



# Proposal for a Regulation on European environmental accounts

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# Background

- Environmental accounts are an important data source for environmental and sustainability policies in the EU, in particular for the European Green Deal
- Natural capital accounting plays a key role in the biodiversity strategy 2030 of the EU

=> An extension of the European environmental accounts is necessary

- This initiative belongs to the action plan 'Statistics for the European Green Deal' of the ESS
- In line with the European strategy for environmental accounts 2019-2023

# Background

- European environmental accounts are established in [Regulation \(EU\) No 691/2011](#)

- There are 6 accounts:

1. Air emissions accounts
2. Environmental taxes by economic activity
3. Economy-wide material flow accounts
4. Environmental protection expenditure accounts
5. Environmental goods and services sector
6. Physical energy flow accounts

In original Regulation in 2011

Added to Regulation in 2014

# Background

- Regulation (EU) No 691/2011 has a modular structure:
  - Each environmental account in one annex
  - Article 10 lists candidates for future modules
- Eurostat proposes a legal amendment to add 3 new modules on **ecosystem accounts**, forest accounts and environmental subsidies and similar transfers ('green subsidies')
- The new modules will add further value to the existing ones, because new and old modules can be combined to derive new indicators.
- EU implementation of the global statistical standard "[System of Environmental-Economic Accounting](#)"

# Ecosystem accounts – uses for the EU

- Range of current and future applications. These new statistics give recognition to the benefits produced by nature, in coherence with macroeconomic statistics (GDP)
- Commission proposal for a [Nature Restoration Law](#): a) area based restoration targets of ecosystems; b) condition indicators describing the status of ecosystems
- **Convention on biodiversity**: Global Biodiversity Monitoring Framework to be adopted at the next meeting of parties (COP 15) - under Goal B of the draft monitoring framework parties will have to report indicators on ecosystems, ecosystem services, and their condition
- **Climate change**
  - The extent, condition of ecosystems and the provision of many ecosystem services is affected by climate warming e.g. changes of crop and timber provision
  - Ecosystems/nature based solutions help to mitigate climate change e.g. increasing urban green to reduce air pollution and urban heat islands
  - LULUCF monitoring also requires the assessment of the extent of ecosystems and their carbon storage

# The proposal at a glance

The proposal would require Member States to produce statistics on the size of ecosystems ('extent'), on their health ('condition') and on the benefits they produce for businesses and citizens ('services')

- **Ecosystem extent accounts** (reporting every 3 years; 12 types of ecosystems);
- **Ecosystem condition accounts** (every 3 years; for a subset of 5 terrestrial ecosystem types and subset of indicators/ variables)
- **Ecosystem services accounts** (annual; for the 10 terrestrial ecosystems; only physical accounts)
- Proposal of delegated powers to the Commission for monetary values of the ecosystem services
- 7 **Fully aligned with SEEA-EA**

# Proposed legislation on ecosystem accounts

Discussions with Member States in various experts groups started in 2020

Legal process now continues in the European Parliament and Council

Testing and voluntary reporting by Member States – started in Q4 of 2022

Draft regulation adopted by the Commission in June 2022

Adoption unknown, hopefully before end of 2024

First mandatory reporting 2026 with reference year 2024



# Ecosystem extent accounts

- Proposal for a EU typology based on the MAES, EUNIS and IUCN classifications
- Mandatory reporting at level 1
- Voluntary reporting at level 2 and 3 set out in a methodological guidance note under development
- Typology aligned with EU wide EO products

	<b>Ecosystem type</b>
1	Settlements and other artificial areas
2	Cropland
3	Grassland (pastures, semi-natural and natural grassland)
4	Forest and woodland
5	Heathland and shrub
6	Sparsely vegetated ecosystems
7	Inland wetlands
8	Rivers and canals
9	Lakes and reservoirs
10	Marine inlets and transitional waters
11	Coastal beaches, dunes and wetlands
12	Marine ecosystems (coastal waters, shelf, open ocean)

# Ecosystem condition accounts

- for **settlements and other artificial areas**:
  - green areas in cities and adjacent towns and suburbs (%);
  - concentration of particulate matter with a diameter up to 2.5  $\mu\text{m}$  in cities ( $\mu\text{g}/\text{m}^3$ ).
- for both **cropland** and **grassland**:
  - soil organic carbon stock in topsoil (tonne/ha);
  - common farmland bird index.
- for **forest and woodland**:
  - dead wood ( $\text{m}^3/\text{ha}$ );
  - tree cover density (%).
- for **coastal beaches, dunes and wetlands**:
  - share of artificial impervious area cover (%).

- <sup>10</sup>
- Further voluntary indicators under development

# Ecosystem services accounts

## a) Provisioning services:

1. crop provision
2. pollination
3. wood provision

## b) Regulating and maintaining services

4. air filtration (PM adsorbed)
5. global climate regulation (net sequestration and storage of carbon)
6. local (i.e. urban) climate regulation (reduction of temperature)

## c) Cultural services

7. nature-based tourism (overnight stays)  
Voluntary accounts on nature based recreation (daily visits)

# Earth Observation in the legal proposal

## Section 1

### OBJECTIVES

Ecosystem accounts present data on the extent and condition of ecosystem assets and the services they provide to society and the economy. The data are in line with the SEEA Ecosystem Accounting and compatible with the data reported under the European System of Accounts.

Ecosystem accounts use existing information where possible, including from **earth** observation, environmental reporting and other data sources.

# Indirect references to EO in the legal proposal

## a) Provisioning services:

1. crop provision
2. pollination
3. **wood provision**

## b) Regulating and maintaining services

4. **air filtration (PM adsorbed)**
5. global climate regulation (net sequestration and storage of carbon)
6. **local (i.e. urban) climate regulation (reduction of temperature)**

## c) Cultural services

7. nature-based tourism (overnight stays)

- **green areas in cities and adjacent towns and suburbs (%)**
- concentration of particulate matter with a diameter up to 2.5  $\mu\text{m}$  in cities ( $\mu\text{g}/\text{m}^3$ )
- soil organic carbon stock in topsoil (tonne/ha)
- common farmland bird index
- dead wood ( $\text{m}^3/\text{ha}$ )
- **tree cover density (%)**
- **share of artificial impervious area cover (%)**

# Preparation in Eurostat and in NSIs...

- **Task force on ecosystem accounting**
  - Members: **AT, DE, EE, ES, FI, FR, IE, IT, NL, SK, NO**; + **DG ENV, JRC, EEA** as observers
- **INCA project**
  - To operationalise the accounts and support the planned EU legal module on ecosystem accounting
- **Methodological guidance**
  - Test compilations of ecosystem extent, services and condition accounts – starting in Q4 2022 with extent accounts
  - **ESTP courses on ecosystem accounting** – annual since 2018
- **Voluntary data collections** will be set up before legislation enters into force
- **Statistical grants** – for **NSIs and ONAs** (21 projects/14 countries funded since 2017)



# Implementation in the EU – INCA phase 3

- Regular and timely production of EU-level ecosystem accounts
  - Updating (2018 and 2021) and improving EU-level estimates
- Support to Member States by Eurostat:
  - **GIS tools** for ecosystem services accounts (to be shared with MS and the public) – first half of 2023
  - **Methodological work**



# References

- Draft regulation <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:329:FIN>
- INCA platform <https://ecosystem-accounts.jrc.ec.europa.eu/>
- CIRCABC site of the task force <https://circabc.europa.eu/ui/group/922b4700-1c83-4099-b550-763badab3ec0>
- Eurostat website on environmental accounts <https://ec.europa.eu/eurostat/web/environment/overview>



# Thank you



# Reserve slides

# Task force on ecosystem accounting (TF EA)

- Chaired by **Eurostat**; Members: **AT, DE, EE, ES, FI, FR, IE, IT, NL, SK, NO**; + **DG ENV, JRC, EEA as observers**
- Set up in June 2021; 11 meetings since then
  - To assist Eurostat in the **development of the legal module**
  - To **provide technical guidance to compile the accounts**;
- TF develops guidance → testing and then endorsements by responsible statistical working group → guidance published by Eurostat as methodological handbook for MS
- All documents discussed in the task force are public in [CIRCABC](#)

# Option for monetary valuation

- The provisions in Annex IX set ecosystem services in physical units
- A new sub-paragraph 3(4a) empowers the Commission to adopt a delegated act to decide on
  - If a sub-set of the ecosystem services already included in section 5 of Annex IX are also to be reported with monetary values,
  - The first reference year, and consequently the first transmission year for such reporting
  - The list of acceptable methods for establishing these monetary values
- First the Commission (Eurostat) shall carry out a methodological and feasibility study on the monetary valuation of ecosystem services

# Option for monetary valuation

- Estimates of ecosystem services in monetary units are necessary for some applications, in particular for monetary aggregation:
  - of all the services provided by each ecosystem type
  - of all the ecosystem types
- The technical work on valuation techniques was not ready for inclusion in the Commission proposal
- The Commission considers the delegated act was the most pragmatic solution to provide for monetary estimates in this amendment proposal
- This delegated act is a resource that can be used, or not used, at a later stage