Cardiff University
Prifysgol Caerdydd

Sustainable Places Research Institute
Sefydliad Ymchwil Mannau Cynaliadwy

Research Briefing

Sustainable Places Projects: Seagrass

The Seagrass Ecosystem Research Group (SERG), is a joint inter-disciplinary marine research collaboration between marine biologists in the school of Biosciences at Swansea University, and interdisciplinary marine scientists at the Sustainable Places Research Institute. Although the core SERG team are based at Cardiff and Swansea Universities, their collaborative research team is internationally extensive, including scientists at the Zoological Society of London (ZSL) Philippines, Hasanuddin University in Indonesia together with collaborative research with a number of community led NGOs.

Our Research Fellow Dr Leanne Cullen-Unsworth, along with PhD student Richard Lilley and Research Assistant Benjamin Jones conduct basic and applied research into the structure, function and resilience of seagrass meadows, within a linked social ecological system, they also focus on their food provisioning service.

The group undertake research in the UK, but also have ongoing work in Indonesia, Myanmar, Sri Lanka, the Turks and Caicos Islands, Cambodia, the Philippines, Mexico and Greece.

Seagrass Meadows

Seagrass meadows are soft sediment intertidal to subtidal benthic habitats that are comprised of a group of plants adapted to life in the sea. Seagrasses comprise one of the world's most widespread habitats in shallow coastal waters; they are found on all of the world's continents except Antarctica.

Seagrass habitats can be patchy, but ~~is~~ more commonly comprise~~d of~~ continuous vegetation which can be thousands of square kilometres in size. It is these large swaths that are referred to as seagrass 'beds' or 'meadows'.

Seagrass meadows occur in sheltered intertidal and shallow subtidal areas on sand or mud substratum. Three seagrass species are considered endangered and ten species are at elevated risk of extinction; however, the majority of species are considered common. It is the common abundance of these species, rather than their rarity, that makes them important.

Seagrasses provide habitat, meaning they have a major functional role in supporting various stages in the life cycles of other organisms. For this reason, and with their extensive root-rhizome system and well-developed canopy, seagrasses, like reef building organisms, are termed 'foundation species'.

The research group works internationally with current funding to investigate drivers of seagrass decline across South East Asia and work with local stakeholders to develop mechanisms to reverse this trend.

The project will help to demonstrate the value of seagrass meadows and their role in supporting food production. It will also support communities across South East Asia to demonstrate the value of their seagrass resources and assist them to identify the current issues in order to bring about conservation action. Information gathered will be used to help communities and managers to take action to stem seagrass loss and empower calls for community driven policy changes to support seagrass conservation.

Engagement

To combat the problems associated with science and public engagement, scientists from the Seagrass Ecosystem Research Group have also set up their own charitable organisation "Project Seagrass" which is working to improve our understanding of seagrass systems in the UK and further afield and raise awareness of their ecosystem service value by taking science to the public.

To find out more about their work, visit the **Project Seagrass** website.

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