive stakeholder interaction in marine planning. The MASTS MP&G Forum funding paid for attendees travel and accommodation.

Marine Scotland Science provided a room as “in-kind” funding, and an additional small grant awarded by the Marine Collaboration Research Forum (MarCRF) to J Tweddle was used to provide refreshments and lunch.



## Impacts and outputs

The objectives of the ES-MSP project were met:

- Disseminated the output of the CORPORATES project to regional planners (members of the Scottish Marine Spatial Planners Group, Marine Management Organisation, and relevant NGOs).
- Provided training to regional planners in using the CORPORATES process.
- Gained valuable feedback from those “on the ground” in MSP, on whether the CORPORATES process is workable and productive.

## Related publications (as of May 2016)

The CORPORATES REPORT, which is both a manual and an evaluation is published in the Scottish Marine and Freshwater Science Series:

Scott, B.E., Irvine, K., Byg, A., Gubbins, M., Kafas, A., Kenter, J., MacDonald, A., O’Hara Murray, R., Potts, T., Slater, AM., Tweddle, J., Wright, K., Davies, I. (2016). The Cooperative Participatory Evaluation of Renewable Technologies on Ecosystem Services (CORPORATES). Scottish Marine and Freshwater Science Vol 7 No 1.

<http://www.gov.scot/Publications/2016/02/4961> ISBN: 9781785449758

CORPORATES: The Cooperative Participatory Evaluation of Renewable Technologies on Ecosystem Services. Summary document.

[http://www.corporatesproject.co.uk/download/i/mark\\_dl/u/4013169165/4627347771/CORPORATES-%20Summary%202016.pdf](http://www.corporatesproject.co.uk/download/i/mark_dl/u/4013169165/4627347771/CORPORATES-%20Summary%202016.pdf)

## Collaborators

Anja Byg<sup>1</sup>, Ian Davies<sup>2</sup>, Matthew Gubbins<sup>2</sup>, Kate Irvine<sup>1</sup>, Andronikos Kafas<sup>2</sup>, Jasper Kenter<sup>3</sup>, Alison MacDonald<sup>4</sup>, Rory O’Hara Murray<sup>2</sup>, Tavis Potts<sup>4</sup>, Beth E. Scott<sup>4</sup>, Anne-Michelle Slater<sup>4</sup>, Kirsty Wright<sup>4</sup>

<sup>1</sup>James Hutton Institute; <sup>2</sup>Marine Scotland Science; <sup>3</sup>Scottish Association for Marine Science;

<sup>4</sup>University of Aberdeen



<http://www.corporatesproject.co.uk/>