

System of
Environmental
Economic
Accounting

Introduction to the System of Environmental Economic Accounting - Ecosystem Accounting

Chiba Training
4 to 7 August 2026

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United Nations

The need to account for the Environment

- Nature and the services it provides support almost every aspect of human well-being
- But headline indicators - like GDP, do not capture the full economic contributions of nature
- Traditional accounts don't help us fully understand the contribution of natural resources and the impact of the economy to the environment
- The System of Environmental Economic Accounts (SEEA) fills that gap
- SEEA integrates information on the economy and the environment showing their interrelationship complementing the System of National Accounts



Growing interest in Natural Capital Accounting

“

A historic step towards transforming the way how we view and value nature.

António Guterres
UN Secretary General



“

this new statistical framework moves beyond GDP and takes better account of biodiversity and ecosystems in national economic planning.

Frans Timmermans
VP European Commission



Monitoring framework for the GBF (COP 15 decision 15/5) :

- “Notes the value of aligning national monitoring with the United Nations **System of Environmental-Economic Accounting statistical standard** in order to mainstream biodiversity in national statistical systems and to strengthen national monitoring systems and reporting as appropriate and according to their national priorities and circumstances;“
- “Invites the Statistical Commission,..... and other relevant organizations to **support the operationalization of the monitoring framework** for the Kunming-Montreal global biodiversity framework;”
- “When possible, **indicators are aligned with existing intergovernmental processes under the Statistical Commission**, such as the SDGs, the FDES or the SEEA”

SEEA – a statistical standard for the environment



Adopted in 2012



Adopted in 2021



Brings together environmental and economic data using the same accounting principles of the SNA



Credibility, reliability, replicability of data



Consistency over time and space



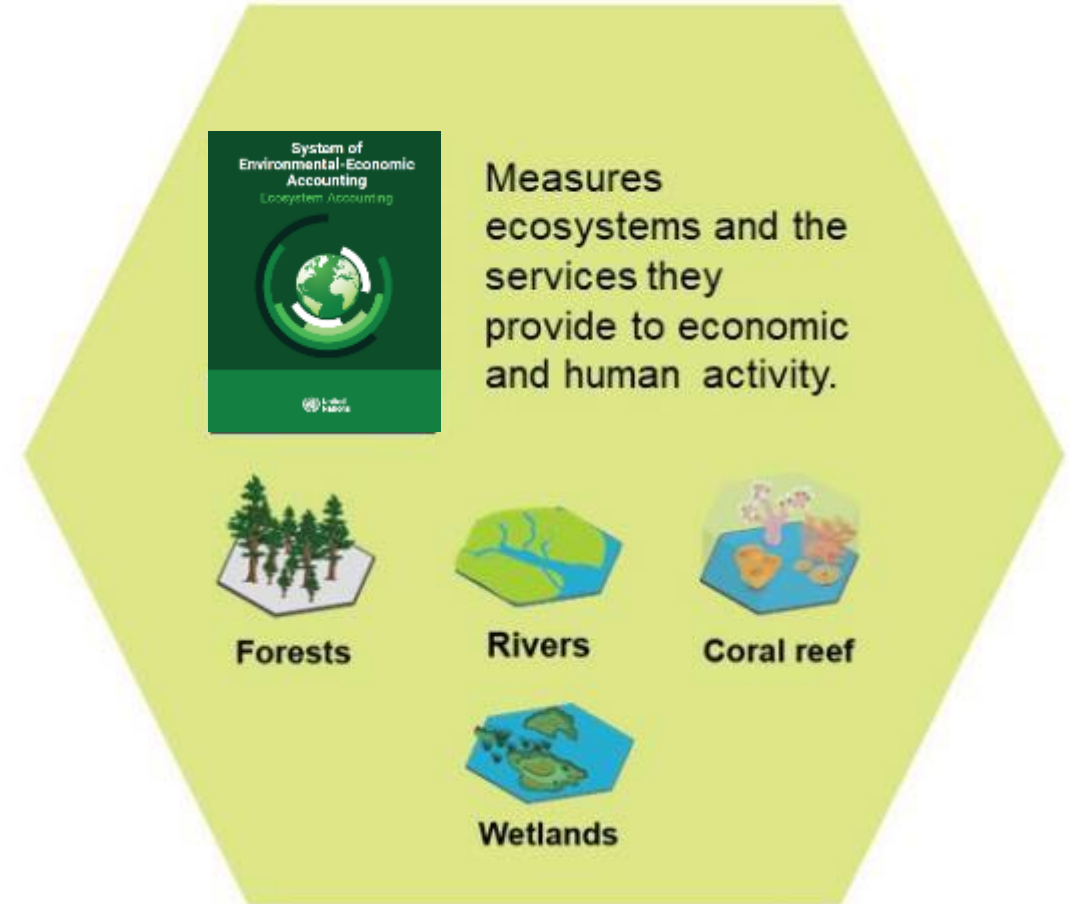
Common language between different communities



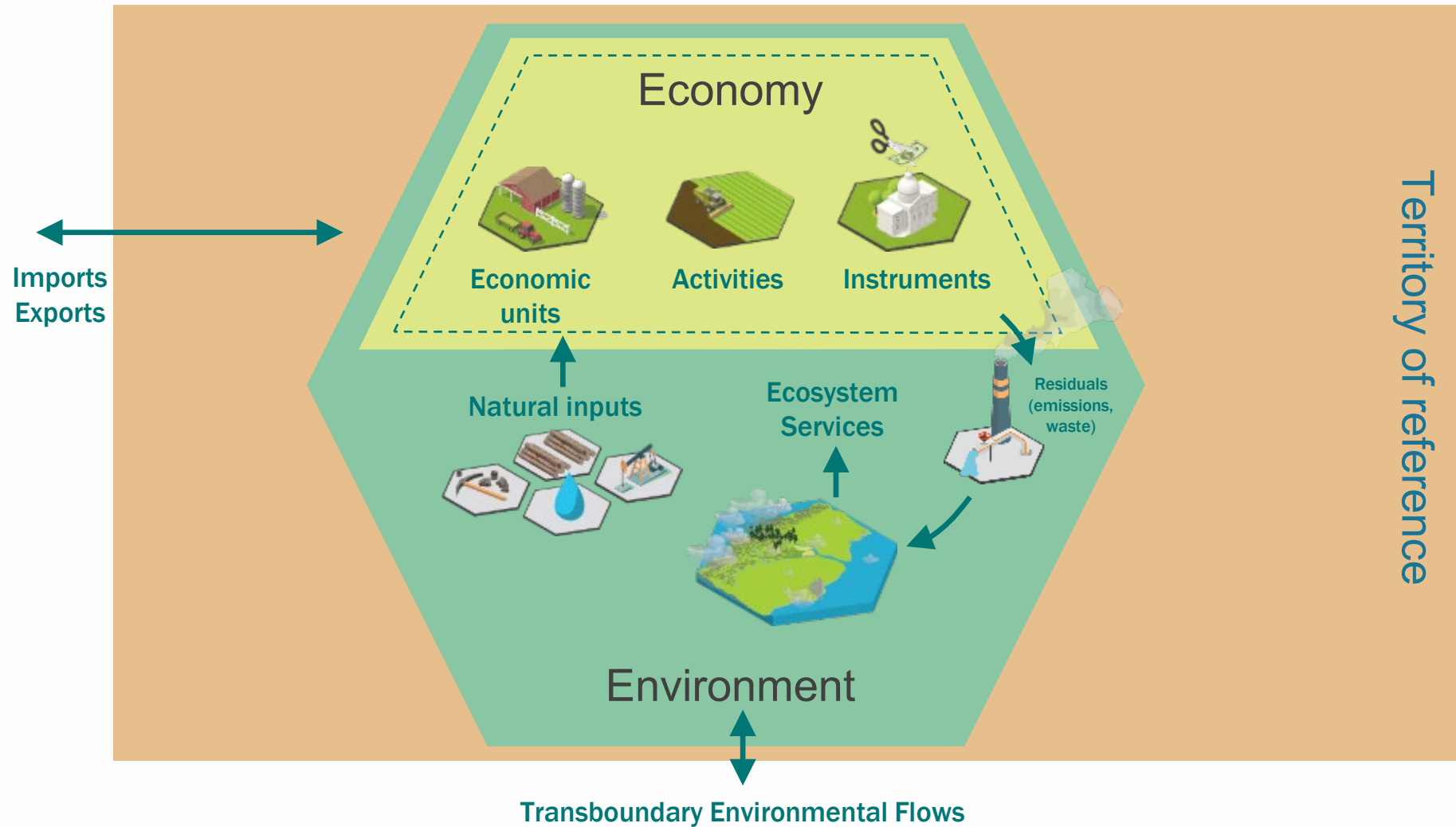
Breaks down silos and fosters collaboration

SEEA Central Framework and SEEA Ecosystem Accounting

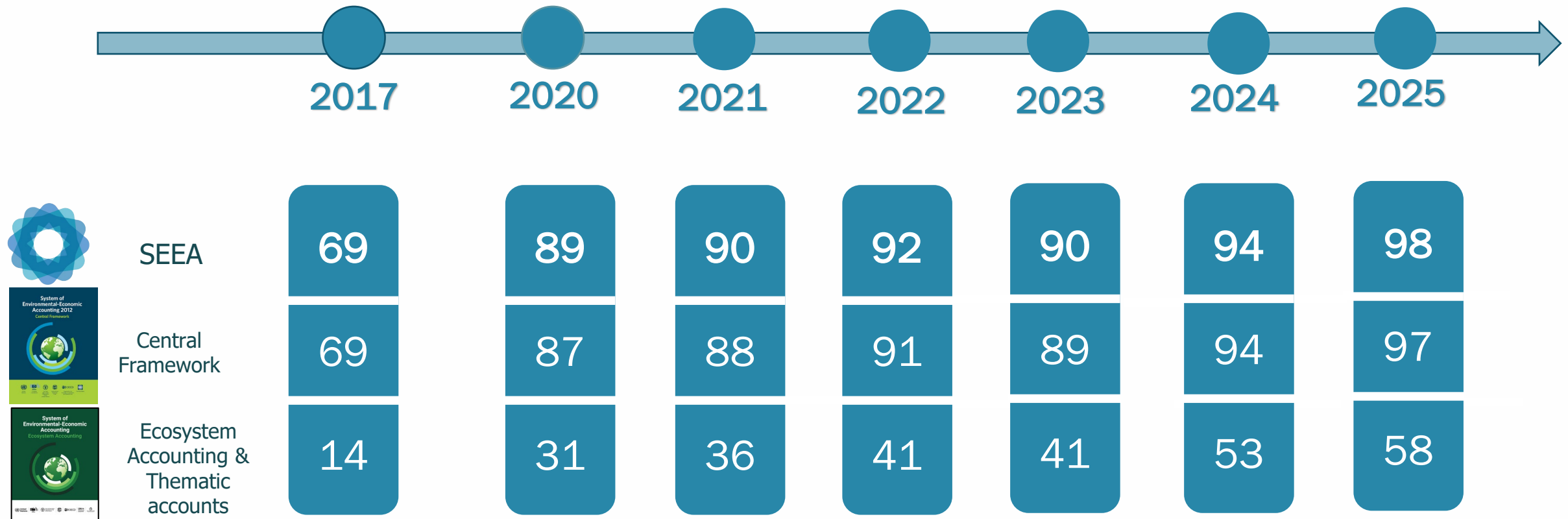
– Two sides of the same coin



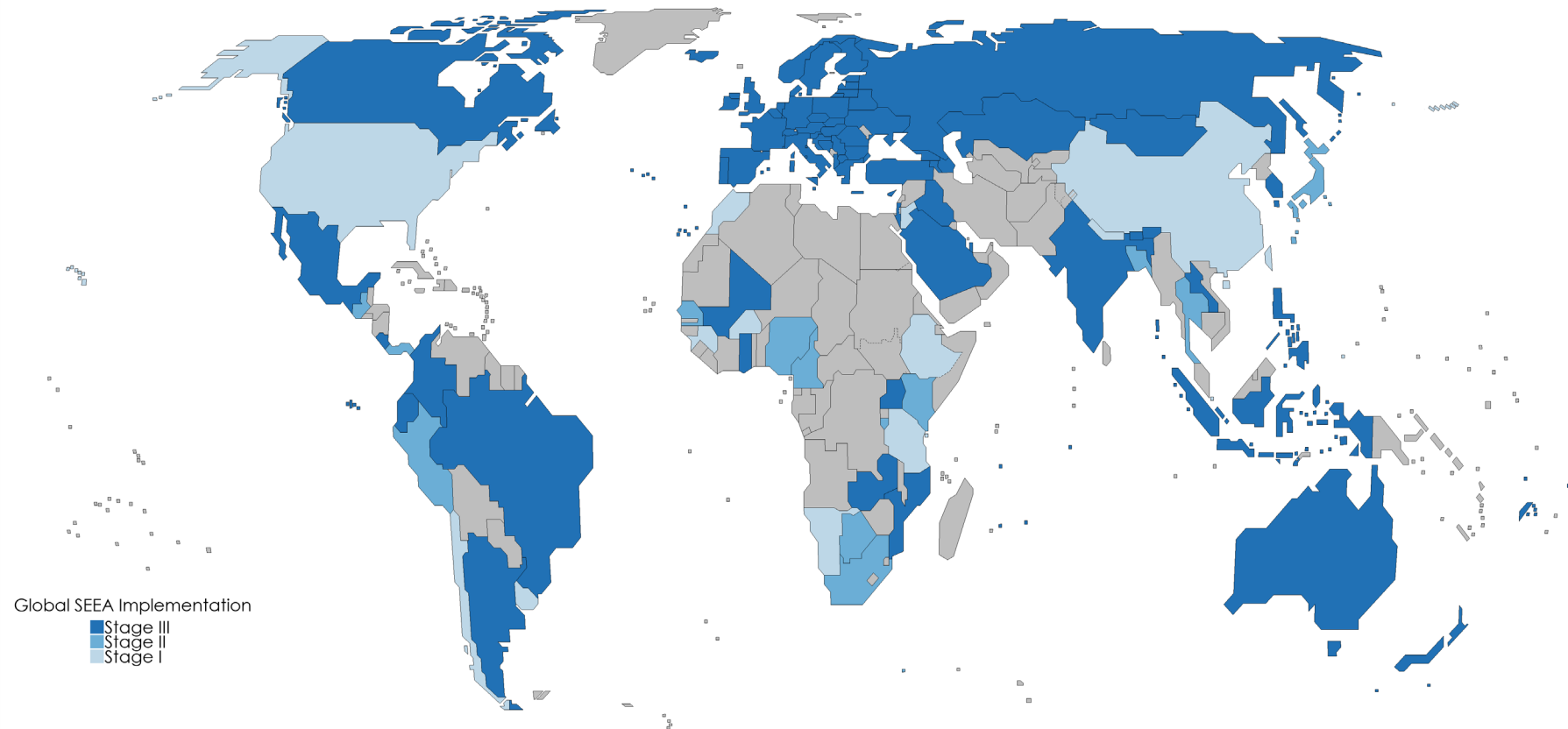
SEEA Integrated Conceptual Framework



Number of countries compiling SEEA accounts



2025 Global assessment – SEEA implementation around the World



Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).



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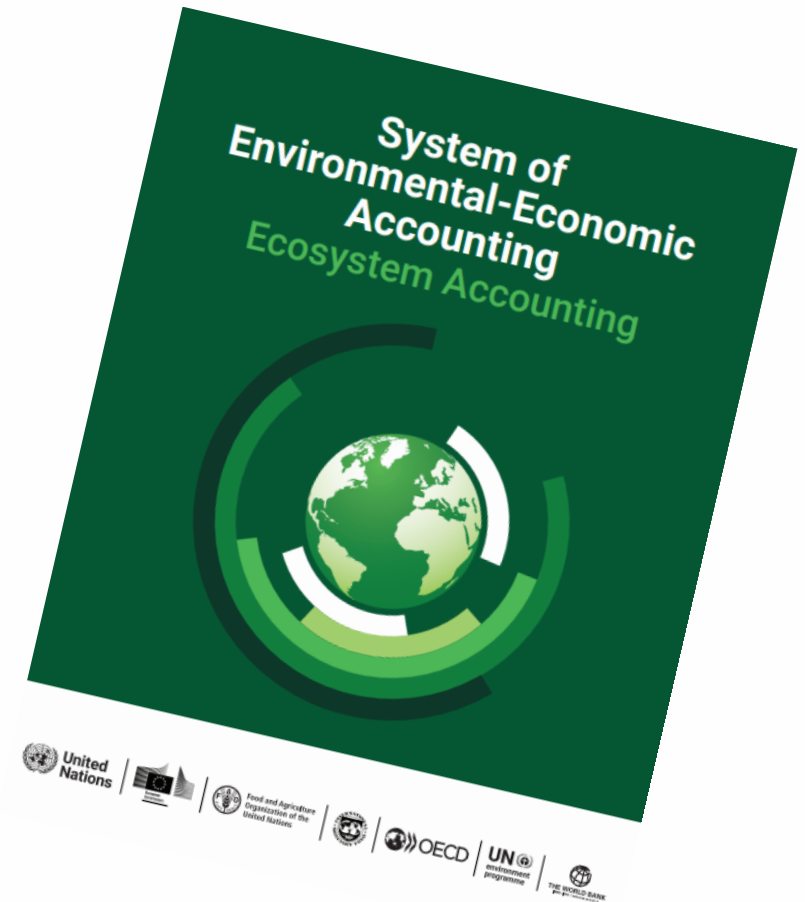
SEEA Ecosystem Accounting (SEEA EA)



United Nations

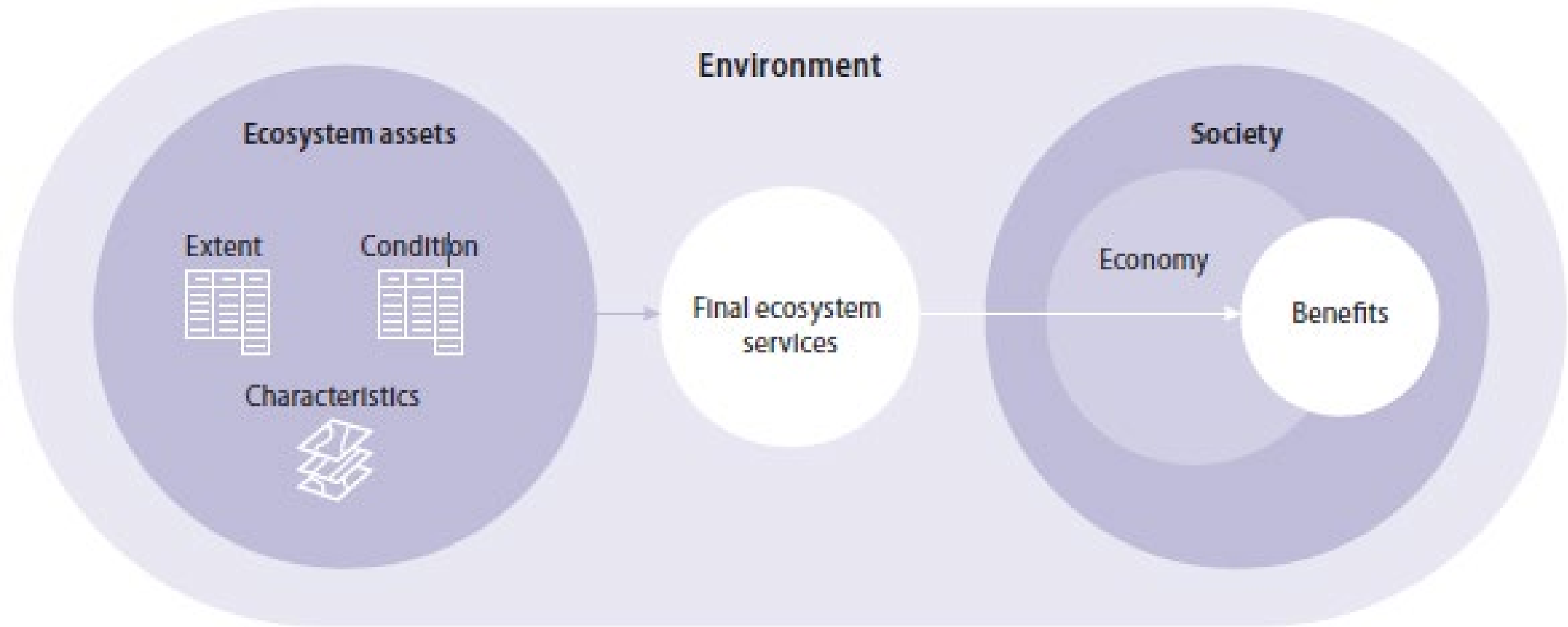
System of Environmental-Economic Accounting Ecosystem Accounting (SEEA EA)

- Integrated and comprehensive statistical framework for organizing data on habitats, landscapes, ecosystem services, tracking changes in ecosystem assets, and linking this information to economic and other human activity.
- Culmination of decades of work, building upon the development of environmental accounting following the Rio Earth Summit (1992).
- Published jointly by 7 international organizations.
- Adopted as an international statistical standard by the United Nations Statistical Commission in March 2021.

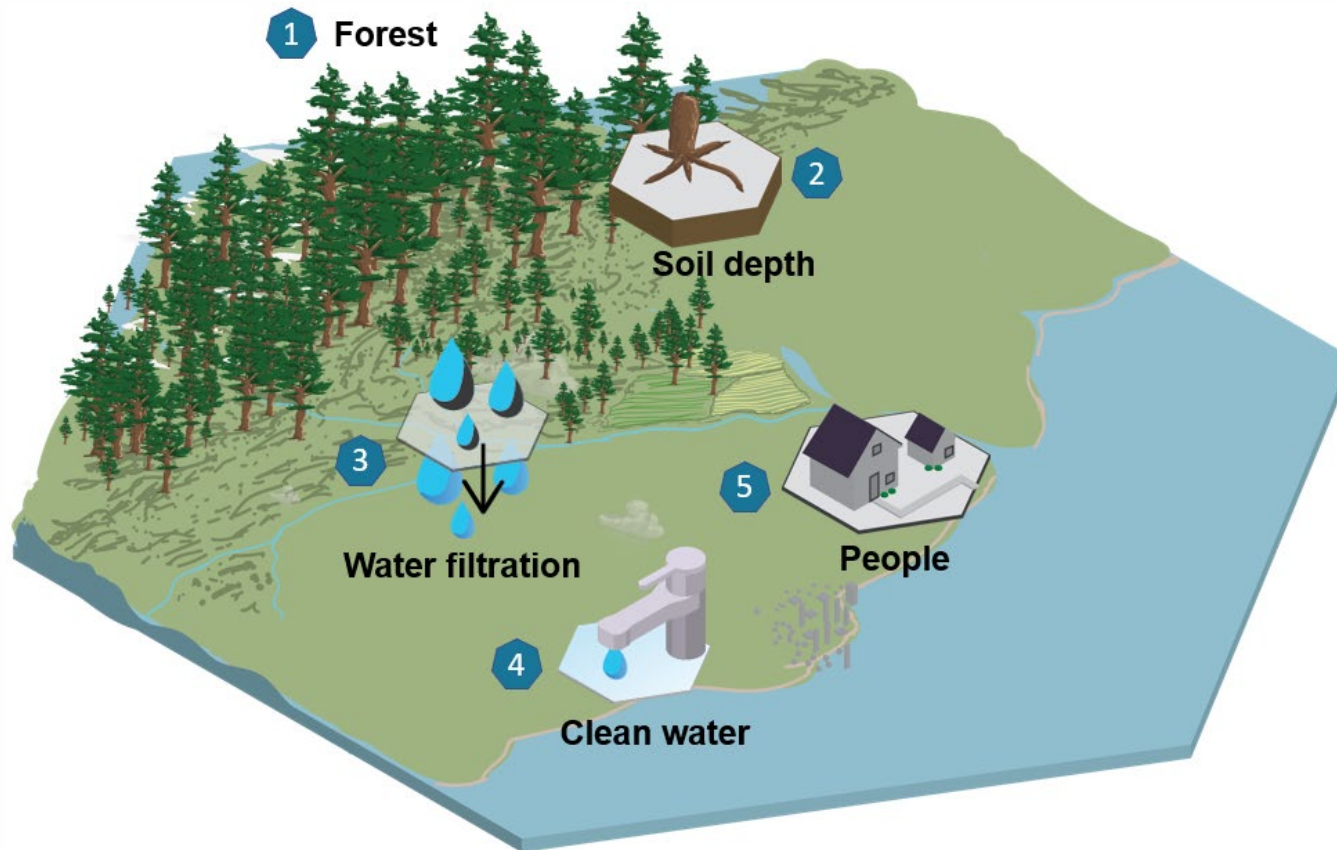


SEEA Ecosystem Accounting Framework

Figure 2.1
General ecosystem accounting framework



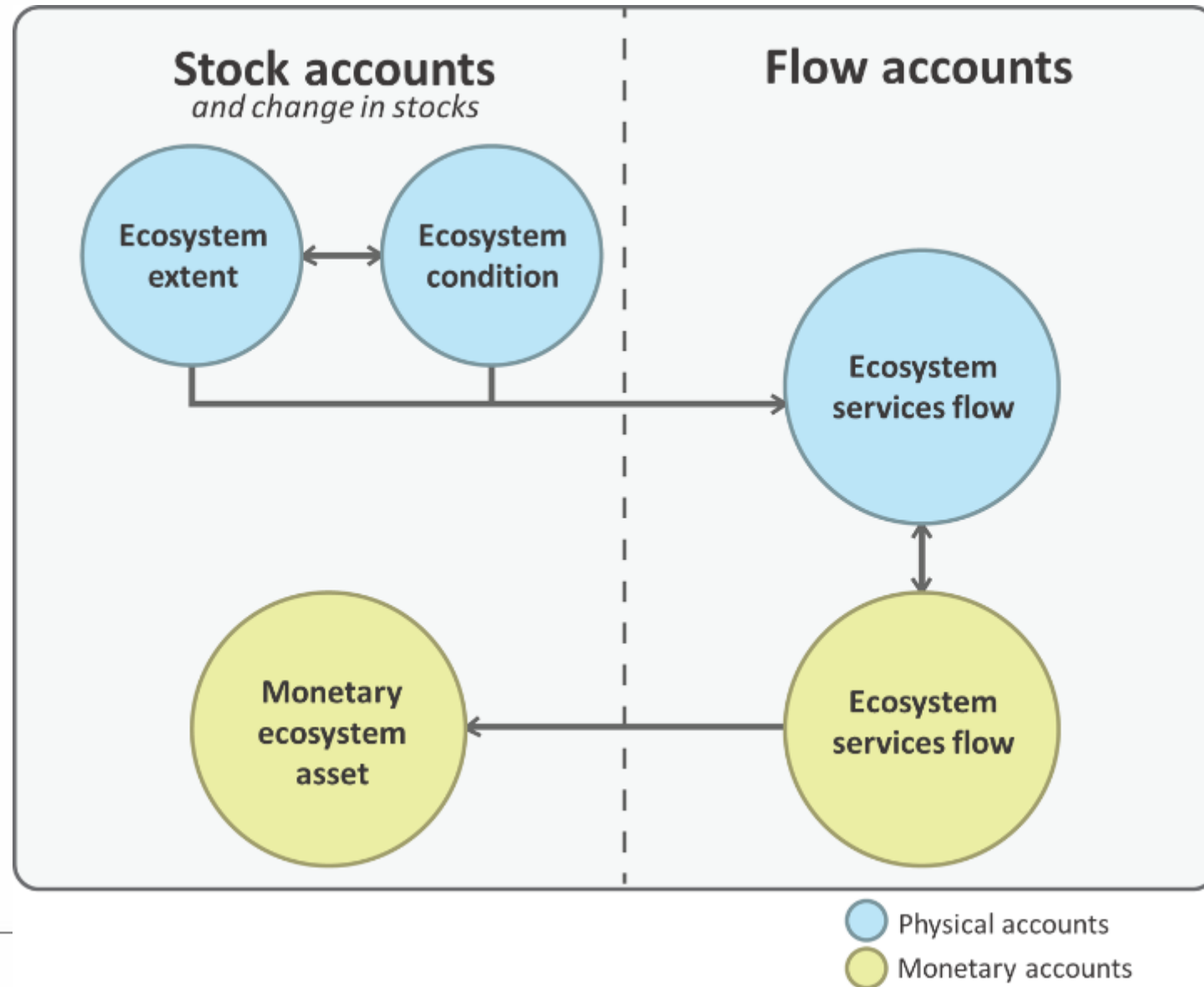
Overview SEEA EA Framework



- **Stocks:** The framework starts with identifying an ecosystem asset, in this case, a forest, measured by its extent (1) and condition (2) (e.g., hectares of forest and soil depth in the forest).
- **Flows:** The framework identifies the ecosystem services provided (or supplied) by ecosystem assets to different users (e.g., households, businesses, the government).
- **Ecosystem services** are the contributions of ecosystems to the benefits that are used in economic and other human activity (3) (e.g., water filtration).
- **Benefits** are the resulting goods and services that are ultimately used and enjoyed by people and society (e.g. clean water (4) for the people (5))

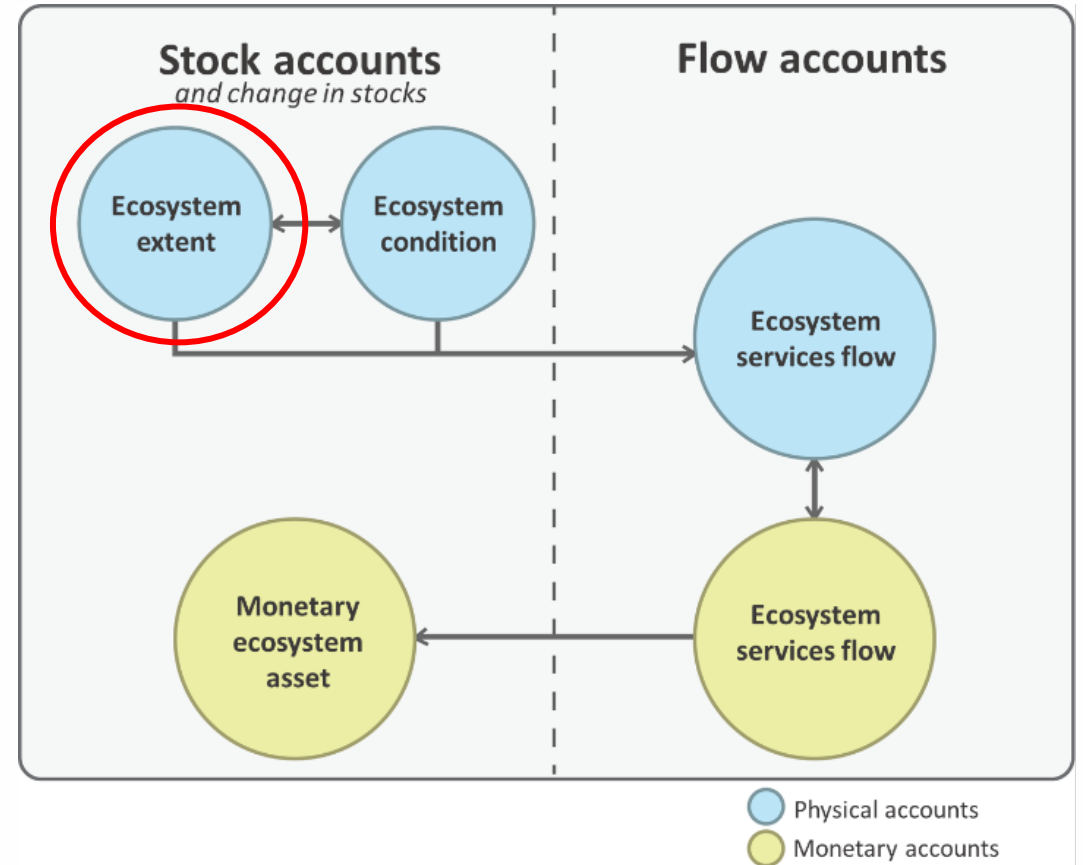
Available at: <https://seea.un.org/ecosystem-accounting>

SEEA Ecosystem Accounting – core accounts



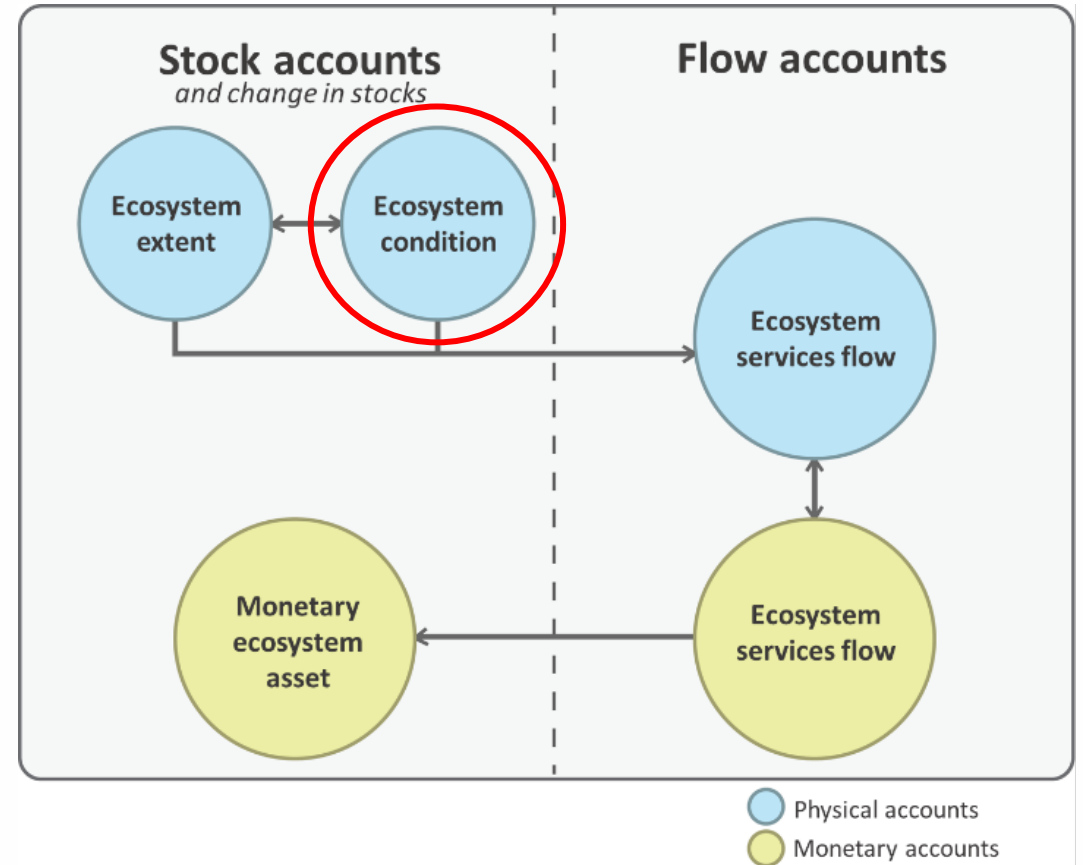
Ecosystem Extent Accounts

- Extent accounts record the total area of each ecosystem, classified by type within a specified area (ecosystem accounting area).
- Ecosystem extent accounts are measured over time in ecosystem accounting areas (e.g., nation, province, river basin, protected area, etc.) by ecosystem type, thus illustrating the changes in extent from one ecosystem type to another over the accounting period.



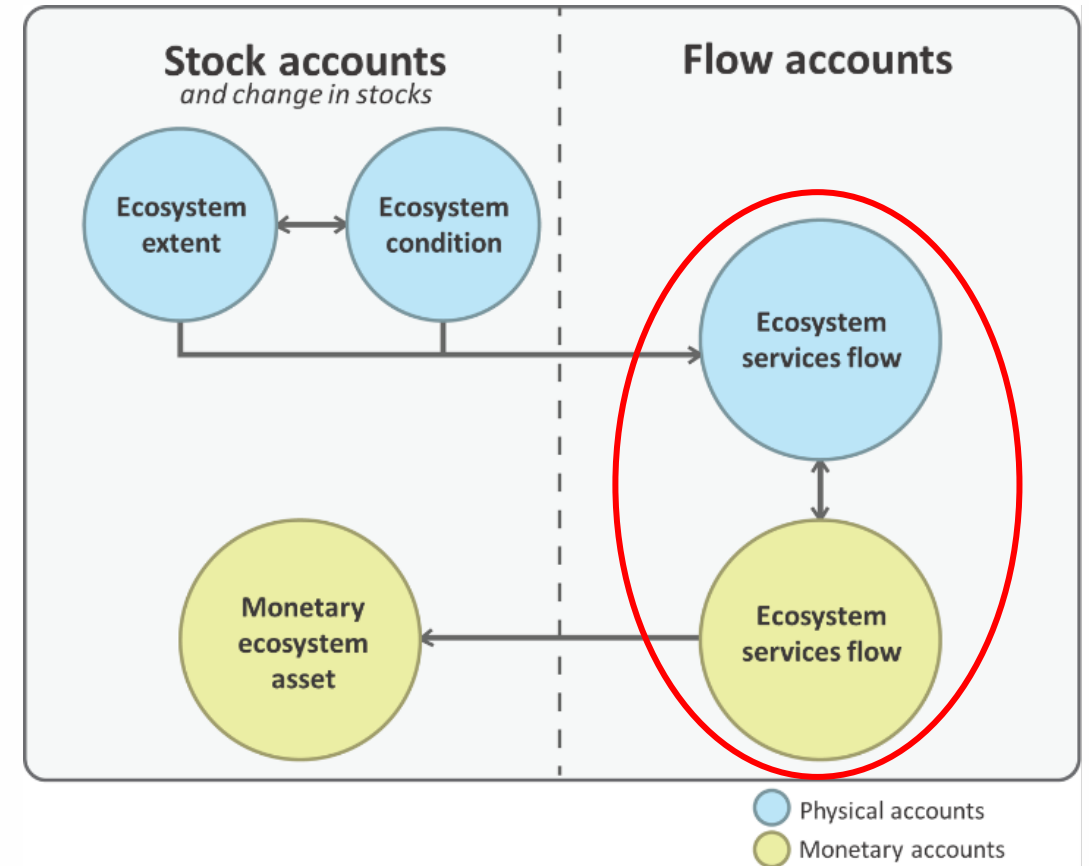
Ecosystem Condition Accounts

- Ecosystem condition is the quality of an ecosystem asset in terms of its abiotic and biotic characteristics
- Condition accounts record the condition of ecosystem assets in terms of selected characteristics at specific points in time.
- Over time, they record the changes to their condition and provide valuable information on the overall health of ecosystems
- Supports understanding of ecosystem capacity to supply services and ecosystem resilience.



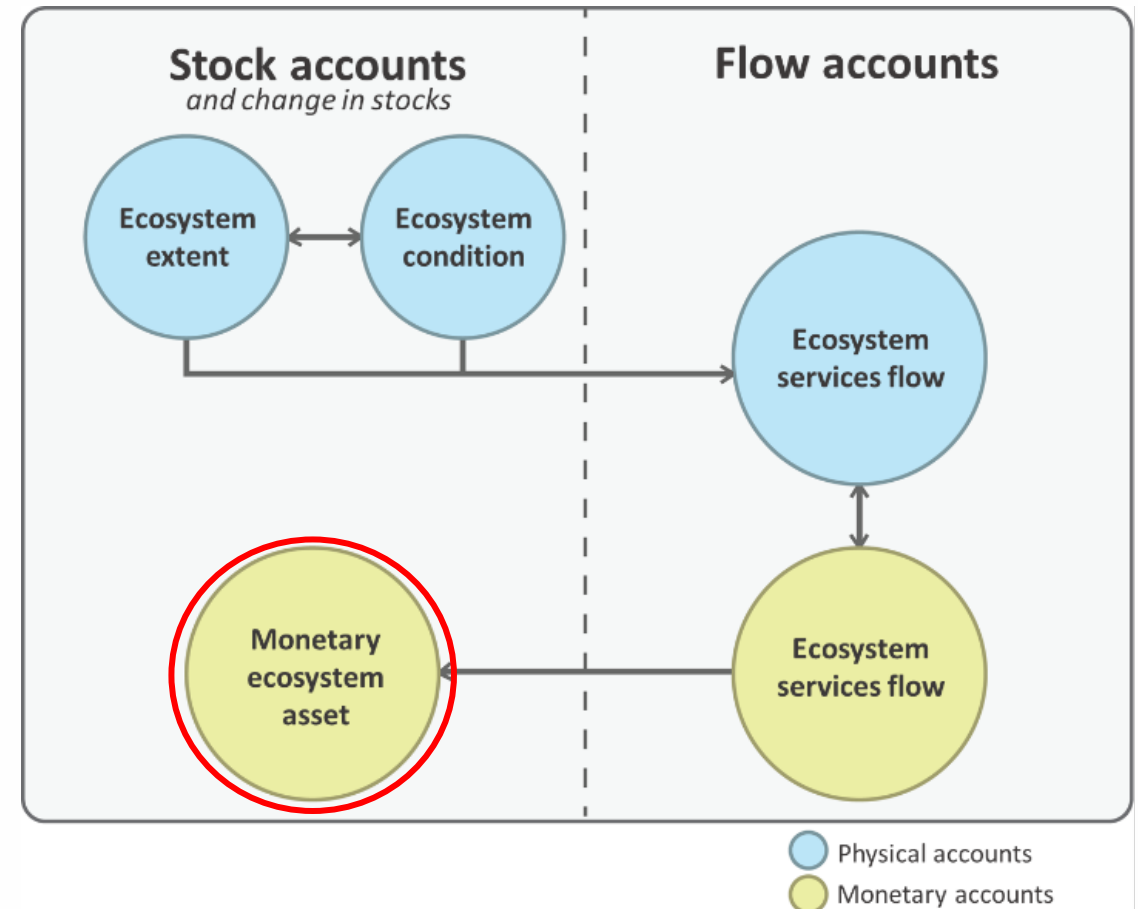
Ecosystem Services Accounts

- Ecosystem services flow accounts record the **supply** of ecosystem services by ecosystem assets and the **use** of those services by economic units, including households.
- The supply and use must be equal in accounting
- Accounts can be compiled in
 - physical terms (e.g. tonnes of fish)
 - monetary terms (e.g. tonnes of fish x price)



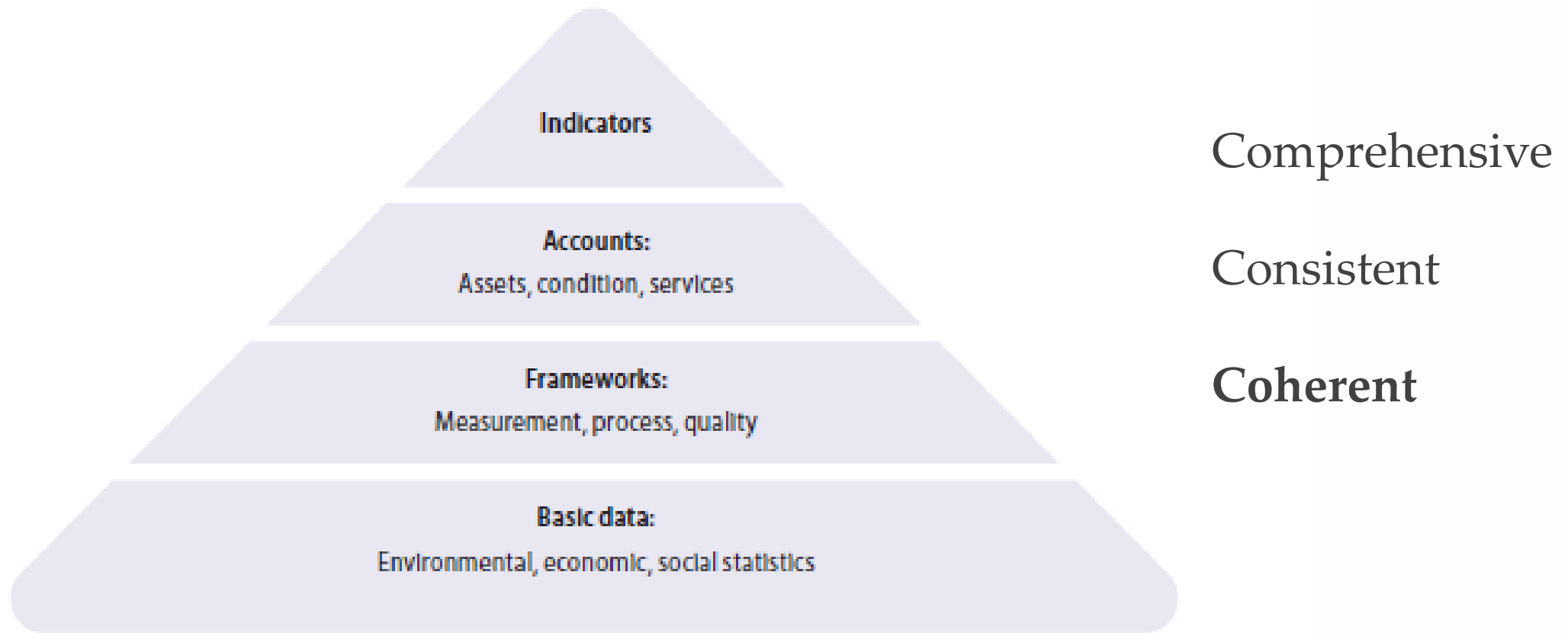
Ecosystem Asset Accounts

- Monetary ecosystem asset accounts record information on the value of
 - opening stocks and closing stocks
 - additions and reductions in stocks including accounting for ecosystem degradation and enhancement.
- Asset values are based on future flows of ecosystem services and the use of net present value (NPV) techniques
- Always important to compare to physical measures of extent and condition



SEEA EA and indicators

Figure 14.1
Information pyramid



Resources available to support SEEA EA

- SEEA Ecosystem accounting: <https://seea.un.org/ecosystem-accounting/>
- UN eLearning: <https://seea.un.org/content/seea-e-learning-resources>
- ARIES for SEEA: <https://seea.un.org/content/aries-for-seea>
- Biophysical modelling guidelines: <https://seea.un.org/ecosystem-accounting/biophysical-modelling>
- UN / MAIA Monetary valuation: <https://seea.un.org/content/monetary-valuation-ecosystem-services-and-assets-ecosystem-accounting>
- Darwin eLearning: <https://ncaelearning-ghana.unep-wcmc.org/>



<https://naturalcapitalproject.stanford.edu/software/invest>



<https://ecosystem-accounts.jrc.ec.europa.eu/about-inca>

ESTIMAP: A GIS-BASED MODEL TO MAP ECOSYSTEM SERVICES IN THE EUROPEAN UNION

[10.4462/annbotrm-11807](https://doi.org/10.4462/annbotrm-11807)



<https://aries.integratedmodelling.org/get-started/>

THANK YOU

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