



SEA THE VALUE

MARINE BIODIVERSITY BENEFITS
FOR A SUSTAINABLE SOCIETY

WS4 – Funding Nature's Needs

Ian Dickie
(plus the StV Team)

26/6/2024

www.seathevalue.org



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Natural
Environment
Research Council



Economic
and Social
Research Council



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Our Vision

- Understand links between marine biodiversity, natural capital and ecosystem services, taking quantity (extent), quality (condition) and resilience into consideration
- Explore the economic and social values associated with biodiversity - and apply these values to natural capital accounting and engage real world communities in mapping social values and trade-offs
- Connect the ecological, economic and social values of biodiversity to decision-making through the co-design of green investment options to maintain and enhance biodiversity



PML | Plymouth Marine Laboratory



Nicola Beaumont Olivia Rendon Stefanie Broszeit Stephen Watson Jenny Lockett **New Post**

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Plus PDRA



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Gordon Watson
Jo Preston
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eftec economics for the environment



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Rob Tinch
Mark Collar




Programme Steering Group. Academic: Prof Dasgupta, Prof Bateman (SWEEP), Prof Barbier, Prof Macreadie (Blue Carbon Lab), Prof Austin (Scottish Blue Carbon and Nat Cap Forum), Prof Paterson (SMMR), Burdon (CEH saltmarsh code); Prof Fletcher *Government and ALB:* Hinchin (Defra), Lannin (MMO), Morgan (JNCC), Armstrong (DAERA), Lindenbaum (NRW), Mellan (Environment Agency), Taylor (Natural England); *NGO:* Tudor (Blue Marine Foundation), Walmsley (WWF); Collin (Scottish Wildlife Trust, Marine Natural Capital Forum Scotland) *Industry and commerce:* Tinline (ABP), Ashworth (Southern Water), Goldie (Port of Cromty Firth).



A natural capital approach – in practice

Measure key regulating ecosystem services:

1. Carbon sequestration and storage (CCS)
2. Bioremediation of waste

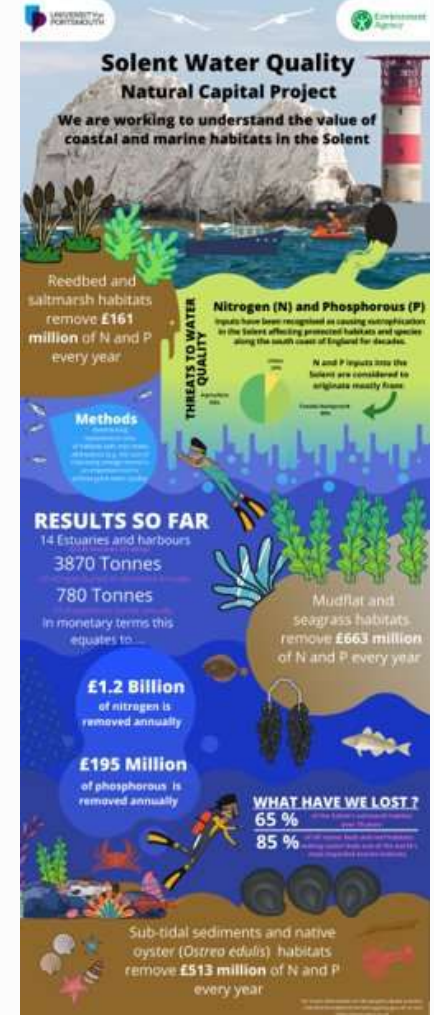
- Moray Firth

Scale to National

- The Solent



Image: Jenny Grant, copyright MFCEP





Agenda

- | | |
|---------------|--|
| 12.00 – 12.10 | Welcome and WS4 intro |
| 12.10 – 12.25 | Introduction on natural capital and natural capital values |
| 12.25 – 12.40 | Links from natural capital to funding |
| 12.40 – 12.50 | Break |
| 12.50 – 13.00 | Considerations for investment in natural capital |
| 13.00 – 13.25 | Breakout groups discussions |
| 13.25 – 13.30 | Plenary discussion (with feedback) |
| 13.30 – 13.40 | Wrap up |



Introduction to natural capital

natural capital (NC)

the stock of renewable and non-renewable resources (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people (Source: Natural Capital Protocol)

natural capital assessment

the process of measuring and valuing natural capital impacts and/or dependencies, using appropriate methods to address a specific question or inform a decision (Source: Capitals Coalition, 2021)

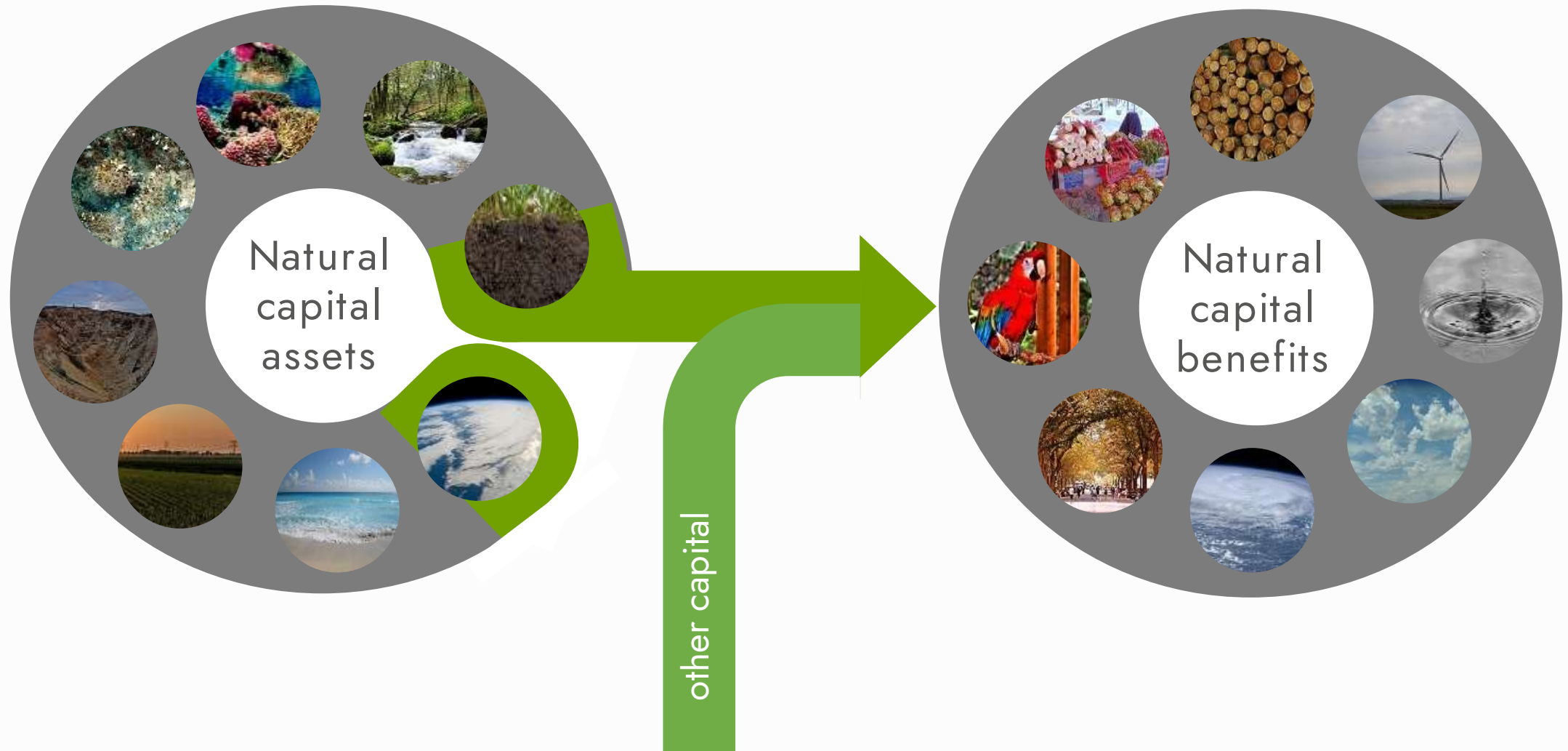
green finance

to increase level of financial flows from the public, private and not-for-profit sectors to ... (better environment outcomes/ sustainable development priorities) (Source: UNEP & WEF)



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...and why we use them

- To better understand risks/opportunities and impacts/dependencies relating to the natural environment
- To measure (and value, where possible) the extent to which natural assets can provide benefits flows, i.e., ecosystem services:
 - Provisioning (e.g., food, fishing, water supply)
 - Regulating (e.g., flood risk management, air quality regulation)
 - Cultural (e.g., recreation, education, volunteering, physical health)
- Natural capital assessment as a tool for natural capital monitoring and evaluation
- To assess alignment and progress towards achieving 'nature positive' and other organization-level commitments, or targets (e.g., SDGs)



A natural capital approach – in practice



Ecosystem Services

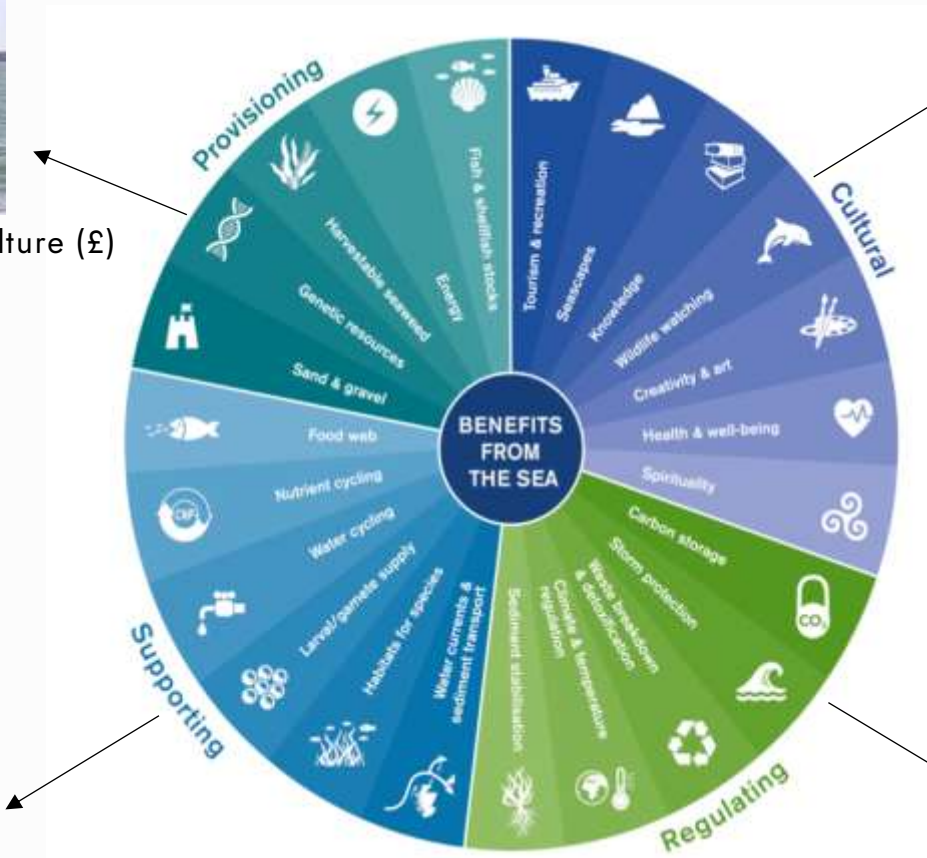
Ecosystem services are functions and products that flow from habitats and species which provide benefits to people.



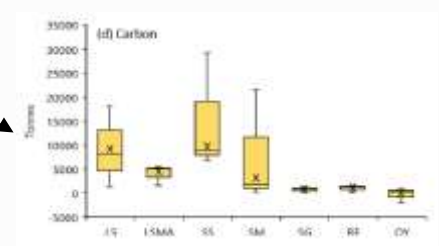
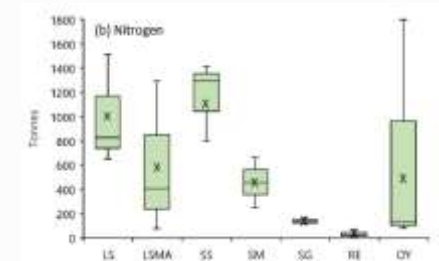
Fish & shellfish stocks and aquaculture (£)



Habitat and species : Biodiversity Value ??



Heritage features and community engagement : Value ??



Carbon and nutrients: Value ??



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A natural capital approach – in practice

Ecosystem asset					Ecosystem services					Benefits and values					
Asset Attribute	Indicator	Baseline	No sandeel fishing	% change from Baseline	Ecosystem service (common name)	Indicator	Baseline quantity	No sandeel fishing quantity	% change from Baseline	Benefit	Indicator	Baseline asset value (£m)	No sandeel fishing asset value (£m)	% change from Baseline	
Species Composition	Biomass of Sandeels (tonnes)	520,841	729,637	40%	Seafood from wild animals	Volume of sandeel landings (tonnes)	302,850	-	-100%	Food from wild caught fish	Value of sandeel landings (4-yr avg price)	1,340	-	-100%	
	Biomass of Fish that feed on sandeels (tonnes)	1,551,394	1,863,592	20%		Volume of landings of fish feeding on sandeels (tonnes)	529,575	635,442	20%		Value of fish that feed on sandeels (4-yr avg price)	15,817	18,482	17%	
	Biomass of Other fish species (tonnes)	6,167,318	5,918,445	-4%		Volume of other fish landings (tonnes)	976,134	856,005	-12%		Value of other fish landings (4-yr avg price)	32,966	31,855	-3%	
	Total fish biomass	8,239,553	8,511,674	3%		Total fish landings	1,808,560	1,491,446	-18%		Total value of fish landings	50,124	50,336	0.4%	
	Biomass of Baleen whales (tonnes)	36,568	42,851	17%		Cultural: Experiential & physical use	UK nature-based tourism visits (visits)	-	-	-	Nature-based tourism & leisure	UK nature-based tourism spend on wildlife watching in ICES IV (EAV)	865	865	-
	Biomass of Toothed whales (tonnes)	7,573	8,061	6%	Cultural: Aesthetic, Spiritual and/or emblematic		Biomass of porpoises, seals and seabirds (tonnes)	56,264	64,784	15%		Existence value of wildlife	Willingness to pay for the protection of porpoises, seals and seabirds	Unknown	21
	Biomass of Seals (tonnes)	9,289	10,400	12%		Abiotic services (renewable energy)	Offshore wind generation in ICES IV (MWh)	17,889	17,889	-	Electricity from offshore wind	Resource rent value of offshore wind in ICES IV (5-yr avg.)	4	4	-
	Biomass of Surface-feeding seabirds (tonnes)	1,068	1,233	15%			Cultural: Nature	Area of marine protected area in ICES IV (km ²)	126,448	126,448	-	Total quantified monetary benefits		50,993	51,226
Biomass of Diving seabirds (tonnes)	1,767	2,239	27%	Renewable energy	Area of installed ICES IV wind farm capacity (end of 2020), (km ²)	2,707		2,707	-	Significance of unquantified monetary benefits		Very large	Very large		
Table Notes:															
Values in red are negative															
										UK + Non-UK fisheries management costs in ICES IV					
										(5,646)					
										(5,646)					
										-					
										UK marine environment management costs in ICES IV					
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Benefits and values

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Total management costs in ICES IV		(7,077)	(7,077)	-



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Questions & clarifications



Links from Natural Capital Values to Funding

1. Natural capital values inform approaches for funding nature:
 - What are the priorities?
 - Where is funding going to come from?
 - How is it going to be managed/ delivered?
2. Describe links...
3. Discussion of delivery

Natural Capital Values - Accounting

Key questions:

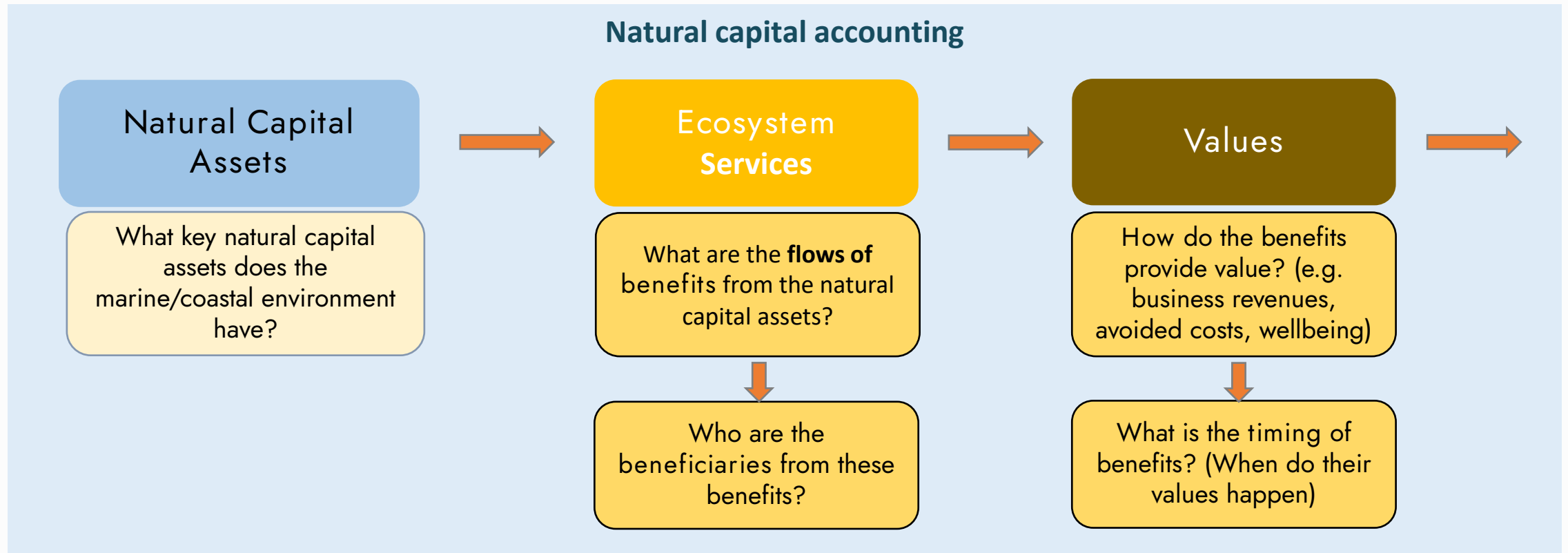
1. What natural capital assets do we have? → *Natural capital asset register*
2. What benefits do they provide and to whom? (ecosystem services) → *Physical flow account*
3. What are these benefits worth? → *Monetary flow account*
4. What are these benefits worth over time? → *Natural capital asset account*

Accounting can also consider the costs of managing natural capital.



Natural Capital Accounting and Investment

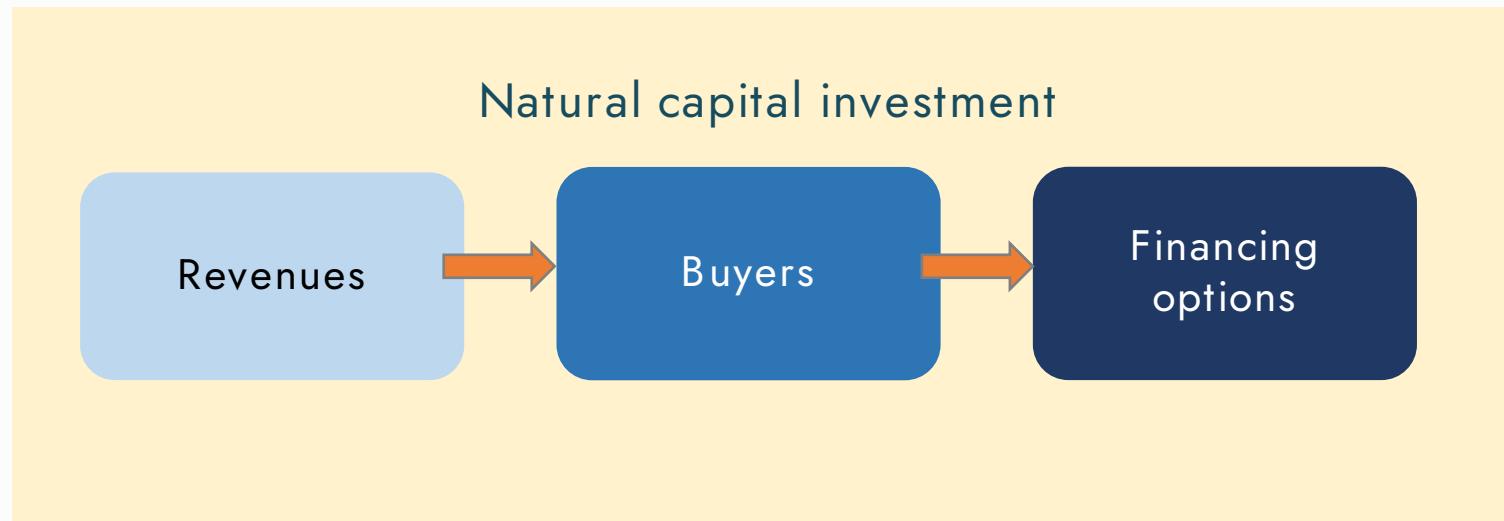
- Natural capital accounting provides data on **values of ecosystem services**.
- Within that, there is data on flows of **benefits, beneficiaries, how values arise, and timing**.





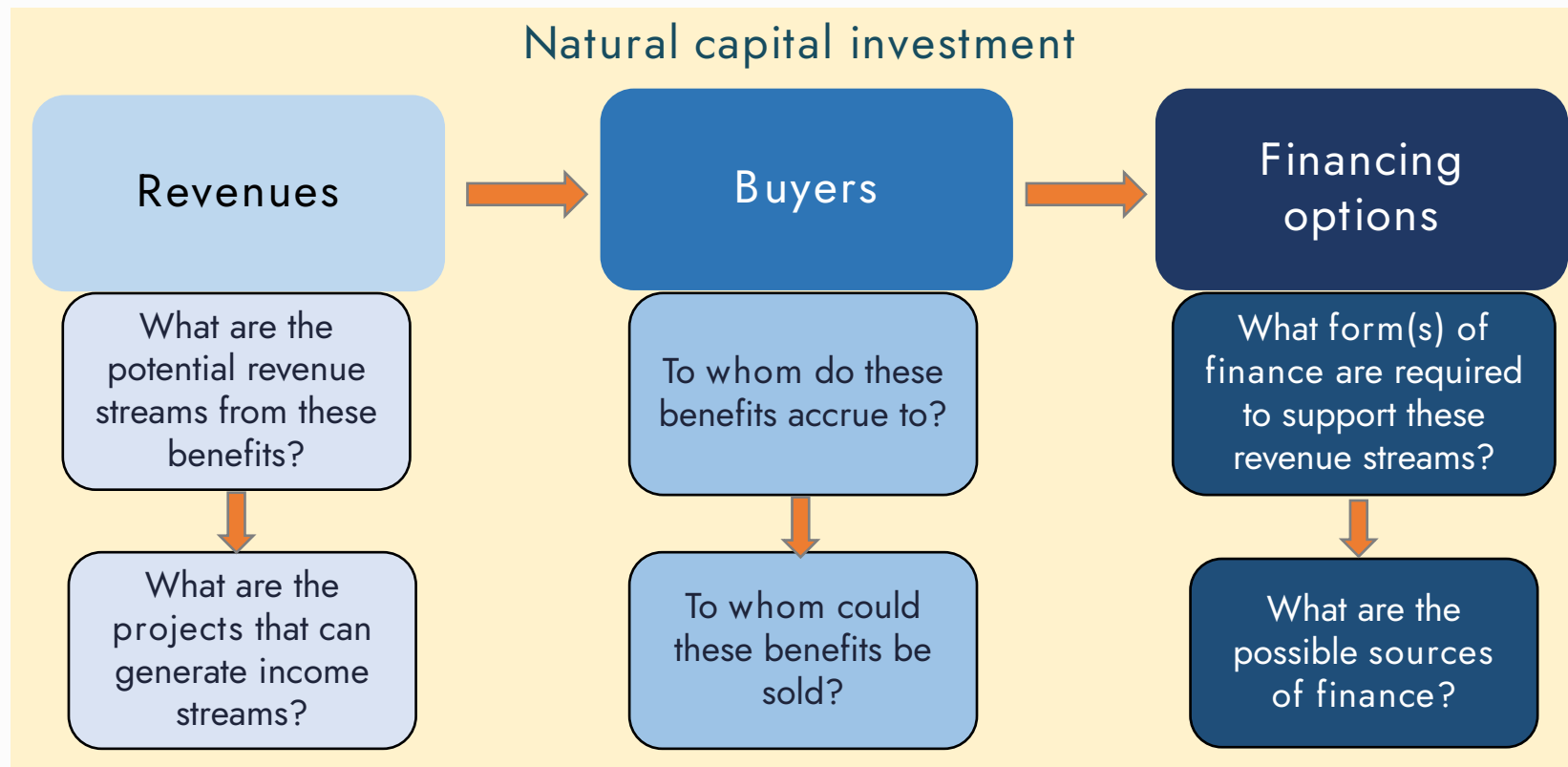
Natural Capital Investment

- Ecosystem services values help identify **revenue streams**, **buyers** and resulting **financing opportunities** for WMCA's natural capital.



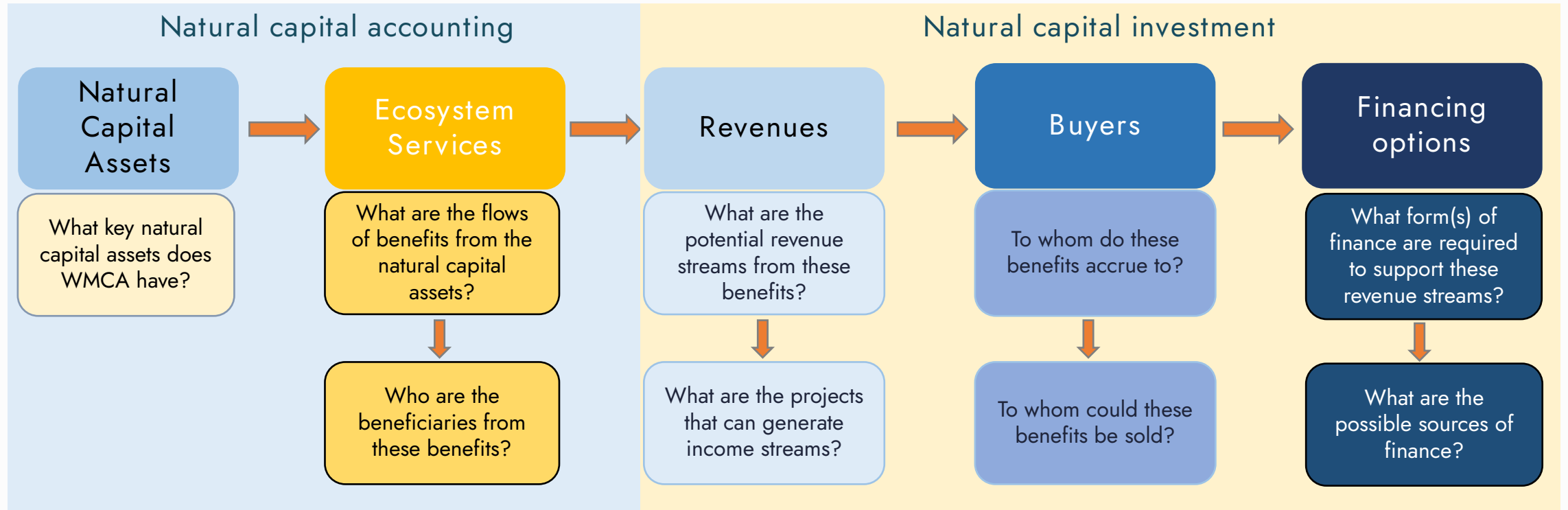
Natural Capital Investment

- Ecosystem services values help identify **revenue streams**, **buyers** and resulting **financing opportunities** for WMCA's natural capital.



Natural Capital Accounting and Investment

- Natural capital values provide information to design funding & investment.





Nature Markets

One approach to generate funding

Lots of Work in Progress, e.g.:

- Standards: Saltmarsh Carbon Code
- Pilots: e.g. seagrass restoration
- Marine net gain (England), SMEEF (Scotland), ...
- BSI 701 (Overarching nature market principles standard)
 - 1st Consultation closed 7th June 2024.
 - Further consultation planned for Autumn 2024...
 - Scope: generate, trade and store nature units



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Questions & clarifications



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Break



Considerations for funding marine enhancement

1. From natural capital values we may understand:

- Scale of value ££ estimates
- Who benefits (spatial area, beneficiary groups)?
- How do they benefit (welfare, revenue, avoided costs)?
- Timing of benefit?
- Who else is affected (e.g. opportunity costs)?

2. To start designing finance approach... many further considerations



Considerations for funding marine enhancement

Roles

- Who should fund (can be more than 1 organisation)?
- Monitoring, reporting, validation (& sharing info)
- Hold & distribute funds (*for project actions & repayments to investors*)
- Community representation
- *For nature markets (e.g. Carbon - Saltmarsh Code):*
 - *Ownership of nature units?*
 - *Registering & storing units?*

Complications

- Lag between funding, actions & benefits
- Risk/ insurance/ liability for:
 - Failure of actions
 - Failure due to external pressure (e.g. from land)
- etc ...

Organisational characteristics:

- Capabilities – skills/ competence
- Capabilities – functions/ abilities/ legal powers
- Spatial remit
- Transparency
- Conflict of interest
- Trust!



Contracts

Needs specific legal advice

Contracts need to integrate aspects of:

- Project delivery/management plan
- Finance Plan (amounts and timing of payments, tied to what?)
- Contract terms (timing, risks)

Mix of skills needed to formulate contracts:

- Contract law
- Planning law
- Procurement law
- Commercial law
- Biodiversity & environmental law

Legally ... becomes expensive?



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Discussion groups – Governance of funding for marine natural capital enhancement



Discussion questions - Governance of funding for marine natural capital enhancement

1. Refer to slide 24
2. Thinking about the marine area where you work, which organisation(s) could / should undertake these roles?
3. Think about:
 - Potential complications
 - Organisational characteristics
 - Etc...



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Discussion groups – Reporting back

- Range of answers – similarities and differences?
- Do the right organisations exist?



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Close

... from today's session

What is highest priority?

Is anything missing?

Thank you for participating



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Finally...

In four workshops we have discussed how to better understand and to protect and restore our coastal habitats.

We explained approaches used in Sea The Value

We are working across scientific disciplines and interdisciplinary, as well as including interested parties and beneficiaries of our coasts

Alice Watts will be in contact with you soon!



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Thank you for joining us!

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