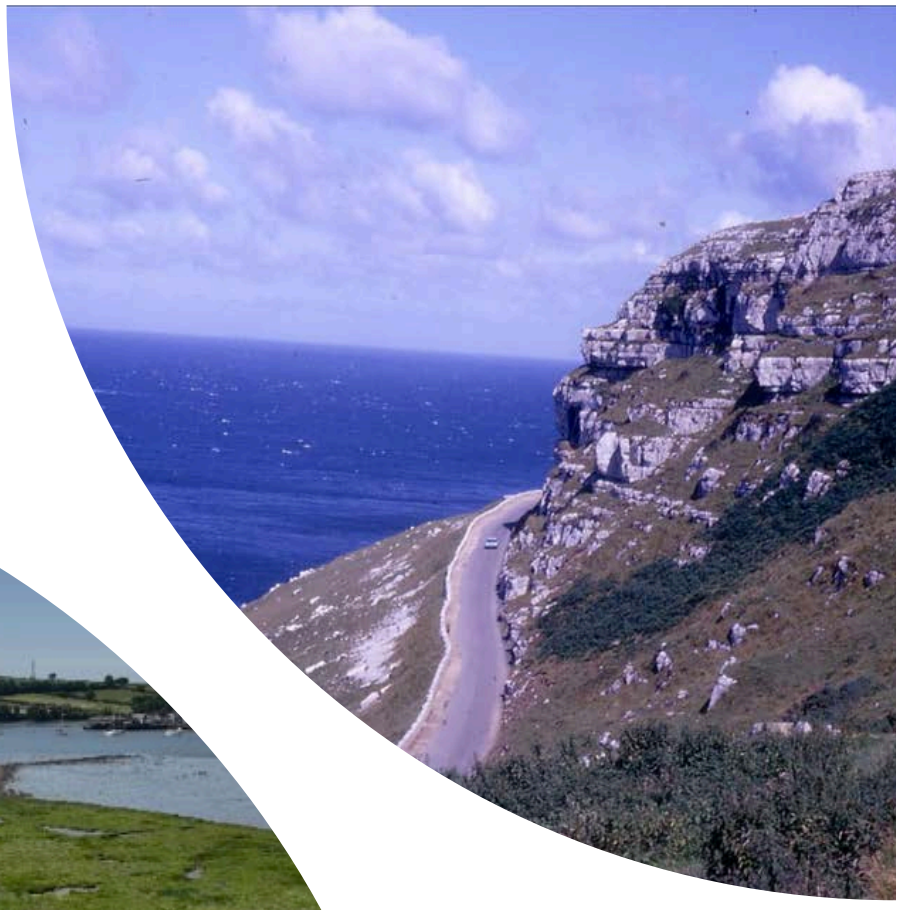
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BULLETIN OF ESTUARINE AND COASTAL SCIENCES









ECSA is an international organisation dedicated to the promotion and advancement of multidisciplinary research into all aspects of estuaries and coasts, and the application of science and technology for their sustainable environmental management.

ESTUARINE AND COASTAL SCIENCES ASSOCIATION

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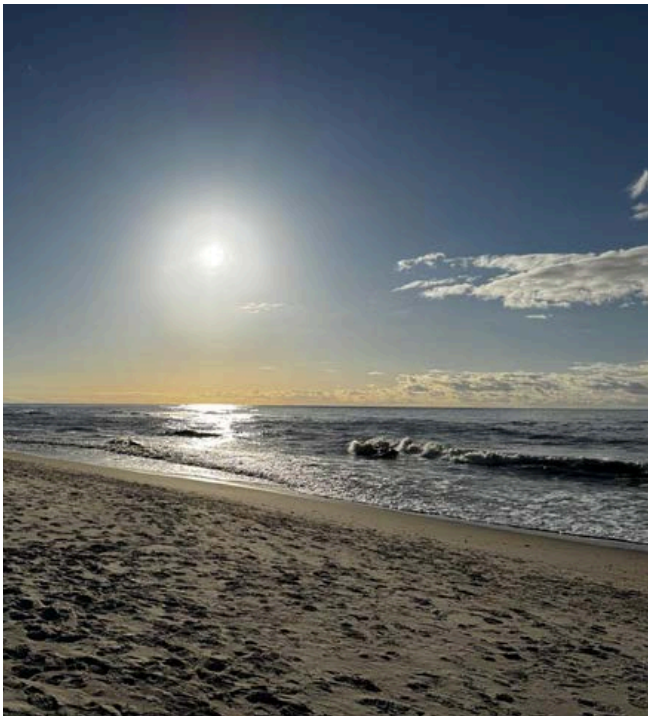
October - 2026 - Issue 128

BULLETIN OF ESTUARINE AND COASTAL SCIENCES

Welcome to the 128th issue of the Bulletin of Estuarine and Coastal Sciences.

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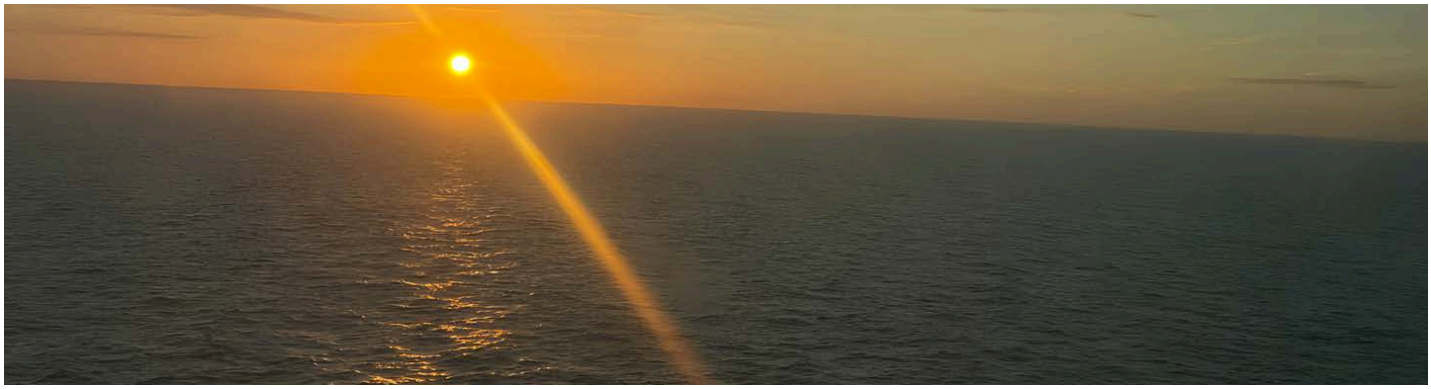


"The ocean is a global commons, a precious resource that belongs to all of us. It's our duty to protect and preserve it for future generations."

\- Emily Penn,
Ocean advocate, skipper and artist

This bulletin was edited by Gemma Smith, International Estuarine and Coastal Specialists Ltd.
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With great thanks to all contributors

The views and opinions expressed in these articles are those of the individual authors and do not reflect the official position of the ECSA. ECSA does not assume responsibility for the content or perspectives presented by independent contributors.



EDITORIAL



Gemma Smith
International Estuarine and Coastal Specialists Ltd.
Centre for Systems Studies, University of Hull

In this 128th issue of the Bulletin of Estuarine and Coastal Sciences, we bring together a range of contributions.

The short articles explore terrestrial-coastal interactions and marine based studies. Jonathan Dale and colleagues evaluate the ecological effects of occasional livestock grazing on saltmarshes along the Tamar and Tavy estuaries. We also celebrate 60 years of scientific diving at Heriot-Watt University, charting how pioneering underwater fieldwork has trained generations of marine scientists and regulators. Additionally, Dr Alasdair O'Dell introduces the Scottish Association for Marine Science's (SAMS) new seagrass nursery funded by SMEEF. This issue also presents work supported by ECSA grant awards. Izzy Langley, examines the role of intraguild predation in marine mammals, exploring how grey seal predation impacts declining harbour seal populations across Scotland and Canada. Jasmine Haskell shares mass spectrometry measurements of volatile organic compounds (DMS and MeSH) as stress indicators in corals, and Eliane Bastos advocates for relational and pedagogical frameworks for coastal and ocean literacy. Mike Elliott reviews Julian Cremona's Seashore Plankton. We also reflect on the 'Beyond Silos' conference in London. Finally, this issue includes tributes to two esteemed colleagues whom we have lost far too soon; Prof. Monica Montefalcone and Dr Jérémy Lobry.

We hope you find this collection of articles both informative and inspiring as we work together towards the sustainable management of our coasts and estuaries. There is information about ECSA, on the final page, including the call for abstracts of the upcoming focus meeting. Should you wish to contribute a future article, please get in touch at: *Gemma.Smith@iecs.ltd*

SHORT ARTICLE

The impact of occasional grazing on saltmarshes

Jonathan Dale[1*], Laura Conway[1], Michael Kennedy[2], Charley Hill-Butler[3]

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Saltmarshes provide key ecosystem services such as storage and burial of blue carbon, flood defence through wave attenuation and nursery grounds of commercial fish species. However, saltmarsh extent has decreased by almost 50% globally [1] as a result of historic land claim and embankment construction [2]. These losses have continued more recently due to erosion caused by sea level rise and increased storminess, meaning coastal managers are becoming increasingly aware of the need for sustainable management of saltmarshes to maintain the delivery of required ecosystem service.

Grazing is considered to be an important tool in saltmarsh management, with many marshes in Europe and America grazed by livestock such as cattle or sheep [3]. The impact of grazing on the provision of ecosystem services in saltmarshes has been previously investigated, with resulting indicating that grazing has the potential to decrease plant height, cover and biomass [4], potentially reducing the level wave attenuation and consequently flood defence. Grazing might also have implications for carbon storage, nutrient cycling, sediment accretion and fish nurseries [5, 6], although there could be benefits for nesting birds such as Tringa totanus [7].

It is, therefore, important that the stock type, intensity and timing of saltmarsh grazing is appropriate and managed correctly. For many sites is takes places through agri-environment schemes. These schemes offer farmers and landowners a financial incentive to graze sites appropriately, recognising the importance of timing, intensity, stock type and presence, and the desired ecological effect [8]. Whilst agri-environment schemes might prevent over grazing they do not account for transient grazing, where livestock have occasional, unregulated, access to marshes. To evaluate the potential impact of this ad-hoc grazing on saltmarshes, we have assessed the plant communities, the vegetation properties and sediment properties at two saltmarsh sites; one ungrazed and another occasionally grazed.

Assessing the impact of occasional grazing

Both sites studied are located to the north of Plymouth on the southwest coast of the United Kingdom (Figure 1). The ungrazed site is on the Tamar Estuary (Figure 2a), which is the main estuary flowing into Plymouth Sound, is known as Egypt Marsh and has historically not been grazed. The second site (Figure 2b) is located on the Tavy Estuary, a tributary of the Tamar which joins the main channel approximately 2 km to the south of Egypt Marsh. This site was referred to as Tavy River Marsh and is subject to ad-hoc grazing from cattle accessing the site from the surrounding agricultural land to the north and west.

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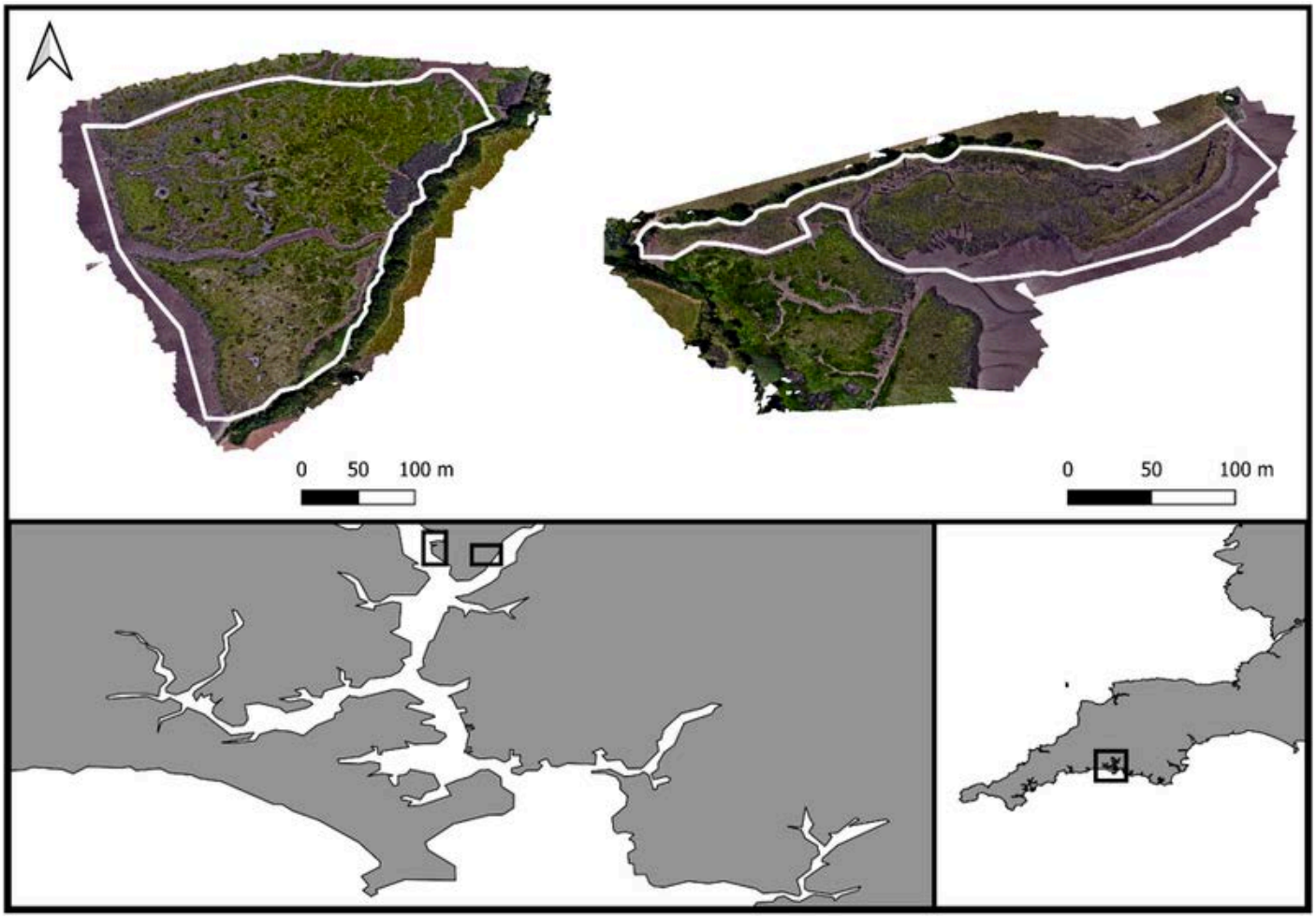


Figure 1: Location of the Egypt Marsh (upper left) and Tavy River Marsh (upper right) study sites. Regional setting also included.





Figure 2: Aerial images of (a) the Egypt Marsh and (b) Tavy River Marsh study sites.

We assessed vegetation cover at 54 sampling locations, 30 locations at Egypt Marsh and 24 locations at Tavy River Marsh, eensure a representative range of vegetation and habitat types were included. These were then divided into the following categories based on the marsh zonation: (i) Upper Marsh, (ii) Mid-lower Marsh, (iii) Bare Ground. A sub-set of 14 sampling locations per site were then selected, where a 0.5 x 0.5 m² quadrat was used to determine the relative percentage cover of component species with an area coverage of 5% or more of more were identified and each species was recorded [9], along with percentage cover of bare ground.

SHORT ARTICLE

We also took five measurements of the canopy height at each location and biomass samples were harvested from a 0.1 x 0.1 m section within each quadrat. On return to the laboratory the harvested samples were dried at 70 °C for 48 hours and weighed to calculate the above ground dry biomass. Sediment samples were also collected at each sampling location from a depth of approximately 5 cm to assess moisture and organic content through loss on ignition.

Both sites were surveyed using a Mavic 3m Uncrewed Aerial System (UAS) in June 2023. Multispectral images were collected by the UAS from a flight altitude of 40 m and post-processed using Agisoft Metashape to calculate 12 vegetation indices (Table 1). Supervised classification of the vegetation was then conducted for each site using the Semi-Automatic Classification Plugin in QGIS and the 12 vegetation indices. All pixels falling within each of the 54 sampling quadrats assessed in the field were assigned the identified plant community and used as training data.

Table 1: Vegetation Indices calculated from UAS imagery.

Index	Equation
Enhanced Normalised Difference Vegetation Index (ENDVI)	((NIR+Green)-(2xBlue)) / ((NIR+Green)+(2xBlue))
Green Infrared Percentage Vegetation Index (GIPVI)	NIR/(NIR+G)
Green Normalised Difference Vegetation Index (GNDVI)	(NIR-G) / (NIR+G)
Green Red Difference Index (GRDI)	(G-R) / (G+R)
Green Soil Adjusted Vegetation Index (GSAVI)	1.5x((NIR-Green) / (NIR+Green+0.5))
Modified Soil Adjusted Vegetation Index (MSAVI)	(2 * NIR + 1 – sqrt ((2 * NIR + 1)2 – 8 * (NIR - R))) / 2
MSRred edge	(NIR/Rededge)-1/ √(NIR/Rededge) + 1
Normalised Difference Vegetation Index (NDVI)	(NIR-R) / (NIR+R)
Optimised Soil Adjusted Vegetation Index (OSAVI)	(NIR-Red) / (NIR+Red+0.16)
Red Edge Normalised Difference Vegetation Index (NDVIre)	(NIR-Rededge) / (NIR + Rededge)
Red Edge Simple Ratio (SRre)	NIR/R
Soil Adjusted Vegetation Index (SAVI)	(1.5x(NIR-Red)) / (NIR+Red+0.5)

Findings and future work

In total, 13 plant species were identified across the two sites (Table 2). The vegetation and sediment properties measured are presented in Figure 3. Above ground dry biomass and canopy height were greater at the ungrazed Egypt Marsh site, which can most likely be associated with grazing. Moisture content and organic content varied between the two sites with no consistent trend or pattern. The output from the vegetation classification (Figure 4) and appears to be more areas of upper marsh at the ungrazed site, which is consistent with findings from heavily grazed sites elsewhere [10].

Our on-going research is attempting to quantify the impact of occasional grazing on saltmarshes and determine implications functioning and ecosystem service delivery such as flood defence, carbon storage and water quality regulation. The impact of other grazers, not just cattle, including deer and wildfowl also need to be considered [e.g. 11]. This includes tracking how often and for how long grazers access the marsh, the areas visited, and the length of time that active grazing takes place, to allow for an assessment of the impact of grazing within the same marsh, minimising the impact of spatial differences. By continuing to investigate the impact of grazing of saltmarshes, our aim is to help inform policy and support decision making regarding the management and protection of these habitats to maximise coastal resilience and reverse the loss of critical coastal habitats.

SHORT ARTICLE

Table 2: Frequency and average cover when present of the 13 plant species identified and bare ground at Egypt Marsh and Tavy River Marsh.

	Egypt Marsh				Tavy River Marsh			
	Upper Marsh		Mid-lower		Upper Marsh		Mid-lower	
Species	Frequency (%)	Average Cover When Present	Frequency (%)	Average Cover When Present	Frequency (%)	Average Cover When Present	Frequency (%)	Average Cover When Present
Agrostis stolonifera	0		0		16.67	7.5 ± 3.54	0	
Armeria maritima	0		0		0		0	
Aster tripolium	62.5	13 ± 12.55	0		0		0	
Atriplex prostrata	12.5	5	0		8.33	5 ± 0	0	
Atriplex portulacoides	0		50	58.33 ± 47.26	8.33	80 ± 36.57	0	
Bolboschoenus maritimus	25	80 ± 0	0		0		100	67.5 ± 17.68
Cochlearia anglica	12.5	5 ± 0	0		0		0	
Juncus gerardii	12.5	10 ± 0	0		0		0	
Festuca rubra	37.5	38.33 ± 32.53	83.33	20 ± 15.81	58.33	46.43 ± 30.78	50	5 ± 0
Phragmites australis	25	30 ± 14.14	0		0		0	
Puccinellia maritima	25	90 ± 14.14	0		0		0	
Spartina anglica	12.5	5 ± 0	83.33	58 ± 43.39	58.33	43.57 ± 29.96	50	25 ± 0
Triglochin maritima	87.5	32.86 ± 27.06	16.66667	50 ± 0	41.67	31.88 ± 25.06	0	
Bare ground	100	11.875 ± 18.11	100	9.17 ± 7.36	66.67	16.67 ± 18.01	100	32.5 ± 17.68

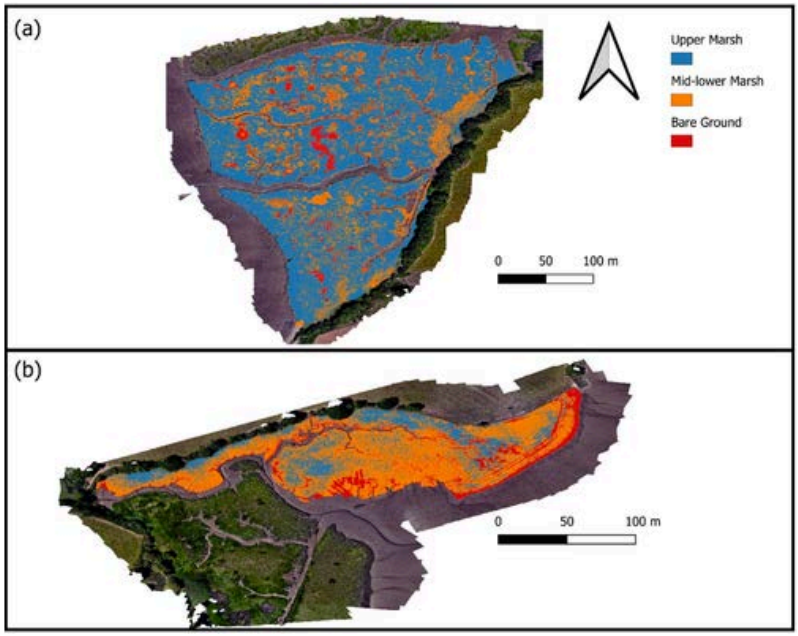


Figure 4: Output from the vegetation classification at (a) Egypt Marsh and (b) Tavy River Marsh.

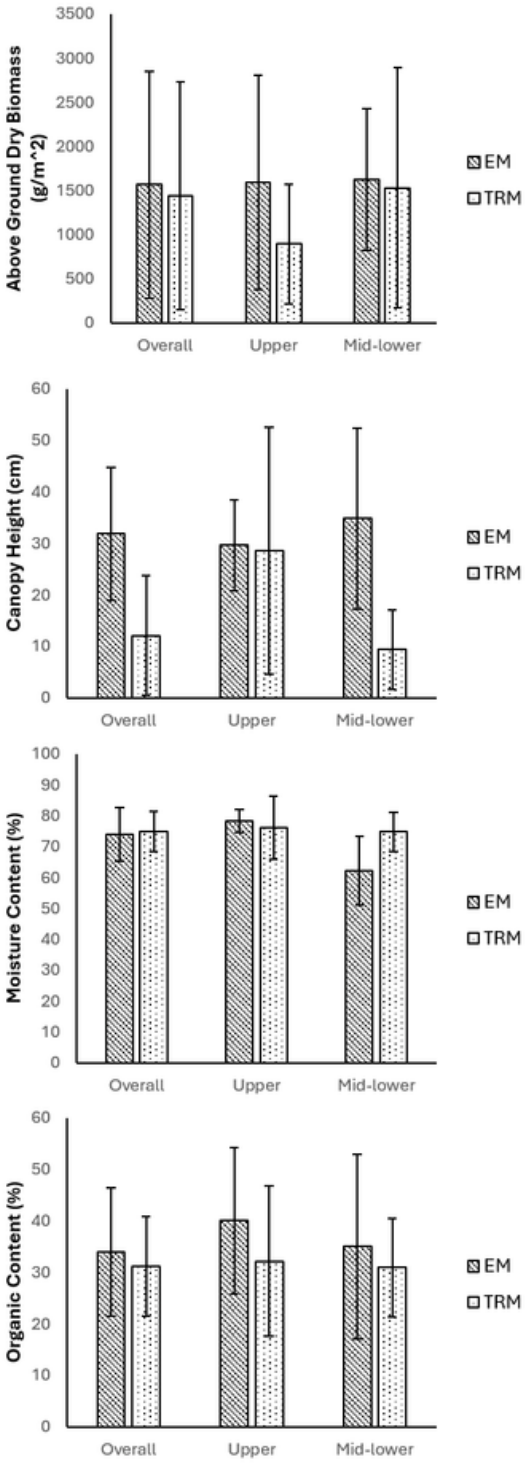


Figure 3: Vegetation and sediment properties measured at Egypt Marsh (EM) and Tavy River Marsh (TRM). Error bars represent the standard deviation.

Funding: This research was funded by the University of Reading's the Rapid Response Policy Engagement fund and LC was funded by the University of Reading's Undergraduate Research Opportunities Programme.

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SHORT ARTICLE

The Scottish Association for Marine Science new Seagrass nursery supports three early-career researchers

Dr Alasdair O'Dell

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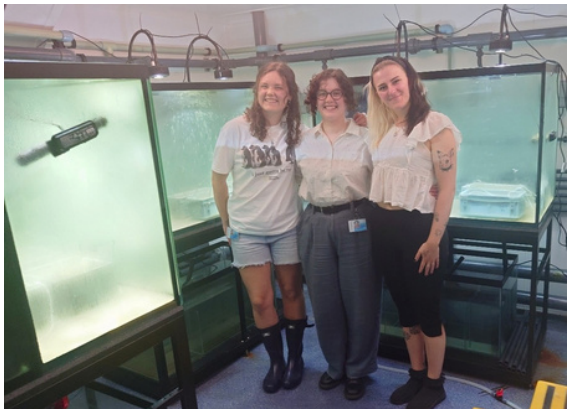
Seed-based restoration for seagrass has proven difficult in Scotland; limited success in the field has meant that restoration action is focusing more on rhizome transplants, which is proving successful in some places. But rhizome donor meadows can only support a limited number of projects.

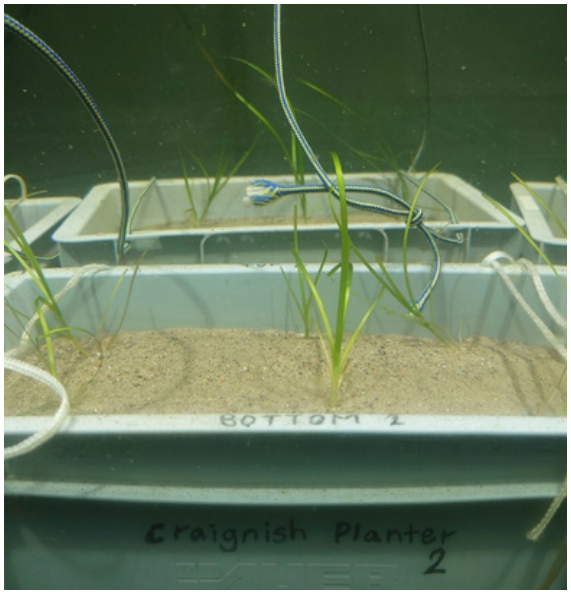
To fulfil ambitious goals around the upscaling of seagrass restoration, there is a need to improve the success of seedling growth, supply healthy and strong seed-grown plants to restoration groups and improve the knowledge and understanding of seedling husbandry science.

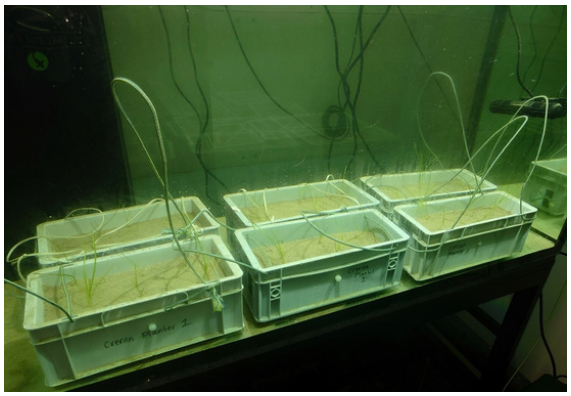
The Scottish Association for Marine Science (SAMS), with help from the Scottish Marine Environmental Enhancement Fund (SMEEF), has built a brand-new seagrass (Zostera marina) seedling nursery and lab with 8 replicate tanks designed to test different growth treatments and ultimately improve the success of seed development for this vital species.

The development of the new nursery has meant that three fully funded internships have been supported. The interns (all undergraduate students from SAMS-UHI) will be studying the dynamics of CO_2, the effects of nutrients and testing the efficacy of cryopreservation techniques in the state-of-the-art facility. The trials aim to be wrapped up before September 2026, with plans for future work in place.

Alasdair studied Marine and Freshwater Biology at the University of Hull and worked with the marine toxicology lab to analyse microplastics in mussel samples collected on the eXXpedition voyage. He completed a PhD in 2022 at UHI SAMS, and his main academic interests include biological processes and ecology of underwater life such as coral and kelp, as well as the natural world and conservation.







SHORT ARTICLE

Celebrating 60 years of Scientific Diving activities at Heriot-Watt University, Edinburgh

Dr Alasdair O'Dell

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At the recent ECSA Local Focus meeting on "Scotland's East Coast: Integrating Local Science, Management, and Broader Perspectives", Heriot-Watt University dive team members gave a presentation outlining the 60 years of pioneering diving activities at the University. This article summarises some of the contents of the ECSA presentation.

Scientific Diving activities at Heriot-Watt University started in the mid-1960s with Cliff Johnston (later to become a Professor at the University) leading two long expeditions to Lanzarote (Canary Isles) involving staff and students to study primary productivity and ecology of the green seaweed Caulerpa. Cliff and his team published their results in 1969 (the first of many subsequent scientific journal publications produced over the decades by Heriot-Watt staff and students).



Cliff Johnston leading the Lanzarote scientific diving expedition.



1960s diving equipment used in the Lanzarote survey (wet-suit, twin-hose Siebe-Gorman regulator, etc.).

It should be noted that Cliff was instrumental in many developments whilst at the University: setting up the Marine Science Unit within the University's Institute of Offshore Engineering; establishing the 'Marine Biology' BSc degree programme in 1973; the MSc degree in 'Marine Resource Development and Protection' in 1986 and the University's campus in Orkney (International Centre for Island Technology) in 1989.

The decade of the 1970s was very much dominated by the rapid growth of oil and gas activities in the North Sea. Heriot-Watt staff were instrumental in the development of environmental procedures accompanying oil and gas exploration and production from the very early days. The diving team, by then established in the Institute of Offshore Engineering, were involved in the design and execution

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of environmental monitoring programmes around the new Oil Reception Terminals on Flotta, one of the Orkney Islands, and at Sullom Voe in Shetland. Divers were required to take samples and observations from around the diffuser discharge sites for treated ballast water. In Shetland this involved survey work in water of up to 30 metres deep and on a biogenic reef of horse-mussels (Modiolus modiolus).



Environmental monitoring around Flotta Oil Terminal in Orkney in 1977 – note the equipment (wet suit, Fenzie Adjustable Buoyancy Life Jacket, Nikonis camera and flash gun requiring replacement bulbs after every flash!).

At this point, the Heriot-Watt dive team was well-established and known for their expertise and the go to team when monitoring was required. The team was quickly mobilised to take pre-impact samples from areas likely to be affected by the Amoco Cadiz oil tanker spillage in 1978.

Also, in the 1970s, undergraduate students on the Marine Biology BSc, as part of their degree, started to be trained in scientific techniques available through SCUBA diving. Many of these students went on to work as regulators, academic leads and marine scientists within related industries.

The 1980s decade continued to involve intensive diving survey work on the statutory programmes required by the Scottish agencies for environmental monitoring around the main Oil Terminals. Undergraduate 'Diving Science' courses were run on the Summer Isles and, in 1986, a diving science module was made available for students on the new Marine Resource Development and Protection MSc degree. Over the decades (from the 1970s to the present day) it is estimated that nearly 1,000 Undergraduate and Postgraduate (MSc and PhD) students have been part of Heriot-Watt Scientific Diving activities.



Undergraduate student training in 1978 in the use of surface demand air supply through a Kirby-Morgan helmet. Note the Avon dry-suit.

Given the number of diving-related accidents and fatalities in the offshore North Sea Oil and Gas industry, the UK government's Health and Safety Executive introduced new strict diving Regulations and Codes of Practice in the 1980s. As well as offshore saturation diving and inshore civil diving, these regulations also shaped the diving for scientific purposes carried out by universities and government agencies. Heriot-Watt University, due to its experience, was designated by the UK government as the first HSE Part IV (Scuba Diving) training school and many Heriot-Watt students and external participants passed through these intensive training courses mainly based in Orkney waters.

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The establishment of the HSE Part IV training school was championed by the second and third University Diving Officers, Dr Paul Kingston and Bobby Forbes , who instilled rigorous safety procedures and awareness in all University diving activities.



The Royal Navy old-style Avon dry suit which had a neck-entry only system making it a requirement for help to de-suit. These suits also had a separate small air cylinder to inflate the suit for buoyancy control.



Students completing a HSE Part IV training course in Orkney.

During the 1980s, whilst contracted diving monitoring work and student training continued, the focus turned to survey work in mapping and site condition assessment of proposed and designated Special Areas of Conservation (SACs) mainly in Scotland.

All these activities were intensified in the 1990s with the establishment of the University's new campus location in Orkney.

In addition, international research projects were initiated (led by Heriot-Watt staff using diving techniques for biodiversity and conservation work), funded by the UK DEFRA's ODA programme; The Darwin Initiative. These projects took place in Malaysia, Ecuador, Colombia and Panama. Work contributed to the establishment of the UN Man and Biosphere 'Seaflower' Reserve in Colombia and a marine Special Management Zone in Panama.

In the 2000s until the present-day new staff at Heriot-Watt University have brought in their expertise from diving with other universities and government conservation agencies.

The ECSA presentation described several of these more recent activities which included staff being trained in Nitrox and Trimix techniques to extend diving capabilities for scientific research purposes. The team was also awarded NERC (UK's Natural Environment Research Council) funding to run advanced training courses for agency Early Career Researchers.

The ECSA meeting presentation was rounded off with descriptions of the scientific work over the last decade and much of this, as well as continued conservation site monitoring, has been related to restoration programmes for native oysters with sites on Scotland's East Coast in the Dornoch Firth and the Firth of Forth.

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Research in Orkney has centred on development of blue carbon studies (seagrass, maerl-beds and seaweed habitats. Elsewhere MSc student for the last 10 years have been trained also in Tropical Coral Reef monitoring techniques with field trips to Malaysia which includes active coral reef restoration research and methods.



Divers on the Dornoch Environmental Enhancement Project (DEEP) in a 10-year ongoing programme to restore native oysters.

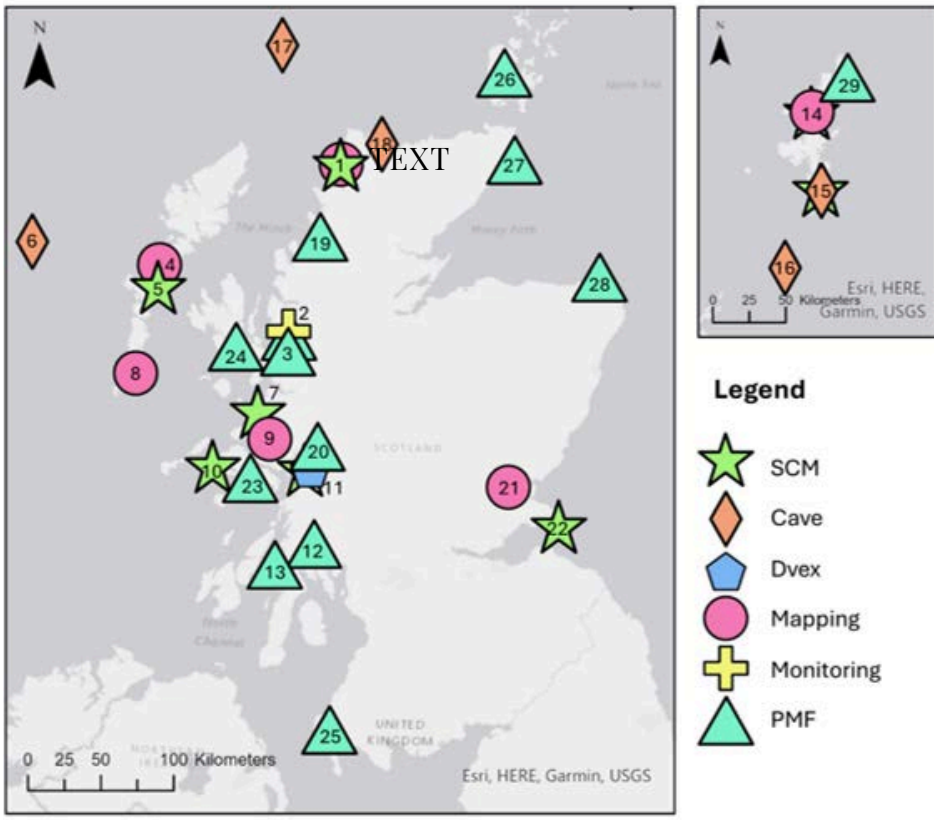


Divers take core sample of biogenic Maerl habitats to study blue carbon cycling and storage



A Heriot-Watt diver placing a station marker just off the coral reef being monitored in Malaysia.

Throughout the ECSA meeting presentation (available as a PDF through ECSA web site), the evolution and advances in diving equipment were highlighted, especially in camera and video equipment and modern remote sensing techniques. Despite all these technological advances, the conclusion was that human biologist/geological/archaeological divers are vital for many underwater tasks that cannot be undertaken by machines. The Heriot-Watt University Scientific Diving Team are planning further presentations to celebrate their 60 years of activities and these were held during the Orkney International Science Festival (3rd September 2026) and at an event at the main University Campus in Edinburgh (25th September 2026).



Heriot-Watt scientific divers have been involved in many mapping and site condition monitoring projects around Scotland (1990s onwards).

STUDENT GRANT AWARD

From Coral Volatile organic compounds to the Ocean-Atmosphere Interface

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Volatile organic compounds (VOCs) from both natural and anthropogenic sources mediate a wide range of biogeochemical and climatic processes across the Earth system. Terrestrial VOCs are fairly well characterised but marine VOCs remain much less explored despite the oceans covering around 70% of Earth's surface. However, the importance of marine VOCs to air-sea exchange has driven a growing body of research in recent decades.

Trees have been shown to emit different VOC signatures as a response to environmental stress[1]. My PhD project applies this concept to corals, with the aim of identifying an early indicator of stress before the corals bleach and die. Coral reefs are one of the most threatened ecosystems on Earth[2], with coverage expected to decline 70-99% by the end of this century[3]. Thus, new techniques to detect coral stress are becoming increasingly pertinent. My research focuses on the compounds dimethyl sulfide (DMS) and methanethiol (MeSH) as they are climate-active gases contributing to sulfate aerosol formation. DMS, known as the 'cooling gas', has a cooling effect comparable in magnitude to the warming effect of CO_2[4], while the presence of MeSH enhances the atmospheric lifetime of DMS[5]. Interestingly, corals have been shown to release large pulses of DMS as a response to stress[6–8], with DMS likely serving as a scavenger of free radicals[9].

Over the course of my PhD, I performed ex-situ experiments on both adult and juvenile corals to assess how heat stress contributes to the real-time emissions of these compounds under two intervention strategies proposed by the Reef Restoration and Adaptation Program (RRAP), shading and assisted evolution. High-resolution mass spectrometry techniques using a Proton Transfer Reaction Time-of-Flight Mass Spectrometer (PTR-ToF-MS) were coupled with incubation chamber experiments to capture live VOC emissions during simulated marine heat-waves.



Acropora Kenti in an Incubation Chamber (From Pilot Experiment)

Towards the end of my PhD, I had the opportunity to present my work on n the effects of shade on DMS and MeSH on adult corals at the Surface Ocean Lower Atmosphere Study Summer School in Tamandare, Brazil (SOLAS). Over the three-week summer school, I presented my poster entitled, "Shade preserves dimethyl sulfide and methanethiol emissions in heat-stress Acropora spathulata" to both students and professors.



SOLAS participants on Tamandare beach, Brazil.

For this work, I conducted an 8-day experiment with twelve incubation chambers split into three treatments: ambient temperature and natural light (Control), elevated temperature and natural light (Heat) and elevated temperature and reduced light (Heat+Shade). Each treatment had three chambers containing two coral fragments and one blank chamber to account for the background seawater matrix. Chambers in the heated treatments experienced a heat ramp of 1°C per day until reaching a maximum of 31.5°C.



Jasmine Haskell taking comparative dissolved oxygen measurements (inside vs outside the chambers)

Additionally, the Heat+Shade treatment had a 30% reduction in light, mediated by programmable lights. DMS and MeSH measurements were taken semi-continuously from each chamber with a PTR-ToF-MS, where the PTR-ToF-MS sequentially sampled from each chamber for 10 minutes in a closed-loop configuration before switching to the next chamber via a custom autosampler[10]. To pair the VOC data with biological data, coral tissue samples were taken at the beginning middle and end of the experiment. Here we measured mbiont density, total chlorophyll, photosynthetic efficiency and catalase activity. Furthermore, we measured dimethylsulfoniopropionate (DMSP), a metabolite abundant in coral tissues[11] and the precursor to DMS and MeSH[12].

For the first 4 days of the experiment, DMS and MeSH emissions in the heated treatments remained near baseline. As the maximum temperature was reached (Day 5), both heated treatments diverged from the control, with DMS and MeSH emissions in the Heat treatment peaking overnight on Day 5 before returning to baseline levels overnight on Day 6. In the Heat+Shade treatment, DMS and MeSH emissions also increased overnight on Day 5, but remained elevated for the remainder of the experiment when compared to the Control. DMSP and catalase activity were significantly higher for the Heat treatment between Day 0 and Day 8, while total chlorophyll and symbiont density did not significantly change for any treatment, suggesting that changes in VOC emissions are reflected in metabolic parameters, but not in physiological parameters.

Additionally, during a mortality event in one chamber, a strong pulse of both DMS and MeSH served as an early warning signal preceding coral bleaching (and subsequent mortality) by 36 hours when there was no other visible indication. MeSH emissions were so excessive in this chamber, such that they oversaturated the detector and the chamber had to be removed from the experiment.

This experiment provides the first real-time measurements of DMS and MeSH emission from corals under experimental heat stress. Under unmediated heat stress (Heat treatment), both DMS and MeSH showed parallel dysfunction, resulting in an emission shutdown. With the application of shade, DMS and MeSH emissions were sustained, suggesting that shade provided enough relief from heat stress to preserve the catabolism of DMSP. Similar trends have been previously described for coral-derived DMS however, this study provides the first evidence of MeSH emission dynamics in corals. Here, the application of PTR-ToF-MS technology with its high sensitivity and resolution allowed for the measurement of this highly reactive and traditionally challenging-to-measure compound.

While this chamber study cannot predict reef-scale atmospheric impacts, these results suggest that shading corals could impact local sulfur cycling and potentially atmospheric chemistry during periods of excess warming. Additionally, the extreme DMS and MeSH emissions observed during coral mortality suggest that mass bleaching events may produce substantial pulses of volatile sulfur as coral tissue sheds, before emissions cease entirely with coral mortality.



SOLAS Participants outside of the host Institution, Cepene, Brazil.

I would like to extend my greatest thanks to the Estuarine and Coastal Sciences Association for awarding me with the Charles Boyden Award to support my attendance at the 2026 Surface Ocean Lower Atmosphere Studies Summer School. The experience has provided me with an invaluable network and skillset that has already proved beneficial. Funding for this PhD project was supported by the Reef Restoration and Adaptation Program (RRAP), which is funded by a partnership between the Australian Governments Reef Trust and the Great Barrier Reef Foundation. This research was conducted on Bundjalung, Gooreng Gooreng, Gurang, Balai and Taribelang Bunda lands and sea and I extend my deepest respects to Elders past, present and emerging.

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PETER JONES AWARD

Intraguild predation in grey seals and its potential impact on harbour seals



Dr Izzy Langley

Sea Mammal Research Unit, University of St Andrews, Scotland

Seals in the UK and how they interact

There are two resident species of seals in the UK, the grey seal and the harbour seal (sometimes referred to as the common seal). As generalist predators, they target many of the same prey species including sandeels, whiting, plaice, herring and squid. There is also overlap in their use of space, both at mixed species haulout sites on land and in foraging areas at sea. The two species therefore have the potential to interact through competition, both when their prey are limited, and when they come into direct contact with one another. However, perhaps less widely known is that some individual bull (adult male) grey seals kill and partially consume harbour seals, as well as harbour porpoises and even young grey seals. This type of interaction between competitors is described as intraguild predation.

As marine top predators, both grey seals and harbour seals are considered indicators of ecosystem health under the Marine Strategy Framework Directive and the OSPAR Convention, and their populations are protected under national legislation (e.g. The UK Conservation of Seals Act 1970, Marine Scotland Act 2010) and European Union regulations (i.e. EU Habitats Directive). Grey seal populations, throughout their range across the North Atlantic, are considered a conservation success story, bouncing back from years of exploitation. However, the same cannot be said for harbour seals; in recent years, populations have suffered regional declines on both sides of the North Atlantic. These contrasting population trends between the species are likely driven by multiple interacting factors, through environmental changes to disease and predation. Disentangling drivers of these trends is critical to informing conservation efforts, and better understanding population trajectories and their ability to recover.



Figure 1: An adult male grey seal (behind) and harbour /common seal (in front).
Photo credit: Ron Morris.

The corkscrew seal story

Dead seals with striking, corkscrew-like injuries have been found across the North Atlantic since at least the 1980s. In the UK, it was initially feared that the cause of these traumatic injuries could have an anthropogenic origin, and colleagues tested the hypothesis that the injuries were caused by seals being drawn through the ducted propellors of ships (Thompson et al. 2010). Meanwhile, across the Atlantic where white shark predation of seals is relatively common, these corkscrew injuries, that are notably different from those caused by white sharks, were proposed to have been caused by a second marine predator: the Greenland shark (Lucas & Natanson 2010). It finally became apparent, through direct, independent observations, that corkscrew lacerations were in fact caused by adult male grey seals.



Figure 2: Weaned grey seal pup with a corkscrew laceration. Photo credit: The Scottish Marine Animal Stranding Scheme (SMASS).

The Scottish Marine Animal Strandings Scheme (SMASS), in collaboration with the Sea Mammal Research Unit, published a seminal study in 2016 describing the pathology of grey seal pups that had been recovered from a breeding colony in southeast Scotland after an adult male grey seal had been observed killing and partially feeding on them (Brownlow et al. 2016). The pathological indicators of grey seal predation as likely cause of death included the aforementioned corkscrew laceration, but also claw rake marks in the blubber, canine puncture wounds in the muzzle, and detachment of the shoulder blade.

It is these pathological attributes that dead seals reported to the strandings scheme are now scored against to determine the likelihood of grey seal predation as the cause of death.

Article in the Journal of Animal Ecology

For the first time since these pathological indicators in the strandings record were linked to grey seal predation, we analysed data from dead seals that underwent assessment by the strandings scheme (Langley et al. 2025). We found evidence of grey seal predation in all regions of Scotland. Relative to other causes of death, including infectious disease and bycatch, the proportion of seal strandings attributed to grey seal predation increased through the study, between 2010 and 2021.

For both grey seals and harbour seals, the odds of grey seal predation were greatest in southeast Scotland, and during their respective breeding seasons: summer for harbour seals and winter for grey seals. Breeding in both species represents a time of year when animals aggregate in and around breeding colonies, making individuals somewhat spatially constrained. The grey seal breeding season in winter also represents a time of year when the density and abundance of young animals are highest. Whereas in the summer, aggregations of breeding and moulting harbour seals would provide optimal foraging opportunities to specialist predators.

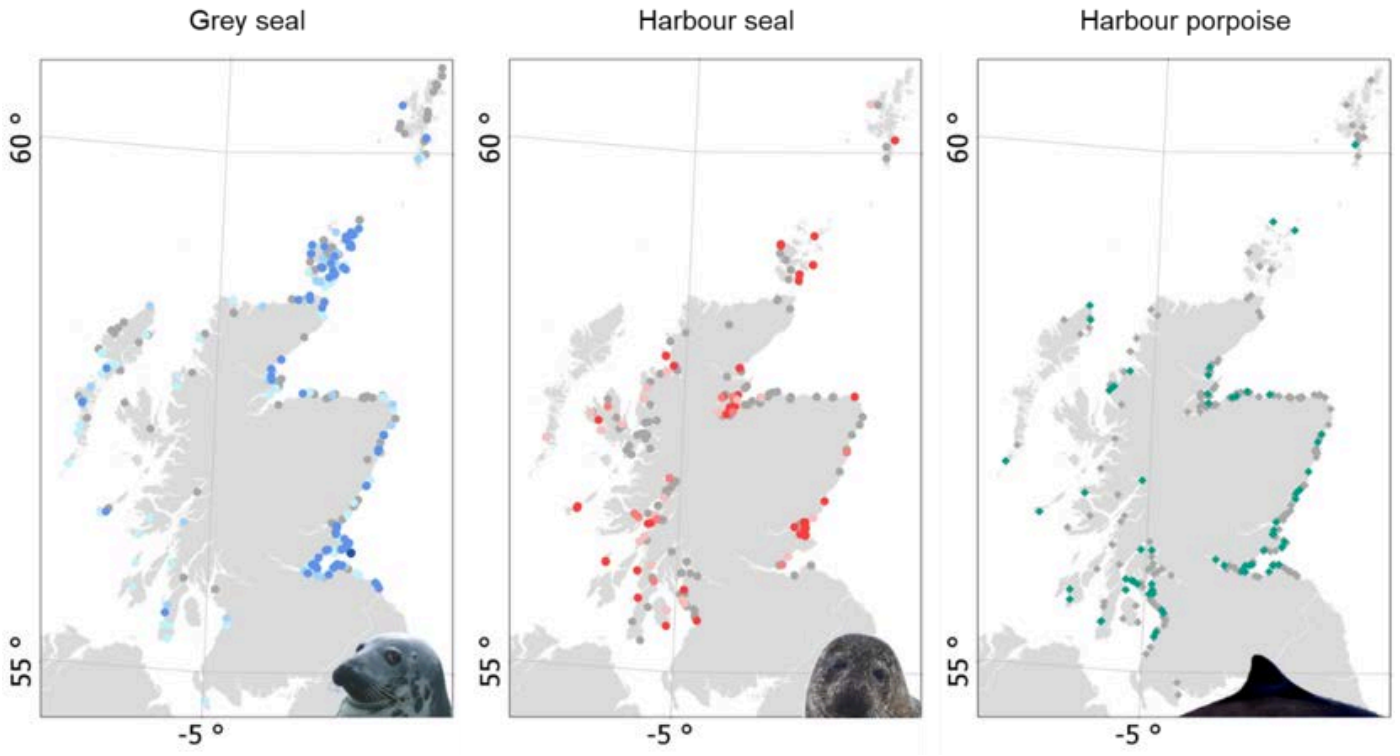


Figure 3: Seal and porpoise strandings around Scotland between 2010 and 2021, coloured by the likelihood of grey seal predation as cause of death, with higher likelihood in darker colours, and grey circles representing strandings assigned to other causes of death.

In other species, it is most commonly the early-life stages that are most vulnerable to cannibalism, and differences in size between intraguild predators and prey is also common. Here, it was evident that juvenile grey seals were most vulnerable to cannibalism. This is likely biased towards weaned pups, who remain on breeding colonies unattended and relatively immobile for up to 4weeks as they undergo a post-weaning fast. In many regions of Scotland, the grey seal breeding populations appear near carrying capacity of the environment, with first-year survival being particularly low. As such, removing such seals through predation is unlikely to have a population-level effect. However, analysis of the strandings data in Scotland demonstrated that it was the adult age class in harbour seals that had the highest odds of predation. This may be influenced by the breeding strategy of harbour seals, where females give birth in or close to the water and have restricted range in early lactation. Strandings were also slightly female-biased, which is significant for harbour seal populations as sexually mature females have high reproductive value. e were also interested in what more we can learn about grey seal predation that is not captured in the strandings data. Increasingly, keen naturalists have been photographing grey seal predation events from shore, and we set up a citizen-science project to formalise the collection and storage of these reports. With high quality images, we can identify both the individual adult male grey seals involved, as well as the species and age class of the prey. This has enabled us to build a catalogue of known marine mammal predators across Scotland, and in collaboration with colleagues, across the rest of the UK, Ireland and much of continental Europe. From these reports, we have identified over 20 individual grey seals that prey on seals and/or porpoises, 7 of which have been found to engage repeatedly in these predation events, over a period up to 6 years apart.



Figure 4: Adult male grey seal killing and feeding on a small harbour seal in southeast Scotland, 2022. Photo credits: Peter Brown.

This included one adult male who predated on both grey and harbour seals. This finding is particularly significant as it provides a direct link between grey seal cannibalism and intraguild predation of harbour seals and suggests that grey seals predating grey seal pups on breeding colonies in winter may also be a threat to adult harbour seals during their breeding season in the summer. To explore the potential effect of grey seal predation on regional populations of harbour seals, we combined strandings data and direct observations collected in this study to test realistic predation scenarios. We based this on the harbour seal population in the Firth of Tay & Eden Estuary Special Area of Conservation (SAC) in southeast Scotland. Between 2010 and 2021, the abundance of harbour seals dropped by more than 90% and the population continued to decline. We found by simulating this population through different predation scenarios, the magnitude of the decline was replicated by the level of predation estimated from within the SAC. Such results suggest that harbour seals in some regions of Scotland could be in a "predator-pit", where grey seal predation is preventing recovery of already depleted populations.

Article in Marine Mammal Science

The next logical step was to reassess what we understood about corkscrew seals in the northwest Atlantic. In collaboration with colleagues at Fisheries and Oceans Canada, Dalhousie University and Parks Canada, we presented the first observations of grey seal cannibalism on Sable Island, the largest grey seal colony in the world (Langley et al. 2026). These observations reopened the investigation into the corkscrew seal story, and in 2023 and 2024, dead pup surveys were undertaken throughout the winter breeding season. A subset of these carcasses was then assessed for grey seal predation injuries listed in the SMASS study from southeast Scotland. We found that dead pups recorded in these surveys on Sable Island had many of the pathological attributes of seal predation.

The Sable Island grey seal population increased exponentially from the 1960s to the 2000s, and in recent years has seen reduced growth associated with a documented decline in the survival of pups from weaning to recruitment.

However, during this same period, the harbour seal population on Sable Island collapsed. This decline was attributed to predation by sharks and nutritional stress driven by prey competition with grey seals (Bowen et al. 2003). Our study suggests that many, if not all, of the apparent Greenland shark predation events previously documented could have been caused by adult male grey seals. Given that we now also have evidence for the same individual adult male grey seals predating both grey seal and harbour seal prey, we propose that the collapse of the harbour seal population on Sable Island should be investigated in the context of grey seal predation and the potential impact this could have on marine mammal population dynamics.



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STUDENT GRANT AWARD

Learning with the Coast: Education for Estuarine and Coastal Futures

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Estuaries and coasts are dynamic, diverse, and highly contested environments. They support a remarkable range of human and more-than-human life, from ports, fisheries, recreation, and tourism to saltmarshes, mudflats, seagrass meadows, migratory birds, shellfish reefs, and countless other forms of life. Increasingly, these environments are understood as social-ecological systems: places where ecological processes, social practices, cultural values, and economic activities are deeply intertwined. Understanding estuaries and coasts therefore requires more than an appreciation of their physical characteristics; it requires attention to the relationships through which these places are continually made and remade.

This perspective is particularly important given the scale of human dependence on coastal environments. With around 40% of the world's population living within 100 kilometres of the coast, coastal and estuarine environments support livelihoods, food production, transportation, recreation, identity, and wellbeing for billions of people, while simultaneously providing habitat, nursery grounds, migration routes, and shelter for countless other species. As the global population continues to grow, pressures on these environments, and the need to manage them sustainably, will only increase. For this reason, understanding estuaries and coasts is not solely a matter for the natural sciences. As Bennett (2019) argues, decisions about conservation, fisheries, marine spatial planning, climate adaptation, and coastal development require attention to the social, cultural, economic, and governance dimensions of marine and coastal life. Scientific knowledge of tides, sediments, habitats, and ecosystem processes remains essential, but so too is understanding how people relate to coastal environments, how they value them, and how these relationships influence environmental futures.

Yet if understanding human–coast relationships is important for sustainable governance, this knowledge cannot remain confined to scientists, managers, and policymakers.

The future of coastal and estuarine environments will depend upon widespread public understanding and support for the, sometimes difficult, decisions required to manage them sustainably. Education therefore has a formative role to play.

At its best, education equips young people with the knowledge, skills, dispositions, and ethical resources necessary to navigate informed and fulfilling lives. It should help young people understand not only how the world works, but also how they are situated within wider networks of ecological, social, and cultural relationships.

However, many contemporary Western education systems struggle to achieve this. Knowledge is often organised into discrete subjects and disciplines, producing fragmented and siloed understandings of the world. Young people can therefore complete compulsory schooling with extensive knowledge of particular topics while lacking an appreciation of the deeply interconnected systems upon which their lives depend.

This challenge is particularly evident in relation to the ocean and coastal environments. Despite their profound influence on weather, climate, food systems, trade, culture, biodiversity, and planetary wellbeing, the ocean remains largely absent from many school curricula. Consequently, many young people have limited opportunities to explore how their own lives are connected to marine and coastal environments.

The growing field of Ocean Literacy offers an important response to this challenge. Commonly defined as understanding the ocean's influence on us and our influence on the ocean (Cava et al., 2005), Ocean Literacy seeks to make visible the relationships between human societies and marine environments. Through growing international efforts, including those associated with the UN Decade of Ocean Science for Sustainable Development, increasing numbers of children are being offered opportunities to learn about oceans, coasts, and sustainability.

Ocean Literacy represents an important step forward because it emphasises that humans are participants in marine systems rather than external observers. It also highlights the connectivity of planetary waters and the multiple ways that marine environments shape everyday life. However, Ocean Literacy initiatives often remain framed in predominantly utilitarian and anthropocentric terms. The ocean is frequently presented through the lens of the benefits it provides humans: food, resources, transportation, recreation, climate regulation, waste processing, or wellbeing. These ecosystem services perspectives are valuable, but they can inadvertently reinforce the idea that the primary significance of marine environments lies in what humans can extract from them.

My research seeks to expand these conversations in two ways.

First, drawing on feminist posthuman scholarship, I advocate for more relational approaches to environmental education. Such approaches challenge assumptions that humans stand separate from or above nature. Instead, they emphasise how humans are continually shaped with and through the more-than-human world. From this perspective, coasts and estuaries are not simply environments that humans manage or use; they are places through which human identities, experiences, and futures are co-constituted alongside tides, plants, animals, infrastructures, stories, and communities.

Reframing environmental education in this way can support more responsible, just, and regenerative forms of coastal stewardship because it encourages learners to understand themselves as participants within ecological relationships rather than managers standing outside them.

Second, my research explores the educational potential of storying as a way for children to make sense of their relationships with the ocean. Drawing inspiration from longstanding Indigenous traditions in which stories provide ways of understanding relationships between people, place, and the more-than-human world, I have developed storying-with-the-ocean (Bastos, forthcoming) as a pedagogical approach. As opportunities for ocean learning continue to expand globally, storying offers children a means of integrating that learning into their everyday lives. Rather than treating knowledge as detached, isolated facts to be remembered, storying invites learners to weave together experiences, emotions, observations,

and understandings into meaningful narratives. In doing so, learning can become more deeply connected to identity, community, and place.

Ultimately, understanding estuaries and coasts as social-ecological systems invites us to move beyond seeing them merely as physical environments. These are places where human and more-than-human lives meet, interact, and become entangled in complex and consequential ways. Estuarine and coastal sciences have an essential role in helping us understand these relationships. Education has an equally important role in ensuring that such understanding becomes more widely shared.

If sustainable coastal futures depend upon informed, caring, and responsible citizens, then educational approaches that help young people understand their place within the living networks of coastal life are not a peripheral concern. They are central to the task of creating conditions in which both human and more-than-human communities can flourish.

This article emerges from an ongoing PhD at the University of Bath (UK) exploring how children understand their relationship with the ocean and how this changes through their formal education experiences.

I would like to express my gratitude for the support received from ECSA's Charles Boyden fund to attend the Rosi Braidotti 2026 Summer School. Rosi Braidotti is a key contemporary philosopher in the feminist posthumanities, helping environmental educators such as myself rethink human-nature relationships towards the more just and affirmative ways that are urgently needed. With a focus on pedagogical practices, including exploring ways of transmitting, translating and teaching the posthuman, this summer school significantly supported me in articulating the significance and real-world impact of my research in the final stages of my PhD.



'Eliane with Prof. Rosi Braidotti at the Enacting the Posthuman Summer School in Utrecht (The Netherlands)'.

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The Posthuman 2026 summer school cohort.

BOOK REVIEW

Seashore Plankton: A Practical Introduction to Biology and Identification

Professor Michael Elliott

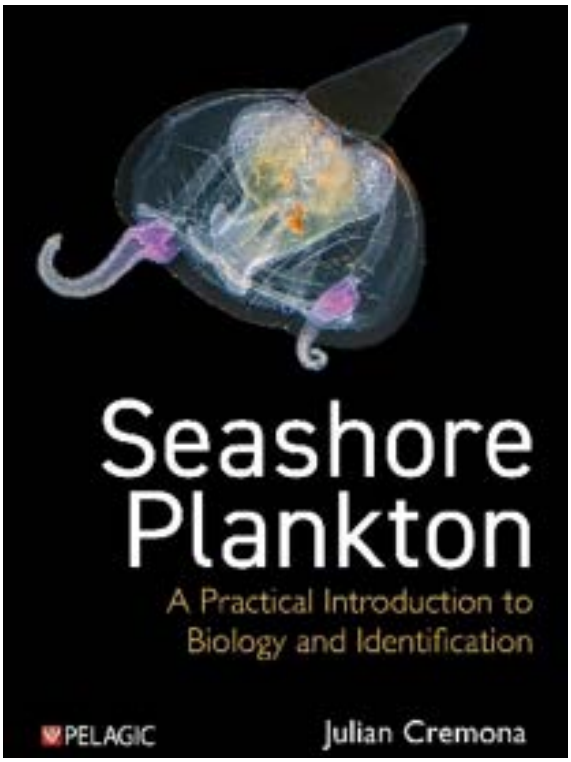
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It is many years since George and Richard Newell produced their seminal work on plankton identification (1963) and JEG Raymond produced his two large volumes covering the phytoplankton (1980) and zooplankton (1983); even the US book by DeBoyd Smith (A guide to Marine Coastal Plankton and Marine Invertebrate Larvae, 1977, Iowa) s now 50 years old. Since then, it is arguable that the taxonomy of these components has been relatively neglected – especially in a form for keen naturalists and students. Julian Cremona's well-produced and gloriously illustrated book partly remedies this deficiency.

An excellent feature of the book, and as expected from Julian Cremona's background and previous books, is the 400 photographs of live organisms – most of these are by the author although other sources are used to good effect. Julian Cremona is the former Director of the Field Study Council's Dale Fort field centre, hence many of his collections have been from Milford Haven, South Wales. As such, the text reflects his many years of teaching marine and field biology to students of all ages.

The book is divided into 3 sections – firstly, an introduction covering definitions and background, methods for the collection and observation, and on identification methods available to amateur and professional biologists. Secondly, the biggest section, on the types of organisms from microbes to chordates and hemichordates has 13 chapters: 2 on diatoms and dinoflagellates and the rest on zooplankton. This covers organisms from the free-living and epizoic diatoms and protozoans and then to the chordates and hemichordates. The book reinforces the diversity of the plankton in covering the different size classes from viruses at 0.2 µm to the 2m largest jellyfishes. These main chapters are very good for showing the types of plankton and their main forms although not all species likely to be encountered are shown.

The chapters mention the holoplankton and the meroplankton based on whether the organism is a permanent or temporary member of the plankton. As such, it covers life cycles, eggs, cysts and resting stages although fish eggs and larvae only get a couple of pages. The chapters also indicate when in the year you would see the stages and along what type of shores and where you would see them. Those in NW Europe wanting to know more about spawning and settlement times of meroplanktonts should consult Erik Rasmussen's massive 1973 volume in the journal Ophelia.



BOOK REVIEW

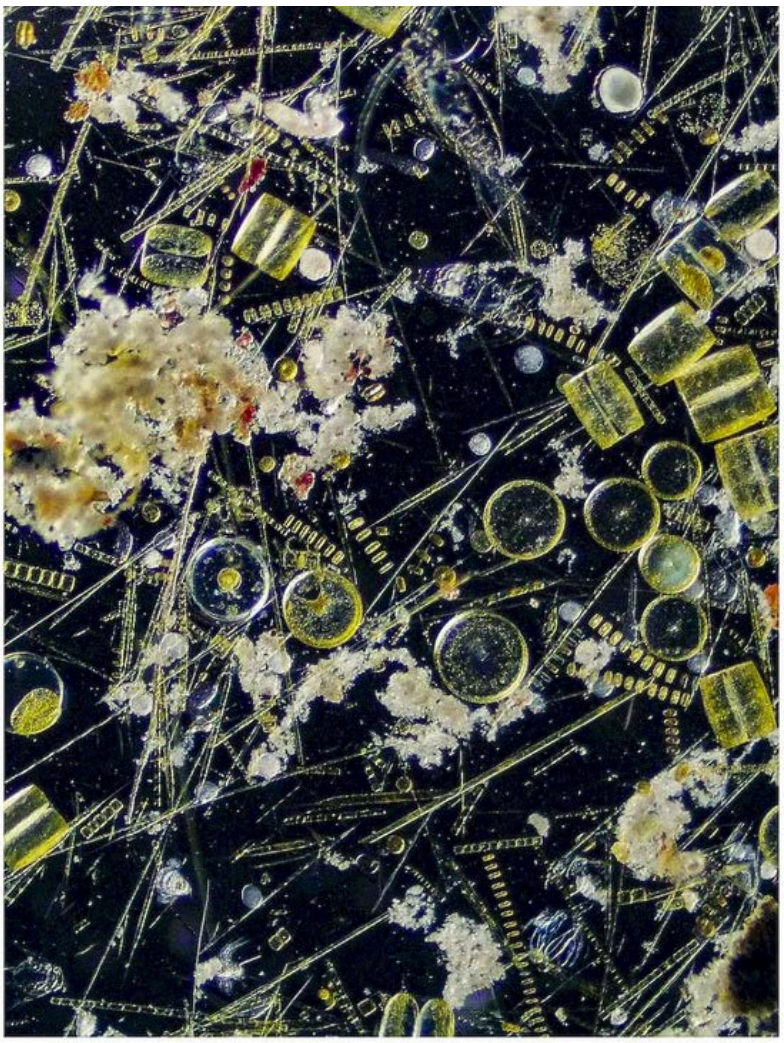


FIGURE 4.1 A photograph of a plankton sample, magnified approximately x20, showing an array of diatoms and debris. This image was taken using an inexpensive USB microscope.

For students of the history of marine biology, it does give introductory information of the history of plankton study, including mention of Philip Henry Gosse and it reproduces some of his superb drawings. For those interested in such history, the book reflects on and is in the lineage going back to *Sir Alister Hardy – The Open Sea: the World of the Plankton, and Douglas P Wilson – Life of the Shore and Shallow Sea.* There are some similarities – the latter being the pioneer of marine biological photography and the former giving an excellent and wide-ranging personal account. Douglas Wilson's various books also give tips on photographing difficult marine organisms – again the similarity with Julian Cremona's book.

The author describes types of plankton gear and collecting from the shore, small boats, jetties and pontoons – thus making plankton study very accessible to those with few facilities.

The information is mostly qualitative and descriptive and so he could have introduced quantifying the plankton using fairly simple flow meters. In addition, he could have given more details on how simply to obtain background environmental data to put the plankton information into context and even help explain the spatial and temporal patterns. It is relatively easy to obtain data for temperature, salinity, dissolved oxygen and turbidity – even showing how to make a basic Secchi disk (see Hardy's description of using a white dinner plate!).

The author describes the laboratory equipment needed to make collecting worthwhile from inexpensive hand-held and computer linked microscopes to moderately expensive stereo and high-power binocular ones. He also helpfully explains camera systems and tips for photographing the organisms as well as determining their identity.

The final section broadly but briefly covers wider topics relevant to the plankton, its ecology and survival - life cycles, food webs, nutrients, carbon cycling, climate change and other natural and human pressures such as fouling, plastics, ocean acidification and eutrophication. This is only an introduction given the huge amount written on each one of these topics.

There are many nice touches in the book.For example, the chapter on pelagic molluscs refers to them as

the 'whirling dervishes' – reminding me of the poems written by the zoologist Walter Garstang (the father-in-law of Sir Alistair Hardy – my predecessor at the University of Hull!) and his poems Larval Forms and Other Zoological Verses – get hold of a copy if you can! (Do marine biology students read these historical books any more?!)

There is a useful glossary followed by a Bibliography as a further reading list covering web resources and identification guides. However, and on a personal note, those taking the study further may wish for help in reaching the identity of an organism – for example a simple dichotomous key would have both helped with the identification and introduced the reader to formal taxonomy. The key in Smith (1977) gives a good indication of the value of such a device and would show students that using this is better than just searching and comparing pictures.

The book will be of great interest and value to marine biology (and general biology) undergraduates and they will learn much from t but, unfortunately, as it is not written purely as an academic text, then there are no references in the text to help with their study. However, it is nice to think that the book introduces amateur naturalists to the plankton of the British Isles. Despite this, on first seeing the book, I pondered why the title should be 'seashore plankton' rather than 'coastal plankton' – perhaps this is to show the accessibility of the medium even though the plankton is only there by virtue of it being high water. I would also probably take issue with the publisher's description of the book as the 'first ever practical guide to collecting, observing and identifying plankton along our coasts' (I would give that accolade to the Newells). This book would only be the very first step for those quantitatively cataloguing the plankton as part of assessing quality status but this excellent book fulfils many aims, and will be a great addition to marine biological bookshelves.

This review was kindly provided by Mike Elliott, an Emeritus Professor of the University of Hull, UK, and Co-Director of International Estuarine & Coastal Specialists (IECS), Ltd., Leven, UK.

Seashore Plankton: A Practical Introduction to Biology and Identification is written by Julian Cremona. The book is published by Pelagic Publishing, London, ISBN 978-1-78427-619-5 (pbk, also eVersions and .pdf are available; £30.

Highlights from the publisher include:

- The first ever practical guide to collecting, observing and identifying plankton along our coasts.
- Over 400 high-quality photographs of microscopic plankton, showing life-forms that most people never see.
- Accessible descriptions of the life and biology of the many different organisms.

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SHORT ARTICLE

From Silos to Systems: Collaboration for Marine and Coastal Management

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Recently, I attended the 'From Silos to Systems: Relational Frameworks to foster Collaboration, unlocking Value for Marine and Coastal Management' conference in London, UK. This event focused on how we can move past traditional sectoral divisions towards joined-up marine governance. Throughout the day, sessions addressed the practical applications of relational frameworks, examined cross-agency initiatives such as collaborative seabed mapping and coastal partnerships, and considered key provocations regarding marine recovery, monitoring, and data sharing across organisations.

During the conference, Professor Michael Elliott and I co-presented on our findings from several European Union Horizon Europe projects, including MarinePlan, GES4SEAS, GuardIAS, MarineSABRES, and MARBEFES. We focused on illustrating how the relational frameworks and tools developed across these projects can help



Photo credit: Lissa Batey



frame and structure information to support collaborative, cross-silo dialogue. In particular, we highlighted how problem structuring methods, visual tools, such as governance horrendograms and organograms, social-ecological system modelling, and risk-assessment bow-tie analyses, allow us to navigate the complexity of marine systems and their management.

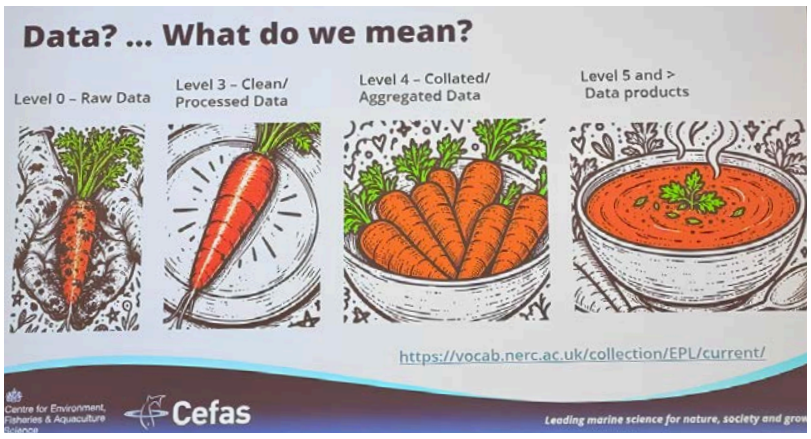
The discussions that followed our presentation reinforced and evolved my understanding that many delegates and organisations are aware that making cross-sector connections is necessary for more effective Marine Management. However, the dialogue throughout the day also highlighted that the barriers to these collaborations still persist. For instance, challenges

SHORT ARTICLE

such as shared understandings across disciplines that often use different terminology, locating the right information, and relevant data, and connecting with the appropriate experts across institutional and administrative boundaries, where these working practices often remain siloed.

Another central theme from the conference was the value of both formal and informal partnerships in facilitating cross-sector and interdisciplinary collaboration moving forward. While formal partnerships and statutory mandates provide foundational structures and governance frameworks, informal networks and coastal partnerships play an equally important role by fostering personal relationships, trust, and meaningful communication. Combining these collaborative arrangements with relational frameworks struck me as a helpful pathway to overcome current barriers, and bridge the gap between science, policy, and practice.

A particular highlight for me was the presentation delivered by Ross Bullimore from the Centre for Environment, Fisheries and Aquaculture Science (Cefas). It was refreshing to hear a compelling discussion on why data truly matters and why clarity in our communication is essential. In his talk, he used the analogy of comparing different levels of data to a carrot straight out of the ground (raw data), a washed carrot (cleaned data), a bowl of prepared carrots (aggregated data), and finished carrot soup (processed data products). Ross demonstrated that when we fail to be explicit about what state of data is expected then our expectations are rarely met. This made me think about how this concept applies more broadly within estuarine, coastal, and marine management, particularly regarding how we define environmental targets and determine how these can be achieved. If different stakeholders hold divergent perspectives on what an end target looks like, or how to achieve this, and these assumptions are not made explicit, then expectations misalign and can lead to conflict which ultimately stunts our progress in sustainably managing our seas.



Ross Bullimores slide illustrating the difference between data products.

I am grateful for our invitation to join and contribute to the conference, alongside the ongoing support and collaboration across the Horizon Europe projects that enabled us to contribute to these important discussions.

This event emerged from ongoing work by Bob Earll, Lissa Batey and Hayley Hinchen, for more information about the relational frameworks work, visit: *https://bobearll.co.uk/current-projects/understanding-marine-science-regulatory-policy-frameworks/*

IN MEMORIAM

Prof. Monica Montefalcone (1974-2026)



We met Monica in 2003. At that time, she was holding a postgraduate scholarship and told us that she had graduated with a thesis on the Posidonia oceanica seagrass beds in Sanremo (Ligurian Sea), drawing extensively on our publications on the subject. Thus began a collaboration that lasted until 14 May 2026, when Monica lost her life in a diving accident in the Maldives, along with her daughter Giorgia Sommacal, her co-workers Muriel Oddenino and Federico Gualtieri, and the dive guide Gianluca Benedetti. Monica, who was born in Milan on 27 December 1974, decided to move to Genoa, where she obtained a PhD in Marine Environmental Sciences, furthering and completing her research on the seagrass beds of the Ligurian Sea. Even whilst working on her PhD, she published several articles in leading academic journals, which were widely cited by the international scientific community.

In the years that followed, thanks to a series of research grants, Monica broadened her research interests to include various coastal marine habitats: in addition to seagrass beds, she studied rocky reefs, underwater caves and tropical coral reefs, regularly publishing her findings in leading scientific journals. Following her appointment as Associate Professor at the School of Sciences of the University of Genoa, she taught the core courses in Ecology for the Bachelor's degree programme and in Marine Landscape Ecology for the Master's degree programme, as well as the optional courses in Tropical Marine Ecology and Underwater Science. Her passion for research and teaching made her much loved by her students, whom she inspired with her enthusiasm: her lecture halls were always packed, and many queued up to ask her to supervise their theses. She had managed to gather around her a group of passionate and hard-working young researchers, who helped her to carry out important research and achieve innovative results.

Monica possessed extraordinary charisma, which made her appreciated not only by the national and international scientific community, but also by the general public. She was, in fact, deeply committed to Public outreach, often appearing on television to talk bout the sea and the importance of studying it. Much of her scientific work was devoted to the protection of the sea and the conservation of biodiversity of both Mediterranean coastal habitats and Maldivian coral reefs. In the Maldives, she used to coordinate the annual scientific cruises, which often involved not only her team and other researchers but also enthusiasts taking part in citizen science activities using the international Reef Check protocols.

Both in the Mediterranean and the Maldives, she maintained long-term data series that allowed her to document recent changes linked to global warming and widespread human impacts, but also enabled her to demonstrate that ecosystems within marine protected areas are showing encouraging signs of recovery.

She was President of the Scientific Committee on Benthos of the Italian Society of Marine Biology, a member of the Species Survival Commission of the International Union for Conservation of Nature, and was involved in United Nations programmes focusing on the health of marine ecosystems. In particular, she was a member of the United Nations Pool of Experts for the global assessment of the state of the marine environment and collaborated regularly with the United Nations Regional Centre for the Protection of the Mediterranean. She has received prestigious awards such as the Atlantis Prize and the Golden Trident from the International Academy of Underwater Sciences and Techniques.

In just over twenty years, Monica has published 288 papers, the vast majority of which appeared in international journals with a high Impact Factor; others are still in press or under review. Her latest paper, in Advances in Marine Biology, came out on the very day of her passing: Monica never got to see it published.

Carlo Nike Bianchi and Carla Morri
University of Genoa, Italy

IN MEMORIAM

Dr Jérémy Lobry (1977-2026)

It is with deep sadness that we announce the passing of Jérémy LOBRY, Research Director at INRAE (EABX Research Unit — Aquatic Ecosystems and Global Change, Nouvelle-Aquitaine – Bordeaux Centre), which occurred suddenly on 3 July 2026.

Holder of a PhD in oceanography, he had obtained an engineering degree from Agrocampus Ouest in Rennes, followed by a PhD, defended in 2004, on the topic: 'What operational framework for estuarine ecosystems? The case of fish communities in the Gironde estuary'. Jérémy Lobry spent his career at several major French research institutes, notably at Ifremer within the 'Ecology and Models for Fisheries' unit, before joining IRSTEA and then INRAE, where he held the post of research director within the EABX unit. Over the course of more than two decades, he has established himself as a leading figure in French research on estuarine ecosystems, particularly that of the Gironde.

His scientific work, which is recognised internationally (over 3,600 citations, more than 130 articles published on HAL), covers a remarkably broad range of topics: the modelling of food webs (Ecopath with Ecosim), the ecology of estuarine fish communities, the functioning of coastal nursery areas, bioenergetics and the bioaccumulation of contaminants in common sole, as well as the impacts pff climate change — notably the northward shift of estuarine species and the tropicalisation of European marine communities, which he documented in 2024 in *Nature Communications*. His recent work has demonstrated his scientific insight: the impact of floating wind farms in the Gulf of Lion in France; a study of the food web using stable isotopes in the embanked marshes of the Gironde estuary; and the publication of the Bayesian model ESCROpath, an innovative methodological tool for quantifying diets and trophic flows in aquatic food webs.

Jérémy has successfully combined scientific rigour with a commitment to society: he has helped to coordinate the 'Seine Aval' scientific programme, contributed to the governance of the Gironde estuary and the Mer des Pertuis Marine Park, and provided numerous expert assessments in support of aquatic environment management, particularly within the framework of the European Water Framework Directive. Co-editor, alongside H. Cabral, M. Lepage and O. Le Pape, of the reference work *Ecology of Marine Fish* (Academic Press, 2025). He has also developed innovative methodological tools for coupling models (DEB, LIM, CaN) in order to assess impacts on trophic flows and to scale up from the individual to the population level.



Beyond his role as a scientist, we have lost a generous colleague, a mentor who took a keen interest in young researchers, and a friend to many of us. His curiosity, his sense of humour, his willingness to help and his infectious enthusiasm will leave an indelible mark on all those who were lucky enough to work alongside him. We will miss you. We extend our deepest sympathies to his family, his loved ones and all his colleagues.

-Mario Lepage
INRAE, France

The whole of the estuarine fish biologists' community is hugely saddened by the loss of Jérémy - he has left us far too young in tragic circumstances and although he has already done some great work, we know he would have done so much more. I have known him since the early 2000s when he was a young postgraduate and I greatly admired his papers, especially those I handled for the journal Estuarine Coastal and Shelf Science. A great benefit of being a scientist is that at least we can leave a legacy and I know that Jérémy's papers, chapters and book will keep being cited - also, like many scientists, I would imagine that he has lots of information ready to publish and I know his colleagues will continue with that.

We were all looking forward to working with him on a future project and we will raise a glass to him at our next estuarine and coastal meeting. Most importantly, Jérémy was always great company, very friendly and courteous and will be greatly missed. Using the English phrase 'he was a great bloke' which is the highest accolade and all any of us could wish for! Please give my condolences to his friends and family and ask them to remember the good times.

- Professor Michael Elliott
International Estuarine and Coastal Specialists (IECS) Ltd.

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Advantages of membership include:

- Small grants to help with attendance at meetings
- Various awards for students or early career workers
- Reduced rates for students and annual members from OECD DAC countries.
- Reduced registration rates to ECSA meetings, where advertised.
- Bi-yearly bulletins, quarterly newsletters, social media posts.
- Membership of a world-wide scientific community.

Find out about the membership and join today by visiting the website.






ECSA FOCUS MEETING

Dates:17-20 May 2027
Venue: Trinity College Dublin.

For its annual Focus meeting in 2027 ECSA will be returning, for the first time in many years, to Ireland. The event will cover a wide range of topics covering the entire coastline and its estuaries. Given the location in Dublin, we are particularly keen on contributions that address the challenge of managing urban coasts while retaining a high degree of geomorphological and ecological integrity and resilience in the coastal system. As is customary with Focus Meetings we will welcome contributions from government and regulators, academia, nature conservation bodies, tourism, special interest groups and local conservation bodies.

We are now calling for abstracts. If you wish to present a talk or poster, please contact silvam1@tcd.ie
We aim to open registration around 1st December, so watch this space.

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ECSA NEWSLETTER

The ECSA electronic newsletter is e-mailed to members three times yearly (Spring, Summer and Autumn/Winter) and available on the ECSA website to spread information on ECSA Activities.

Short descriptions of items such as: Forthcoming events, Courses, Webinars, Grants, and Job opportunities are welcomed.

Visit the newsletter here.

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