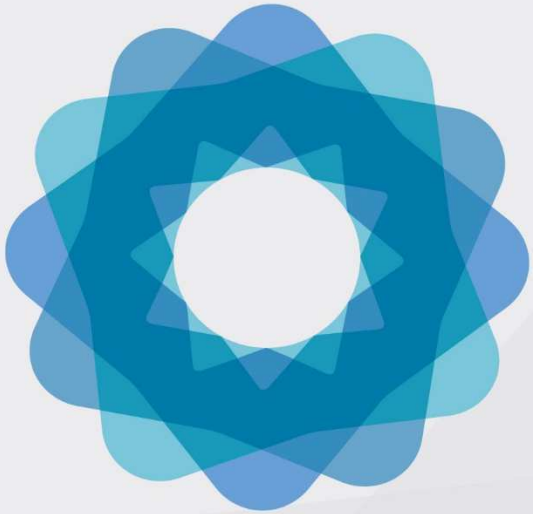


System of Environmental Economic Accounting

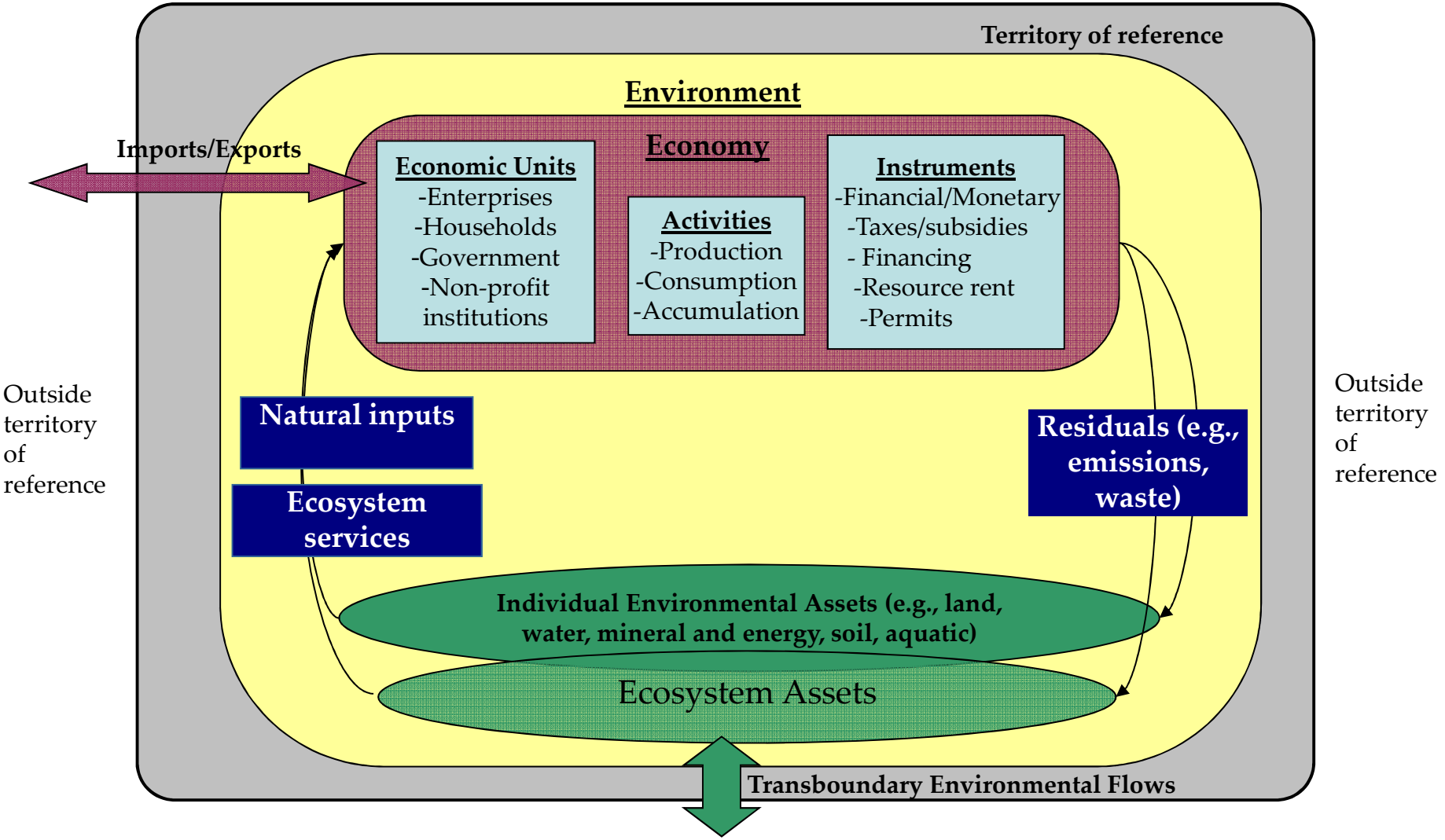
System of Environmental Economic Accounting

Ecosystem Accounting—Current State of the Art

Sokol Vako
United Nations Statistics Division
23-26 February 2016
Chiba, Japan

United Nations

SEEA Conceptual Framework



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What is ecosystem accounting?

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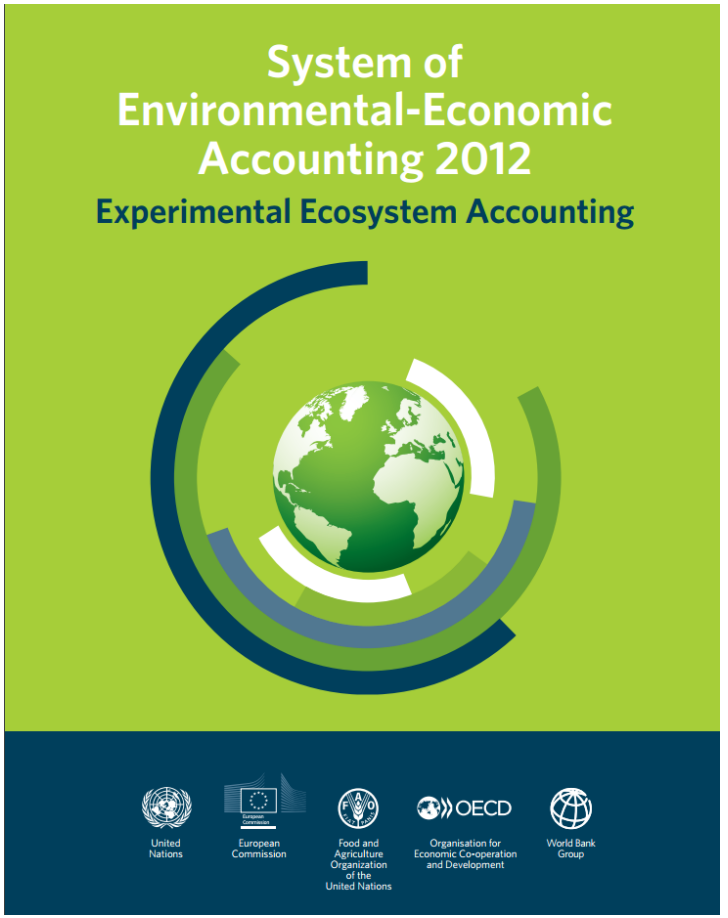
Some definitions—from earlier

1. **Environmental assets** are the naturally occurring living and non-living components of the Earth, together constituting the biophysical environment, which may provide benefits to humanity.
2. **Ecosystems** are a dynamic complex of plant, animal and microorganism communities and their non-living environment interacting as a functional unit

In the SEEA Experimental Ecosystem Accounting takes and ecosystem approach approach

SEEA Experimental Ecosystem Accounting

- Complements SEEA Central Framework
- Integrated statistical framework for accounting for ecosystem assets and associated ecosystem services
- Important first step in development of statistical framework for ecosystem accounting



SEEA-EEA : Background

- Complements SEEA Central Framework with focus on ecosystems perspective
- Developed as part of broader process of revising SEEA 2003
- Integrated system of information on distinct stocks and flows
- Not a statistical standard
- “Experimental”

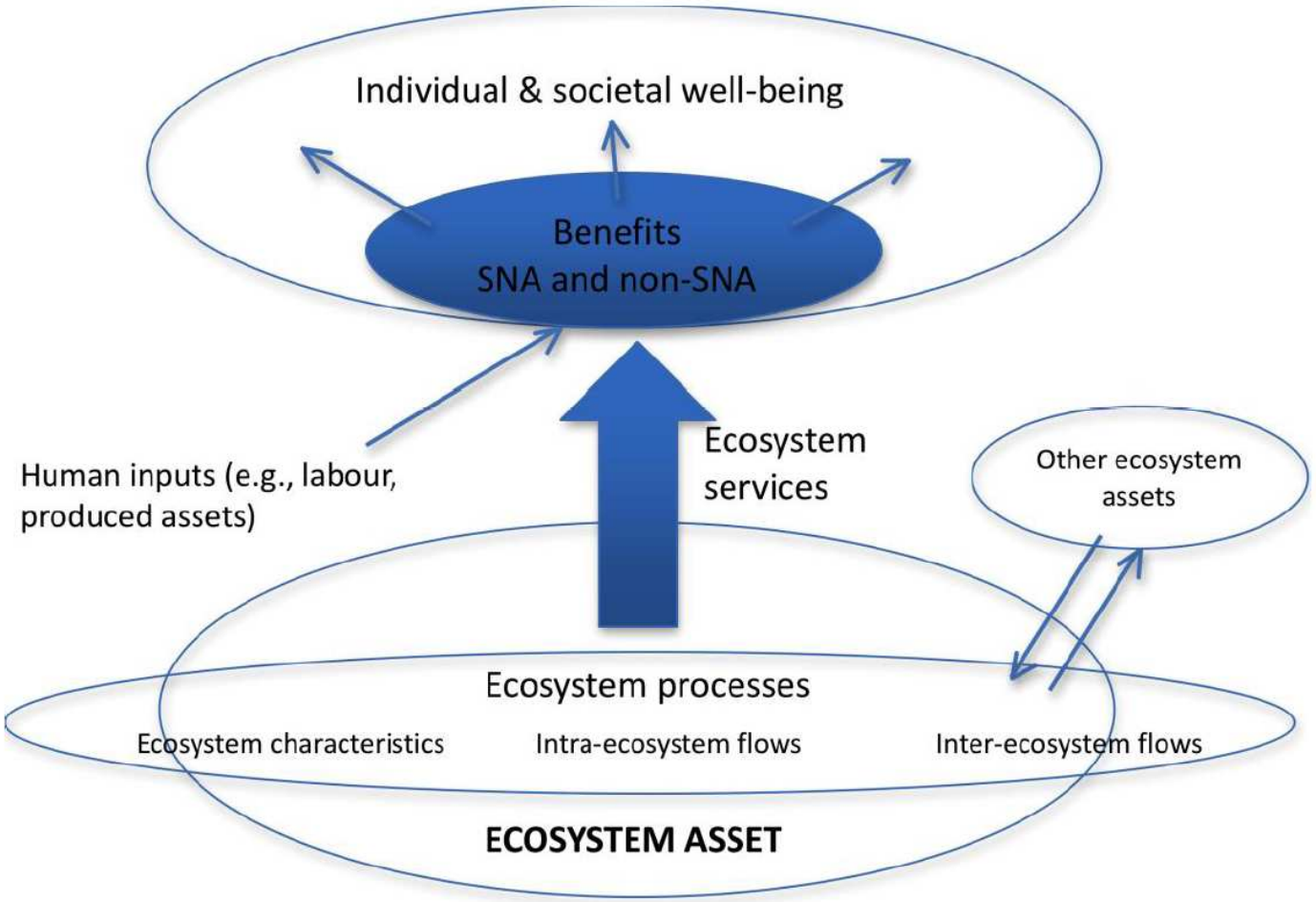
Relationship to SEEA Central Framework

- Extends range of flows (production boundary) for accounting compared to SNA and SEEA in physical and monetary terms
- Many flows from Central Framework also included in Experimental Ecosystem Accounting (e.g. flows of timber), but extension of EEA is to attribute flows to spatial areas
- Some Central Framework natural input flows are excluded from Experimental Ecosystem Accounting (e.g. mineral and energy resources)

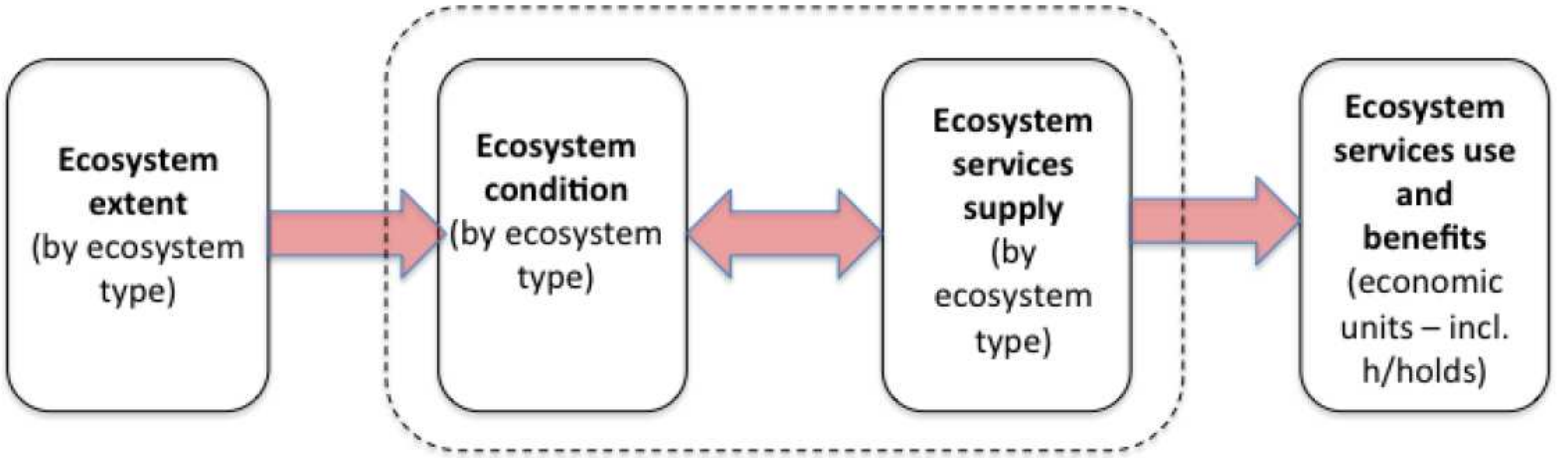
SEEA EEA

- Ecosystem accounting is a tool to understand and monitor **the contributions of ecosystems to economic and human activity**
- Ecosystems include natural as well as man-dominated systems such as croplands or intensive pastures
- Requires a spatial approach (combination of maps and statistics)
- Technical guidance being finalized—will focus on the latest recommendations

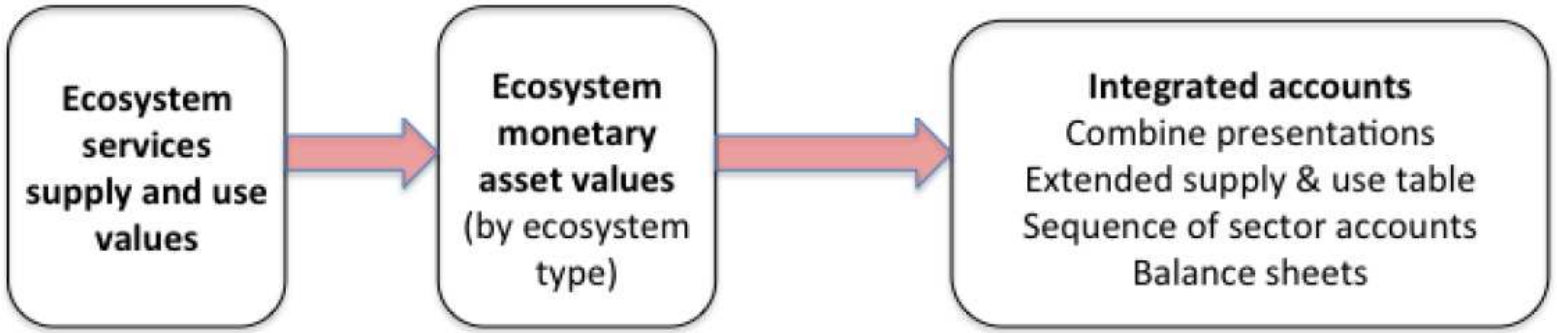
Ecosystem accounting model



Broad steps in ecosystem accounting



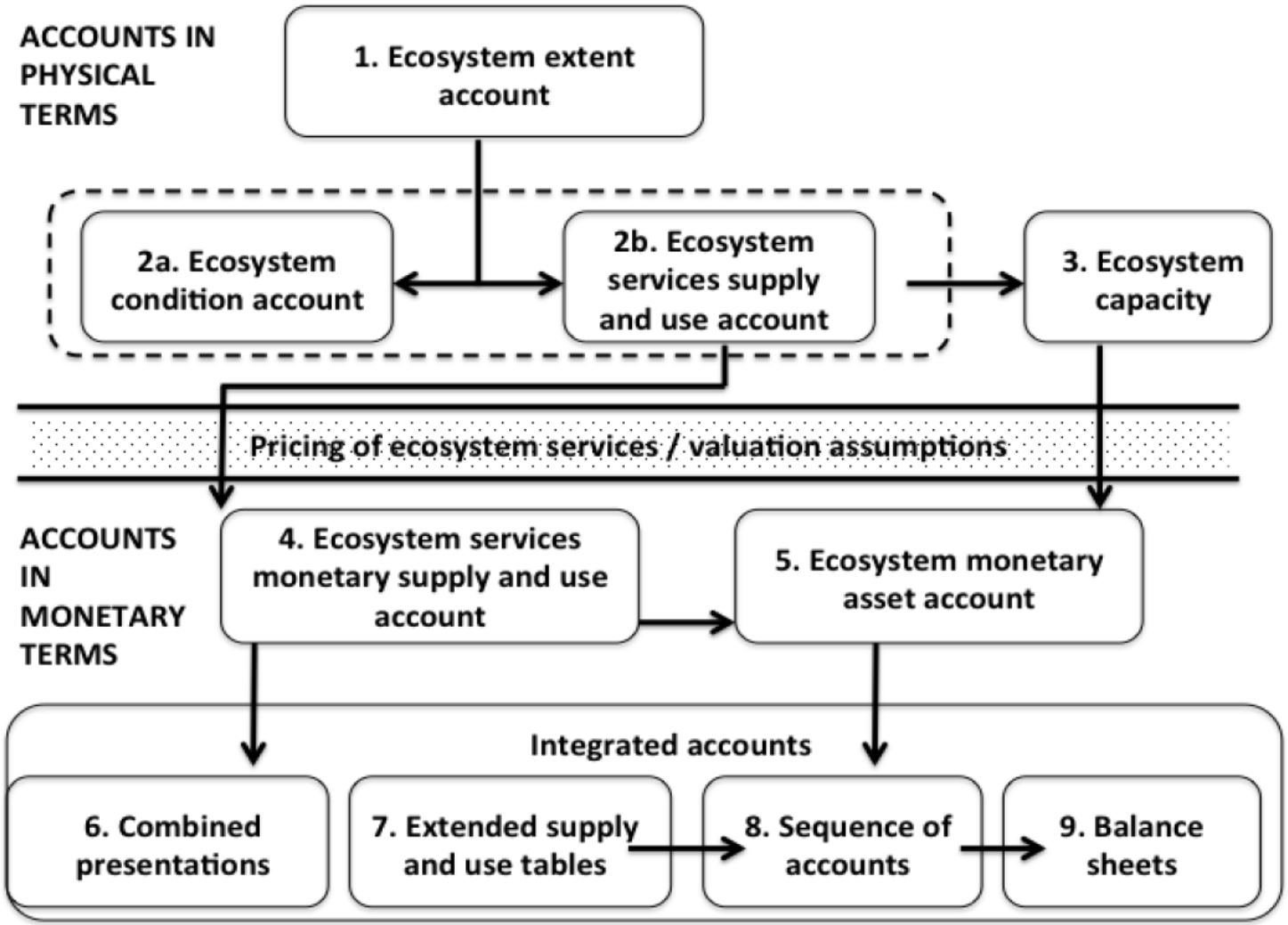
b. Steps in monetary terms



The ecosystem accounts

Accounts for ecosystem assets	Ecosystem extent account
	Ecosystem condition account
	Ecosystem monetary asset account
Accounts for ecosystem services	Ecosystem services supply and use table – physical terms
	Ecosystem services supply and use table – monetary terms
Integrated accounts*	Combined presentations
	Extended supply and use table
	Sequence of accounts for institutional sectors
	National and sector balance sheets

Connections between the accounts



Ecosystem Extent Account

	Type of Ecosystem Unit															
	Artificial surfaces	Herbaceous crops	Woody crops	Multiple or layered crops	Grassland	Tree-covered areas	Mangroves	Shrub-covered areas	Regularly flooded areas	Sparse natural vegetated areas	Terrestrial barren land	Permanent snow and glaciers	Inland water bodies	Coastal water and inter-tidal areas	Sea and marine areas	TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Opening extent																
Additions to extent																
Managed expansion																
Natural expansion																
Upward reappraisals																
Reductions in extent																
Managed regression																
Natural regression																
Downward reappraisals																
Net change in extent																
Closing extent																

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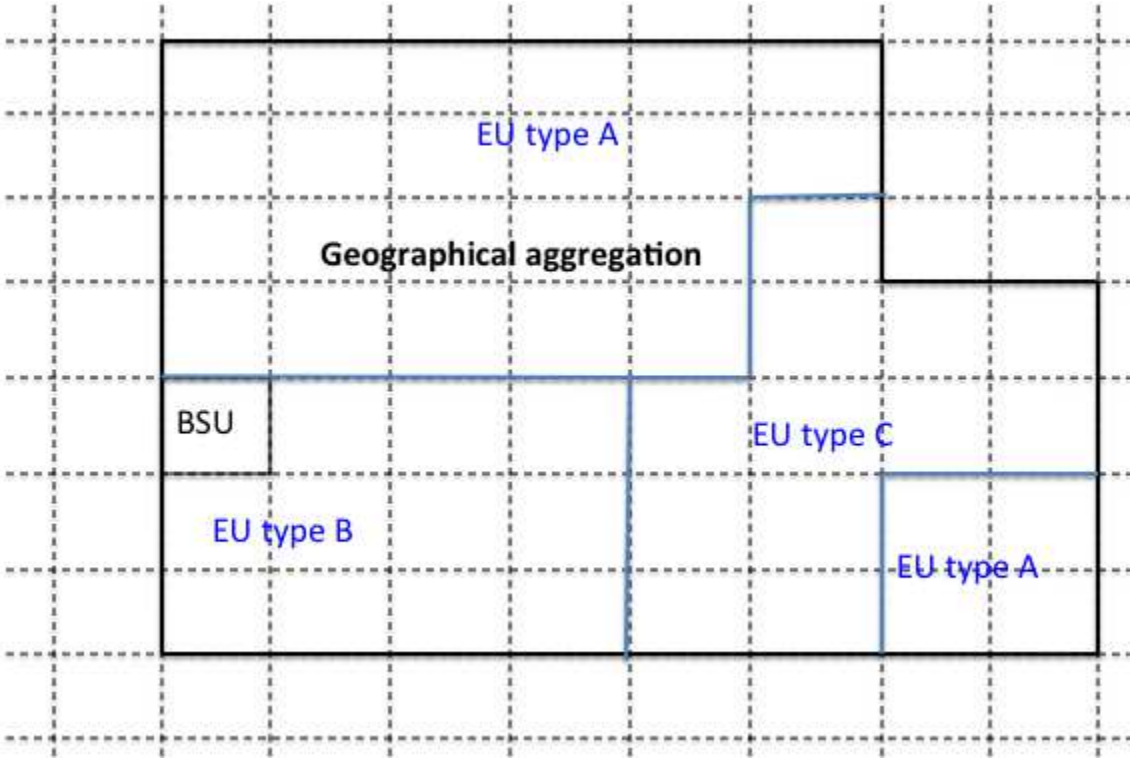
Spatial areas



Ecosystem Condition Account

Type of Ecosystem Unit	Ecosystem characteristics						
	Vegetation	Water resources	Soil	Carbon	Biodiversity	Air	...
Artificial surfaces							
Herbaceous crops							
Woody crops							
Multiple or layered crops							
Grassland							
Tree-covered areas							
Mangroves							
Shrub-covered areas							
Regularly flooded areas							
Sparse natural vegetated areas							
Terrestrial barren land							
Permanent snow and glaciers							
Inland water bodies							
Coastal water and inter-tidal areas							
Sea and marine areas							

Ecosystem Services Supply Table

	UNITS	Type of economic unit							Type of Ecosystem Unit															TOTAL SUPPLY
		Agriculture, forestry and fisheries	Electricity, gas supply	Water collection, treatment and supply	Other industries	Households	Accumulation	Rest of the world - Imports	Artificial surfaces	Herbaceous crops	Woody crops	Multiple or layered crops	Grassland	Tree-covered areas	Mangroves	Shrub-covered areas	Regularly flooded areas	Sparse natural vegetated areas	Terrestrial barren land	Permanent snow and glaciers	Inland water bodies	Coastal water and inter-tidal areas	Sea and marine areas	
									1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Ecosystem services Provisioning services Regulating services Cultural services		A							B															
Products		C							D															

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Ecosystem Services Use Table

	UNITS	Type of economic unit							Type of Ecosystem Unit															TOTAL USE
		Agriculture, forestry and fisheries	Electricity, gas supply	Water collection, treatment and supply	Other industries	Households	Accumulation	Rest of the world - Exports	Artificial surfaces	Herbaceous crops	Woody crops	Multiple or layered crops	Grassland	Tree-covered areas	Mangroves	Shrub-covered areas	Regularly flooded areas	Sparse natural vegetated areas	Terrestrial barren land	Permanent snow and glaciers	Inland water bodies	Coastal water and inter-tidal areas	Sea and marine areas	
									1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Ecosystem services Provisioning services Regulating services Cultural services		**E**							**F**															
Products		**G**							**H**															

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Other issues

- Thematic accounts
  - Biodiversity
  - Carbon
  - Water
- Valuation

THANK YOU

seea@un.org