

***G7 Climate, Energy and Environment WORKSHOP: Sustainable and Circular Bioeconomy for reducing emissions and restoring ecosystems: success stories and indicators and best practices for monitoring their sustainability***

**October 31, 2024 (12.00-16.30)**

**Web meeting, Presidency of Council of Ministers, Rome**

**Italian Presidency G7 Climate, Energy and Environment and the National Bioeconomy Coordination Board (CNBBSV), Italian Presidency of Council of Ministers, and OECD**

**Round table on monitoring tools and indicators: good practices at national and territorial level**

***System for Environmental Economic Accounting & bioeconomy-relevant indicators***

**Ian Townsend**

**Office for National Statistics, UK**

**[ian.townsend@ons.gov.uk](mailto:ian.townsend@ons.gov.uk) [www.ons.gov.uk/economy/environmentalaccounts](http://www.ons.gov.uk/economy/environmentalaccounts)**

(1a) Taking into account the national context, which **economic indicators are used in your country** or would be most appropriate to monitor the progress of the bioeconomy towards the objectives?

(1b) What indicators would be most effective to describe the sustainability of the implementation of bioeconomy in your country?

(2a) Which **national institutions or organizations have the mandate to select indicators and monitoring methods**?

(2b) What **national, regional or international statistics and databases are used to assess the progress and sustainability** of your national bioeconomy?

(3a) What kind of cooperation and **international** dialogue initiatives could foster the tailoring of robust and transparent criteria and methodologies for monitoring and evaluating the sustainability of bioeconomy policy and implementation?

(3b) How could multilateral institutions support these processes while providing a neutral platform where all countries and stakeholders have a central role in shaping the future bioeconomy?

## **SEEA: System for environmental-economic accounting**

- Potentially useful for measuring the ‘bioeconomy’
- Integrated statistical system, national accounts aligned
- UN-led, expert Committee & London Group (methods focus)
  - Reveals how the environment contributes to the economy
  - impact of the economy on the environment
  - how society responds to environmental issues
- ONS mandate to produce SEEA accounts as UK NSO
- Other government bodies produce environment indicators

# SEEA: System for environmental-economic accounting

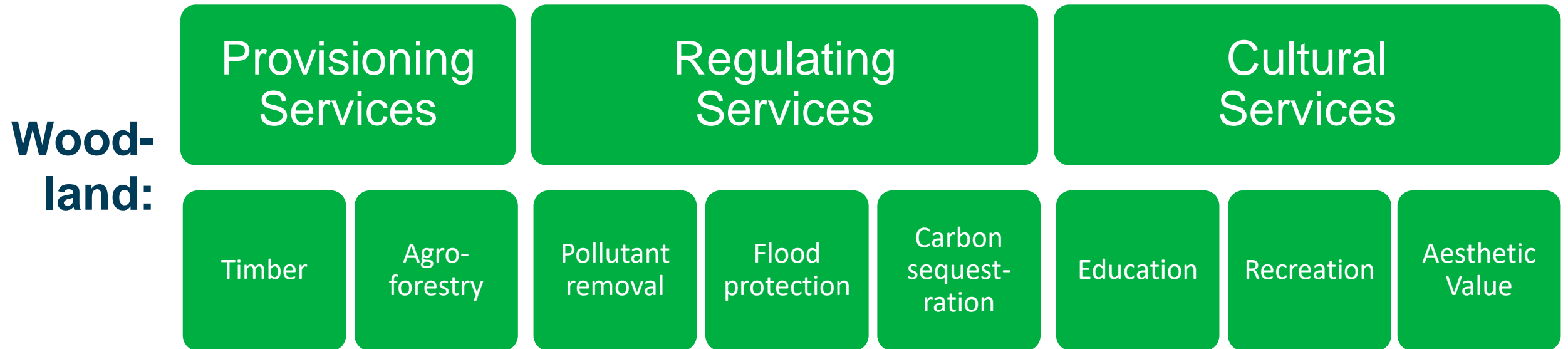
Element	Focus	UK publication
Central Framework	Businesses, Emissions	Environmental Accounts
▶ Ecosystem Accounting	Nature	Natural Capital Accounts

- Provides for accounts covering 8 areas:

Agriculture, forests and fisheries	Air emissions	Ecosystems and biodiversity
Energy	Environmental activities	Land
Material flows	Water	

# Ecosystem services

- **Provisioning:** products from nature: food, water, energy, materials
- **Regulating:** maintaining the environment, e.g. air pollution removal
- **Cultural:** benefits from recreation, tourism & linked health benefits



NB: See latest ONS [Woodlands habitat accounts here](#)

# Monetary: some key estimates, 2021

£1.5 tn	Total value of assets of the natural capital services	
£47 bn	Total annual value of ecosystem services in the UK	
of which:	£24.5 bn	Provisioning services
	£2.4 bn	Regulating services
	£20 bn	Cultural services

## Provisioning services

£13.7 bn	Oil and gas
£7.0 bn	Agricultural biomass
£2.1 bn	Water
£0.7 bn	Renewable electricity
£0.7 bn	Minerals and metals
£0.4 bn	Timber
£0.1 bn	Fish
£0.1 bn	Woodfuel
£-0.3 bn	Coal

- Breakdowns for 4 UK nations also available

- Increasing breakdowns for local government areas

[Source: ONS  
UK natural capital accounts: 2023]

# Compositional state indicators: Woodlands

## Bees, Great Britain

— Total bees — Queen bees

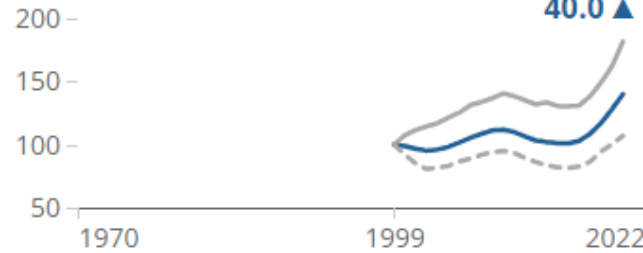
Average bees/km walk



## Bats, Great Britain

— Estimate — Lower 95% CI — Upper 95% CI

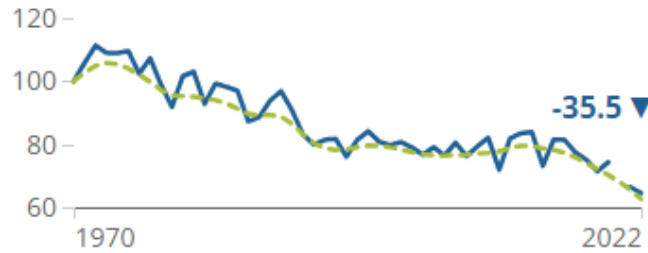
Index 1999=100



## Birds, UK

— Unsmoothed — Smoothed

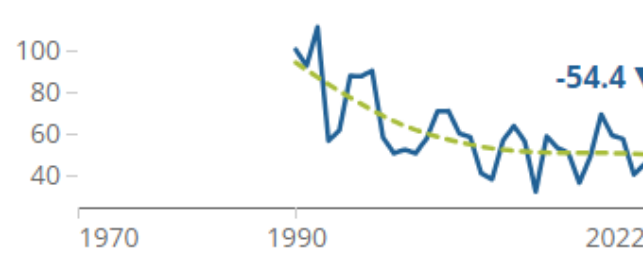
Index 1970=100



## Butterflies, UK

— Unsmoothed — Smoothed

Index 1990=100



## Woodland species



Source: Office for National Statistics, Bat Conservation Trust, BeeWalk, British Trust for Ornithology; Wider Countryside Butterfly Survey (WCBS); Royal Society for the Protection of Birds; Department for Environment, Food and Rural Affairs and UK Butterfly Monitoring Scheme (UKBMS)

## Central Framework / Environmental Accounts

- **Environmental Goods & Service Sector:** includes potential bioeconomy elements, e.g. forest ecosystem management, organic agriculture
- **Low Carbon & Renewable Economy Survey:** of 25,000 UK businesses in 17 sectors, inc bioenergy. Over 2015-22:
  - Turnover: £3-5 bn annually
  - Employment (full time equivalent): 7-8,000 annually



## Challenges & Opportunities

- Increasing monetary values don't necessarily mean more environmentally sustainable
- Availability of data needed to produce timely statistics
- Progress on spatial granularity
- Environmental degradation may be included in upcoming System of National Accounts revision - wider adoption?
- Latest ONS natural capital accounts on 8 November ([here](#))