



# Natural capital thinking in policy making - a review of international cases

Ishaan Patil<sup>1</sup>, Stan Martinat<sup>1</sup>, Kerry Waylen<sup>1</sup>, Simone Martino<sup>1</sup>  
<sup>1</sup> Social, Economic and Geographical Sciences Department, The James Hutton Institute, Craigiebuckler, AB15 8QH, Aberdeen  
Email: ishaan.patil@hutton.ac.uk



## Introduction

Natural capital is a relatively new concept that is expected to help ‘mainstream’ environmental issues into decision-making across society - including in different domains of policy-making - to help achieve a Just Transition. However, is it actually used and useful? If so how? To understand this, we have searched for international examples where natural capital has influenced policy-making processes.



## Take home messages

- Many academics recommend Natural Capital data, tools or models should be useful for embedding sustainability considerations in policy-making.
- Natural capital is being used in some policy processes – though recommendations exceed evidence of use.
- Multiple case studies relate to policy domains of spatial planning, forestry, and water management.
- More attention is needed to study detail of decision-making processes – and attempts to use new tools within these – to understand consequences for sustainability.

## Methods

STAGE 1: Scoping and searching	<ul style="list-style-type: none"><li>• Key phrases ‘natural capital’/‘ecosystem services’ and ‘in policy’ were used to carry out searches in Google Scholar (GS) and Web of Science (WoS). The abstract of the first 1000 results on GS and 3020 on WoS were reviewed and relevant examples were added to a database.</li><li>• Websites of initiatives like WAVES, OECD, Oppla, UN SEEA, PBL, IPBES and World Bank were also searched.</li><li>• The resulting long list (before data cleaning and checking) was of 361 cases.</li></ul>
STAGE 2: Rapid appraisal to screen literature	<ul style="list-style-type: none"><li>• Cases were appraised using inclusion/exclusion criteria; additionally some were revealed as duplicates.</li><li>• This left us with 182 cases.</li></ul>
STAGE 3: Organising and coding	<ul style="list-style-type: none"><li>• Coding of cases is being carried out using MS Excel. We doublecheck inclusion, and describe cases as per detailed criteria that differentiate how Natural Capital is represented (e.g. what terms, tools, models, data), phases and aspects of policy processes, and any expected or experienced consequences.</li></ul>
STAGE 4: Analysis and critical appraisal	<ul style="list-style-type: none"><li>• Summary statistics and narrative description of findings.</li><li>• Identify trends, gaps, implications for policy/practice, future research.</li></ul>
STAGE 5: Communicate outcomes	<ul style="list-style-type: none"><li>• Produce accessible report to share our methodology and insights.</li><li>• Submit academic paper.</li></ul>

**References**  
1. OECD(2014), “Marine Ecosystem services”, in OECD Environmental performance reviews: Sweden, OECD publishing, Paris. DOI: <https://doi.org/10.1787/9789264213715-9-en>  
2. WAVES (2014), “Natural Capital Accounting in Action Guatemala’s forest accounts link forest resources with the economy”. [online] Available at: [https://www.wavespartnership.org/sites/waves/files/images/NCA%20in%20Action\\_Guatemala%20forests.pdf](https://www.wavespartnership.org/sites/waves/files/images/NCA%20in%20Action_Guatemala%20forests.pdf) [Accessed 15 May 2023].

**Acknowledgements**  
This work is funded by a project within the RESAS Strategic Research Programme (2022-2027), project JHI-D5-3 Galvanising Change via Natural Capital [www.hutton.ac.uk/research/projects/galvanising-change-natural-capital](http://www.hutton.ac.uk/research/projects/galvanising-change-natural-capital)



## Case studies

Use of Natural capital/Ecosystem services in various policy making domains

Case study	Policy planning	Policy implementation
Sweden- Marine policy (OECD 2014)	<ul style="list-style-type: none"><li>• Traditional management approaches have tended to be sectoral, hence, an ecosystem approach was used for management of marine resources and policy making.</li><li>• Economic valuations also allow measurement of cost-benefits and enable policy makers to evaluate trade-offs.</li></ul>	<ul style="list-style-type: none"><li>• Swedish Agency for Marine and Water management (SwAM) was formed for the implementation and development of the new ecosystem approach.</li><li>• SwAM was formed to integrate fisheries, marine and water management issues more effectively using an ecosystem approach.</li></ul>
Guatemala- Forest accounts (WAVES 2014)	<ul style="list-style-type: none"><li>• The forestry section of the National Development Plan was prepared based on the findings of forest accounts.</li></ul>	<ul style="list-style-type: none"><li>• The accounts will also inform incentives for forest protection, rehabilitation, and reforestation, creating over 20,000 direct and 60,000 indirect jobs and ensuring fuelwood as well as timber supply for small and medium industry</li></ul>

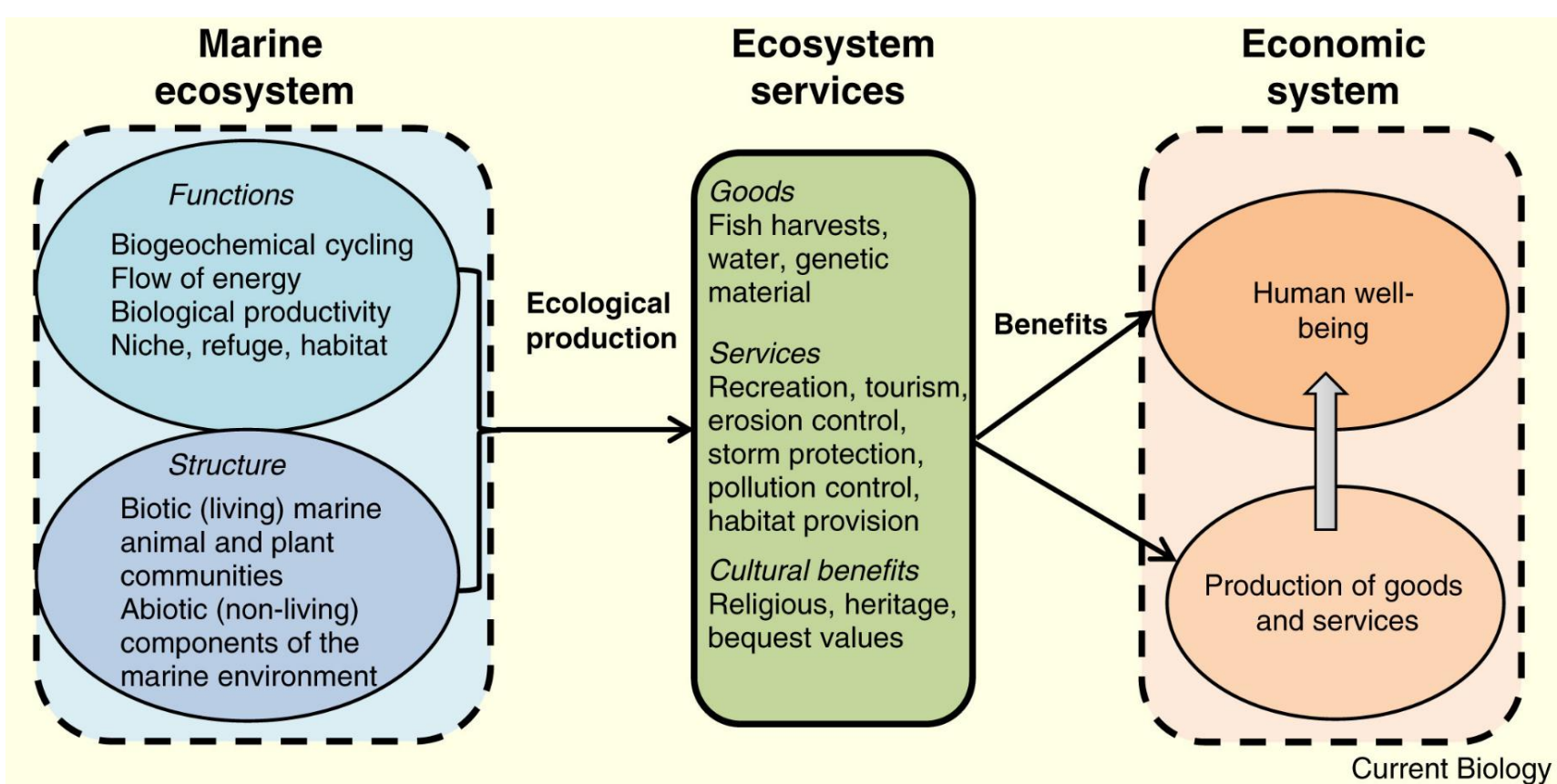
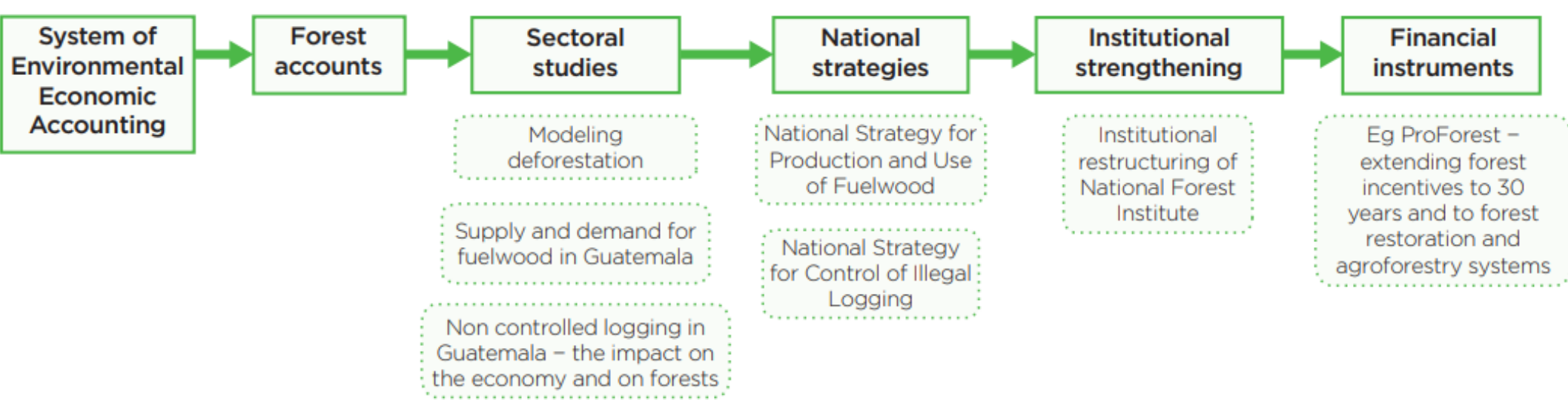


Figure 1 How marine ecosystems generate economic benefits. (Barbier, E. (2017). Marine ecosystem services. Current Biology 27(11), 507-510.)



The process of data to model to policy impact. Adapted from a slide by Rafael Landivar University and IARNA

Figure 2 The process of data to model policy to impact. This figure is taken from the second case study above. (Natural capital accounting in action. WAVES, December 2014.)

## Conclusions

- Natural Capital *is* being linked to some policy processes across the world: so far we have found 182 cases that appear to work with Natural Capital framings, tools or datasets.
- Some of the main links are with spatial planning, forestry and marine planning, also national accounts.
- This work is in progress: we are currently in the Stage 3 of the review – please contact us if you want to keep in touch with final insights on how and when natural capital thinking can help 'mainstream' sustainability considerations in policy processes.