

Connectivity in Estuarine, Coastal and Transitional Ecosystem Restoration (ConnECTER) Special Interest Group (SIG)

ReMeMaRe

Prof Jo Preston¹, Prof Graham Underwood², Roger Proudfoot³, Will Manning³

¹ Institute of Marine Sciences, University of Portsmouth, PO4 9LY

² School of Life Sciences, University of Essex, CO4 3SQ

³ Estuarine and Coastal Planning (ECP) Team, Environment Agency, Peterborough, PE2 5ZR (rememare@environment-agency.gov.uk)



Introduction

The “Restoring Meadow, Marsh and Reef (ReMeMaRe)” initiative (pronounced ‘re-memory’) has established the **Connectivity in Estuarine, Coastal and Transitional Ecosystem Restoration (ConnECTER) Special Interest Group (SIG)** (Figure 1).

The aims of the SIG are to:

- Facilitate restoration of estuarine and habitats at the seascape scale
- Better connect the community of academic and research scientists to temperate, estuarine and coastal restoration practitioners
- Identify the most important scientific questions, which if answered, would best enable upscaled and accelerated seascape scale restoration
- Increase scientific knowledge and provide evidence of flows of energy and matter across the seascape, including interactions with riverine, terrestrial and atmospheric systems
- Evidence and quantification of ecosystem services that drives policy changes and funding to support seascape restoration in the UK

Key Terms

The SIG adopts the United Nations Environment Programme (UNEP) (2021)¹ definition of **Ecosystem Restoration**, encompassing both 'passive' recovery through pressure removal, as well as 'active' restoration:

“The process of halting and reversing degradation, resulting in improved ecosystem services and recovered biodiversity. Ecosystem restoration encompasses a wide continuum of practices, depending on local conditions and societal choice”

A **Seascape Restoration Statement** being developed by partners, will be adopted by ReMeMaRe and the SIG in their advocacy and aims to support bigger, better and more connected restoration at the seascape scale. To support this, a **Coastal Seascape** definition (below) was derived from expert opinion and relevant statutory limits collated at the ZSL Symposium, Nov. 2022.

The draft **Seascape Restoration Statement** was launched at the ReMeMaRe 2023 Conference and is now open and available to consultation.

If you would like to provide feedback on the draft definitions, please scan the QR code below and submit your comments in the form provided.

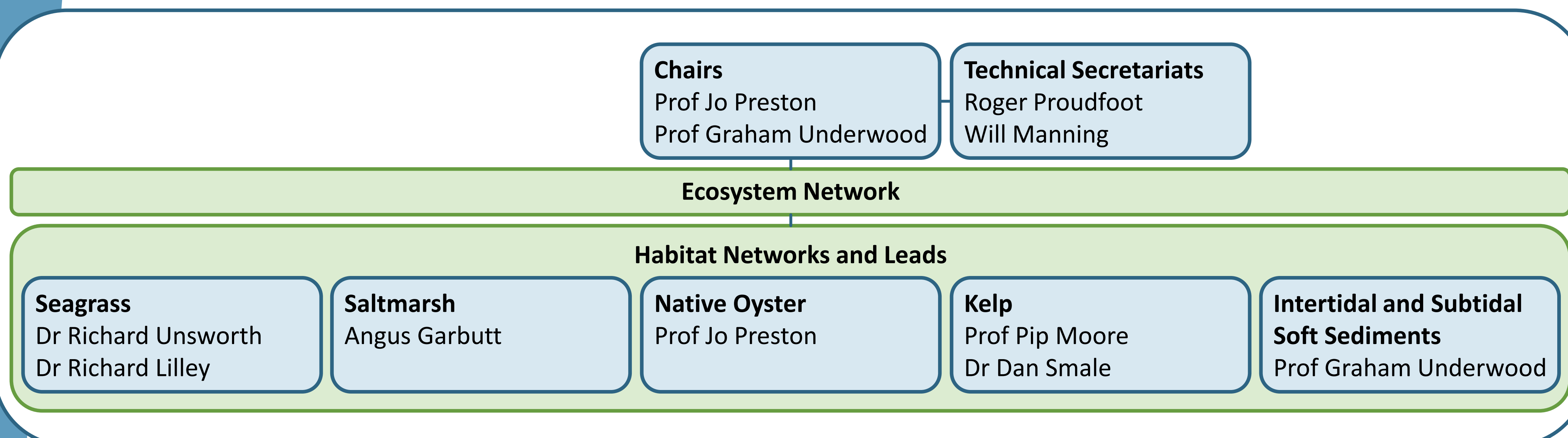


Figure 1. The SIG structure. The SIG is comprised of Habitat Networks, representing the ReMeMaRe priority habitats and others of note. Each network has a lead, supported by specialists, who help co-ordinate and collate research that supports the recovery, restoration, conservation and management of that habitat. The leads, with support, form the Ecosystem Network, who aim to advance the science, evidence and understanding of seascape scale restoration. The SIG meets approximately once per quarter.

Coastal Seascape Definition

The physical mosaic of interacting habitats occupying the coastal marine environment in time and space. This seascape is ecologically and physically connected via a body of water that facilitates the movement and flow of organisms, genetic material, matter and energy between habitats. The quality, scale and distance between patches of different habitats will affect the connectivity and functioning of coastal ecosystems, and therefore their ability to support coastal trophic webs, marine biodiversity and the flow of natural processes (such as carbon sequestration or denitrification). Connectivity across the seascape operates at scales of 1's m to 10's km and extends from the intertidal to the shallow coastal shelf seas (1 nm, plus biogenic habitats at 50 – 80 m depth). The mosaic of habitats within this seascape act as an important boundary where processes from the land and sea interact with each other and provide protective buffers for nature and people restoration (Joanne Preston, 2023). See Figure 2 for an example of the known interactions between habitats across the coastal seascape.

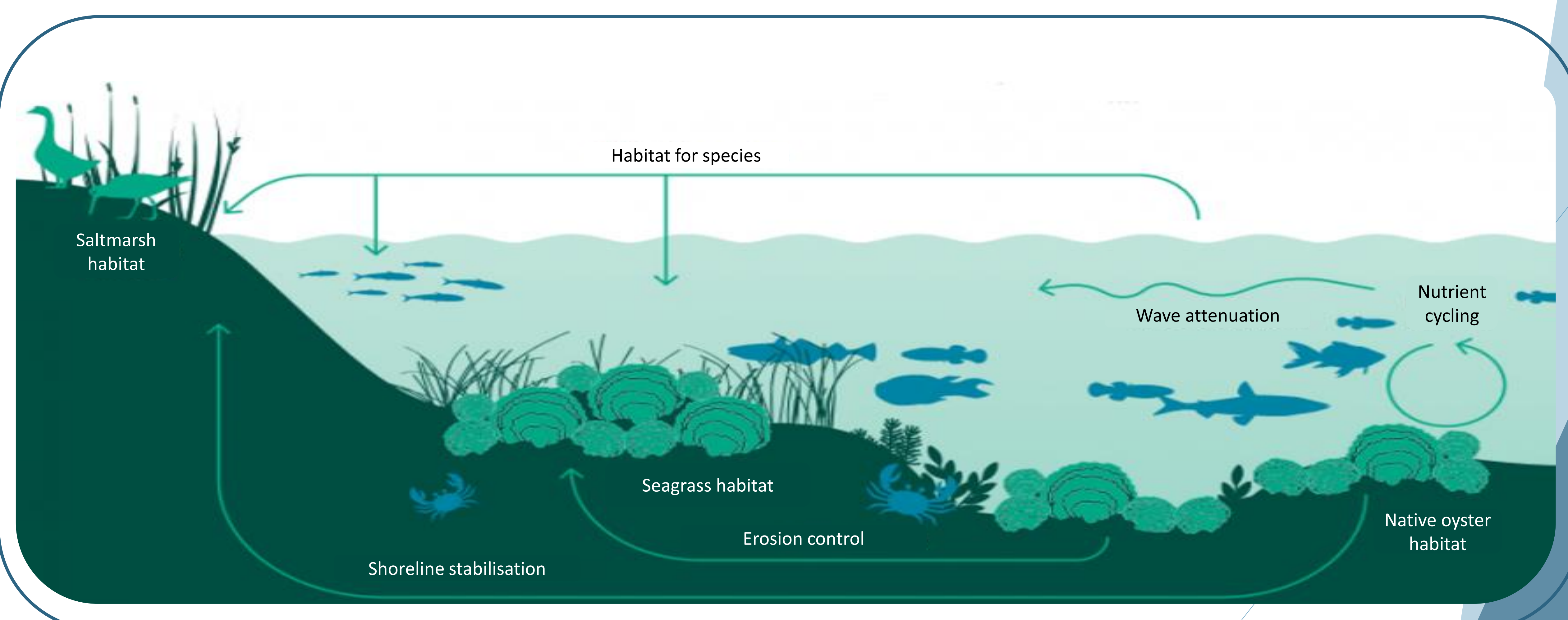


Figure 2 . An example of habitat mosaics, the movement and flow of organisms, matter and energy and ecosystem services that may operate across a healthy seascape. This infographic is currently being developed further as part of the Seascape Statement.

References

¹ United Nations Environment Programme (UNEP). 2021. Becoming #GenerationRestoration: Ecosystem restoration for people, nature and climate [online].

Acknowledgements

Thanks is provided to all members of the ConnECTER SIG, for voluntarily providing their time and expertise in support of ReMeMaRe