

SEA THE VALUE

MARINE BIODIVERSITY BENEFITS FOR A SUSTAINABLE SOCIETY



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VISION

To determine novel and policy relevant diverse values for marine biodiversity
 To apply these values in the co-development of green investment options for restoration and conservation
 To transform our understanding and utilisation of the economics of biodiversity

BENEFIT FOCUS

Carbon sequestration and storage (CCS)
 Bioremediation of waste
 Biodiversity



TWO CASE STUDY SITES

CROMARTY FIRTH
 Minimal environmental data available

THE SOLENT
 Rich in biodiversity, habitat and condition data



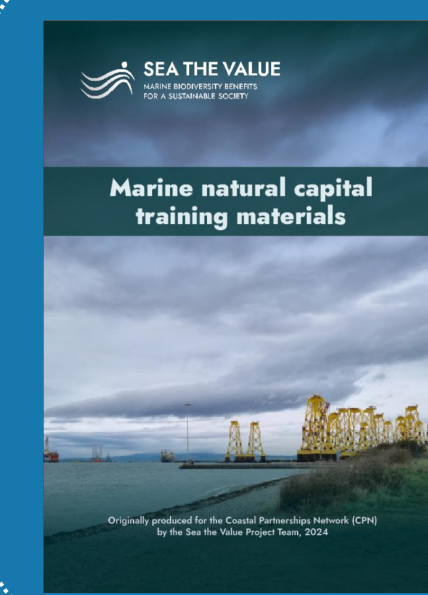
Langstone Harbour Chichester Harbour

IMPACT DRIVEN INTERDISCIPLINARY APPROACH

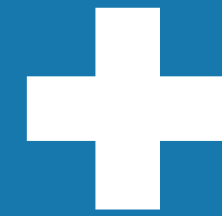
CO-DEVELOPMENT AND CAPACITY BUILDING TO DELIVER IMPACT

Equitable partnerships between policy makers, managers, academics, industry, and NGOs developed and sustained.
 Upskilling of the team and broader practitioner and policy communities in natural capital approaches and green financing options. Expertise shared through 4 tailored workshops, empowering 24 coastal managers with practical skills, as part of the Coastal Partnership Network.
 Programme Steering Group of international experts, from a range of sectors and disciplines, provided advice and guidance.
 Project webpages and social media used to share project information and updates reaching a global audience. Key outputs, such as the training materials, have been made freely available online.

Comments from attendees:
 'I found it extremely interesting and useful to attend.'
 'Very useful, really thought provoking'
 'Absolutely brilliant session, really interesting and I can see how this would fit in clearly with our work.'



Training materials are available to download. Scan to visit our webpage



INTERDISCIPLINARY COLLABORATION RESULTING IN ENRICHED DATA, IMPROVED METHODS AND IMPACTFUL OUTPUTS

The project fostered deep interdisciplinary connections within the team and with project partners, for example:
 Habitat maps were developed using both standard and participatory methods. The participatory maps were evidenced to be a cost-effective solution in poor data scenarios.
 Embedding of environmental data in economic valuation, improving understanding of the range of, and reasons for variation in, economic values for marine ecosystem services
 New understanding of beneficiaries to contextualise potential financial mechanisms.



Disciplines engaged: Environmental and ecological economics / Marine ecology / Human geography / Governance / Finance / Impact/ Communications / Extensive research users & interested parties

OUTPUTS

Participatory mapping

Coastal communities were engaged to generate maps linking natural features, benefits and beneficiaries. These maps have improved community access to, and understanding of, their local environment.
 The maps have been made freely available, and actively shared with 30 stakeholder groups, 6 schools, 12 community councils and Cromarty museum, and have supported local decisions on planning and restoration activities.



Figure 1: A series of 3 well attended participatory workshops were held at both case study sites

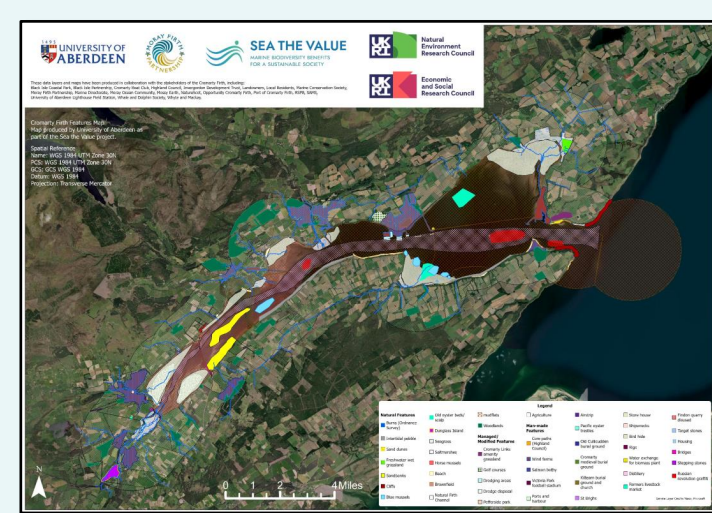


Figure 2: Participatory map created for Cromarty Firth

Quantifying linkages between Biodiversity, Natural Capital and Ecosystem Services

UK policy-ready representations of how marine biodiversity provides climate regulation and bioremediation have been developed, including how this provision varies with habitat condition (quantity, quality, resilience and biodiversity status).

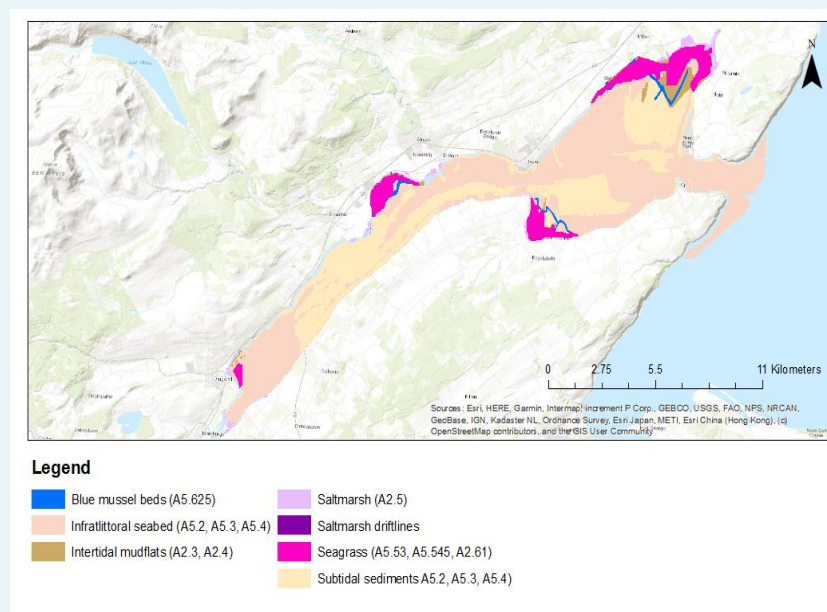


Figure 3: Habitat maps were developed for both the data rich Solent and data poor Cromarty Firth

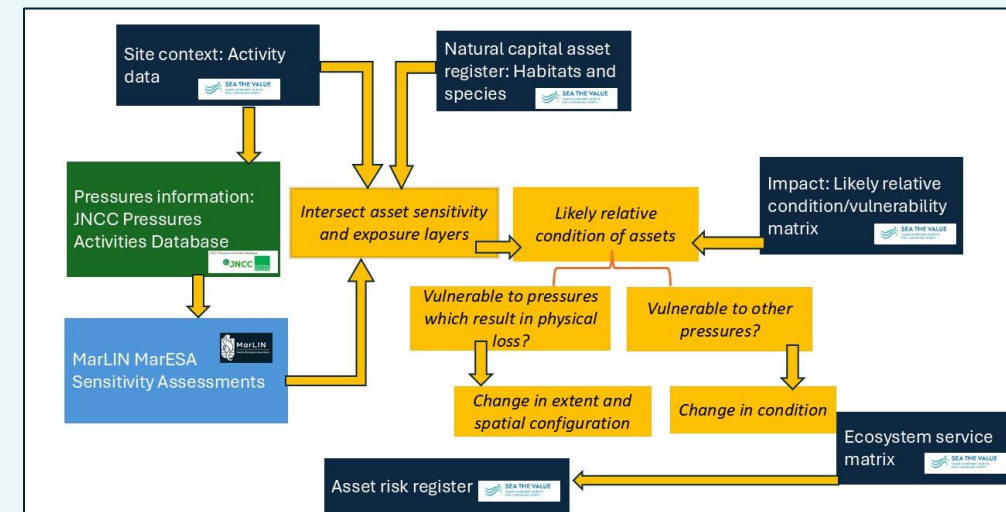


Figure 4: An asset-risk natural capital approach was applied at both case study sites evidencing the ecosystem services delivered and also the pressures and risks to these

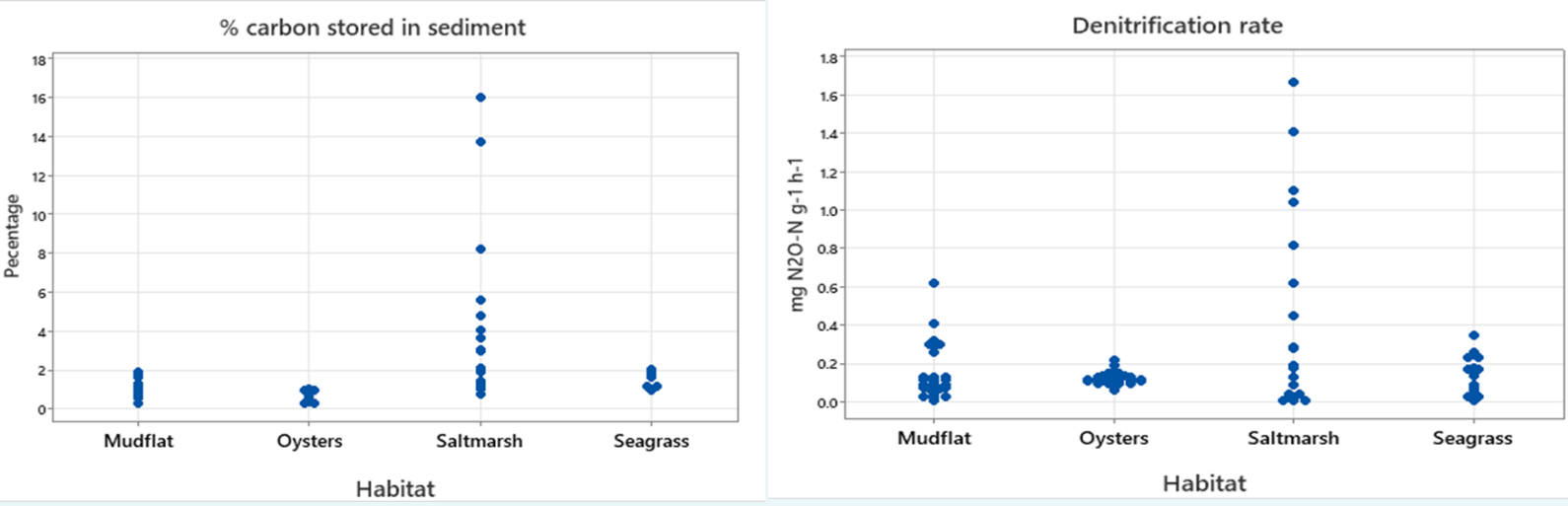


Figure 5: Fieldwork filled gaps on how habitat quality and biodiversity shape ecosystem services provided by seagrass, saltmarsh, mudflats and oysters.

Robust, Ecologically Sensitive Economic Valuation

Inputs from the interdisciplinary team enabled the development of valuation approaches which consider how external factors determine the level of ecosystem function and the condition of the assets providing the ecosystem service, and thus influence their value.
 This provides better understanding of uncertainties and improves valuation data for use in the UK ONS Natural Capital Accounts, decision-making, economic appraisal, policy-developments, natural capital assessments, and the design of innovative green investment options.

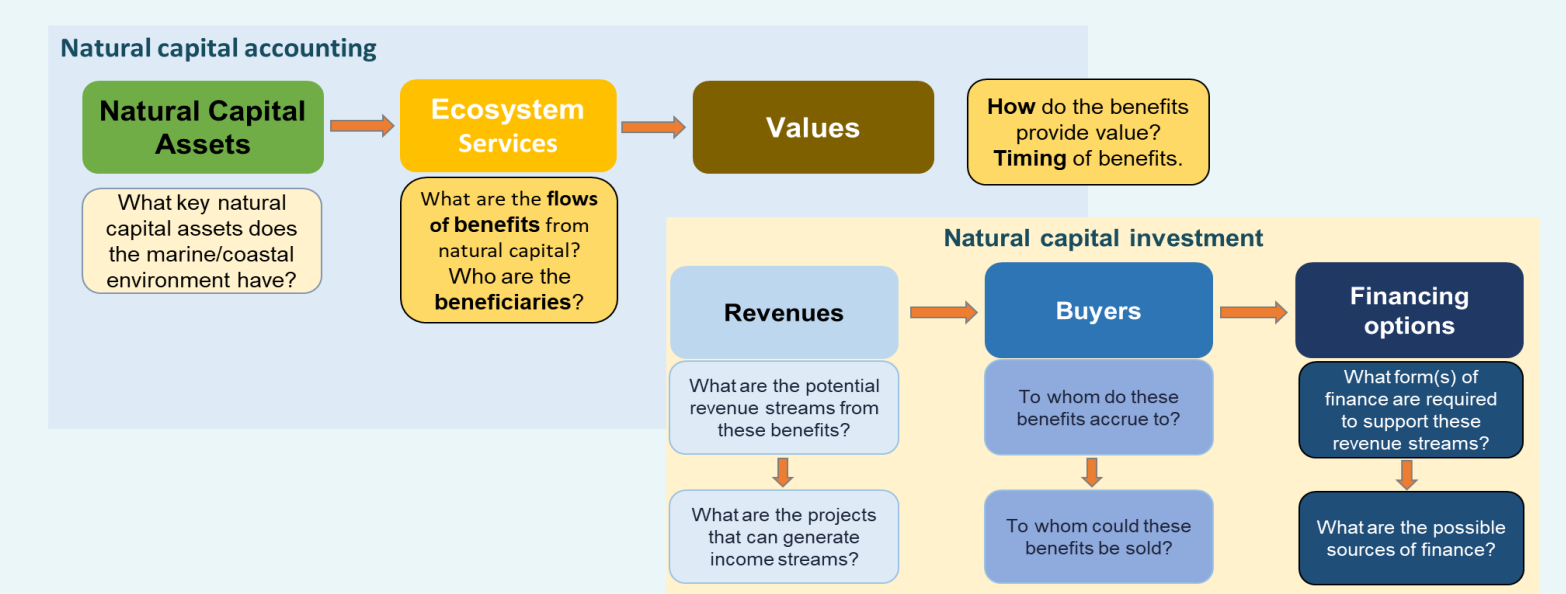


Figure 6: Linking natural capital information (including information from participatory mapping, ecosystem service science, and economic valuation) to natural capital investment options

OUTCOMES

Connecting values to decision-making through green investment

Finance Mechanisms are needed to connect funding to restoration projects, potentially through selling credits from ecosystem service benefits
 Monetary values of ecosystem services were integrated with ecosystem restoration science (e.g. timing, extent and uncertainty of habitat recovery) and information on beneficiaries developed in the participatory research, to contextualise potential financial mechanisms to support marine habitat restoration.

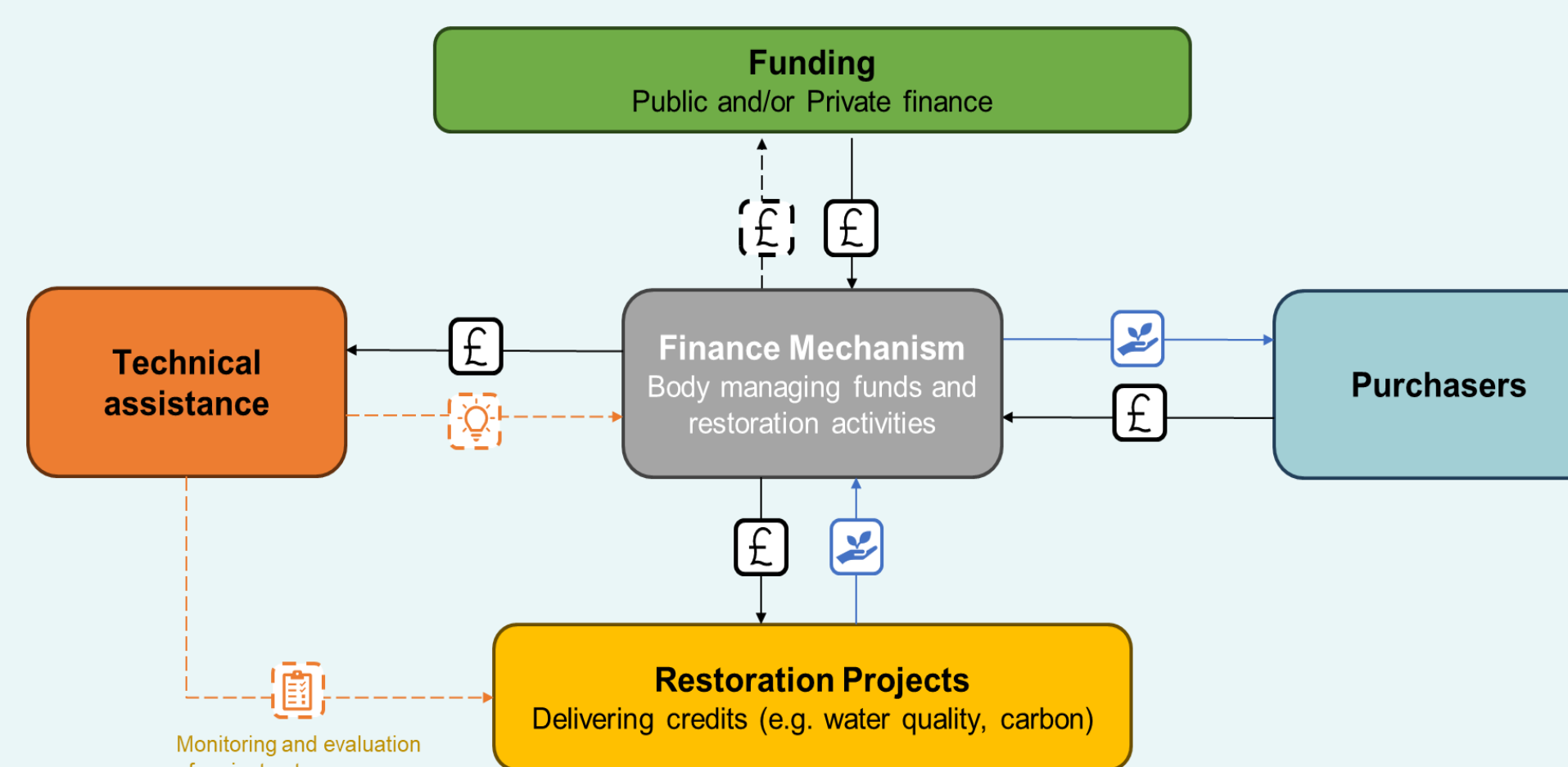


Figure 7: Finance Mechanisms Connect Funding to Projects (source: Coastal Partnership Network Training): Illustrative investment model as the mechanisms are currently in co-design with a range of interested stakeholders



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